Agricultural Policy Monitoring and Evaluation 2021

ADDRESSING THE CHALLENGES FACING FOOD SYSTEMS



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BETTER POLICIES FOR BETTER LIVES

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Foreword

This *Agricultural Policy Monitoring and Evaluation 2021* report provides up-to-date monitoring and evaluation of agricultural policies across countries from all six continents, including the 38 OECD countries and the five non-OECD EU Member States, and eleven emerging and developing economies: Argentina, Brazil, People's Republic of China, India, Indonesia, Kazakhstan, the Philippines, the Russian Federation, South Africa, Ukraine and Viet Nam. It is the 34th in the series of the OECD Agricultural Policy Monitoring and Evaluation reports, and the ninth report to include both OECD countries and emerging and developing economies.

The report provide insights into the increasingly complex nature of agricultural policy and is based on the OECD's comprehensive system for measuring and classifying support to agriculture — the Producer and Consumer Support Estimates (PSE and CSE) and related indicators. These indicators provide country comparable information on the nature and extent of support and serve as a basis for OECD's policy monitoring and evaluation.

The report is structured as follows. The Executive Summary synthesises the key findings. Chapter 1 provides an overview of recent developments in agricultural policies and support, with a specific focus on policy responses to the COVID-19 pandemic. It also analyses the implications of current agricultural support policies for the performance of food systems. Chapter 2 describes the overall trends in agricultural support and is followed by individual chapters for each of the countries covered (the European Union, which has a Common Agricultural Policy, is presented as a single chapter). Country chapters begin with snapshots containing brief summaries of developments in agricultural policies and support as well as country-specific policy recommendations. This is followed by more comprehensive descriptions of agricultural policy developments, including in response to the COVID-19 pandemic. A Statistical Annex containing detailed background tables of the indicators of agricultural support is available as a separate document on the OECD website (https://doi.org/10.1787/2d810e01-en).

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List of Acronyms and Abbreviations

AAFC	Agriculture and Agri-food Canada
AEIs	Agri-environmental Indicators
AIS	Agricultural Innovation System
APMC	Agricultural Product Marketing Committee (India)
ASF	African Swine Fever
BRM programmes	Business Risk Management programmes (Canada)
BNPT	Food assistance programme (Indonesia)
BULOG	Food Logistics Agency (Indonesia)
CAP	Canadian Agricultural Partnership
CAP	Common Agricultural Policy (of the European Union)
CARES	Coronavirus Aid, Relief, and Economic Security (Act) (United States)
CEPA	Comprehensive Economic Partnership Agreement
CFAP	Coronavirus Food Assistance Program (United States)
CIFA	Canadian Food Inspection Agency
CMU	Cabinet of Ministers of Ukraine
CO_2	Carbon dioxide
COVID-19	Corona Virus Disease, first recorded in 2019
EAEU	Eurasian Economic Union (Kazakhstan, Russia)
EEA	European Economic Agreement
EFTA	European Free Trade Association
EMBRAPA	Brazilian Agricultural Research Corporation
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FCC	Farm Credit Canada
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GI	Geographical Indication
GRA	Global Research Alliance on Agricultural Greenhouse Gases (New Zealand)
GRF	Gross Farm Receipts
ICCC	The Interim Climate Change Committee
IHS	Import Health Standards (New Zealand)
INDAP	The smallholders' agency (Chile)
INTA	The Agricultural Technology Research and Transfer Institute (Costa Rica)
MAFF	Ministry of Agriculture, Forestry and Fisheries
MAPA	Ministry of Agriculture, Livestock and Food Supply (Brazil)
MARA	Ministry of Agriculture and Rural Affairs (China)
MARD	Ministry of Agriculture and Rural Development (Israel)
NAFTA	North American Free Trade Agreement
NDC	Nationally Determined Contributions
NFA	National Food Authority (the Philippines)

NS	Nitrogen Surplus
OECD	Organisation for Economic Co-operation and Development
PROAGRO	General agriculture insurance programme (Brazil)
PROCAMPO	System of direct income support payments (Mexico)
RCEF	Rice Competitiveness Enhancement Fund (the Philippines)
R&D	Research and Development
RDP	Rural Development Programme
SADER	Ministry for Agriculture and Rural Development (Mexico)
TFP	Total Factor Productivity
TRQ	Tariff Rate Quota
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
USDA	United States Department of Agriculture
VAT	Value Added Tax
WTO	World Trade Organization

Executive Summary

A more central role for innovation systems is the key to delivering sustainable productivity growth and improved resilience – the main channels through which agricultural policies can address the challenges faced by food systems.

Agricultural policy changes in 2020 were dominated by responses to the COVID-19 pandemic

The onset of the COVID-19 pandemic early in 2020 presented the world with a major health crisis, which led to containment measures that resulted in a profound economic shock affecting all sectors, including food and agriculture. Agricultural policy developments over the course of the year were dominated by responses to these twin health and economic shocks. Many governments moved swiftly to keep agricultural supply chains functioning, including by designating agriculture and food as an essential sector. As a result, policies were generally successful in maintaining the overall functioning of food supply chains, albeit within an overall structure of agricultural support programmes that showed little change.

This report identifies nearly 800 policy responses that were introduced in response to the pandemic.[1] A significant number, close to 20% of the total, were urgent measures, adopted in order to contain the pandemic while keeping food and agriculture supply chains working. Just under 70% of measures took the form of temporary relief, seeking to contain the impact of the crisis on agriculture and food sector actors, and should be phased out as the crisis recedes. Most of the remaining measures (10%) were "no regrets" policies with the potential to improve the long-term resilience of the agro-food sector, and which have the potential to be scaled up further. At the same time, 11% of measures had the potential to distort markets or be harmful to the environment. In particular, several countries imposed export restrictions in order to direct supplies to domestic markets.

Substantial resources – USD 157 billion – were earmarked for COVID-19 sectoral support, including USD 75 billion in OECD countries and USD 82 billion in emerging economies. The United States accounted for a majority of the commitments in OECD countries, while India accounted for the majority of support in emerging economies. Actual disbursements have so far been much lower, partly reflecting the overall resilience of agriculture to the COVID-19 shock. Indeed average farm incomes increased in 2020 for a majority of countries covered in this report. Consumer support was more often rolled out quickly, to address the loss of incomes suffered in particular by poorer households.

Consumers and taxpayers provide substantial support to the agricultural sector across OECD countries and major emerging economies

In 2018-20, agricultural support policies across the 54 countries covered in this report generated USD 720 billion per year in transfers to agriculture, twice the level observed in 2000-02 in nominal terms,

but nevertheless lower when expressed relative to the size of the sector. Reforms in OECD countries have stalled in the past ten years, with little change in the level or composition of support. Indeed some countries have rolled back earlier reform efforts.

- Of the total support, more than one-third, USD 272 billion, was paid for by consumers in the form of market price support, while the remaining USD 447 billion was paid by taxpayers in the form of budgetary transfers.
- About three-quarters of total support, USD 540 billion, was directed to individual producers, either in the form of higher prices or through direct payments. This accounted for an average of 18% of producers' gross farm receipts in OECD countries and 12% of gross farm receipts in the twelve emerging economies covered in the report.
- USD 102 billion of expenditure was paid in the form of general services for the sector (GSSE), which includes USD 76 billion of public investments in R&D, biosecurity and infrastructure.
- Subsidies for consumers (such as food assistance programmes) amounted to USD 78 billion per year, or 11% of all positive transfers to agriculture
- A small number of countries suppressed prices of some or all commodities, resulting in a transfer of USD 104 billion per year away from producers.

Overall, most current support policies are not serving the wider needs of food systems

Food systems around the world face a formidable "triple challenge". First, they are expected to deliver food security and nutrition for a growing world population. Second, they have an essential role to play in providing incomes and livelihoods for hundreds of millions of people involved in farming and other segments of the food chain. And third, they must do so in a sustainable manner, without depleting land, water and biodiversity resources, while contributing to reductions in greenhouse gas (GHG) emissions. On balance, the agricultural policies covered in this report – across developed and emerging economies – do not address these three dimensions effectively.

Of the USD 540 billion per year of support to producers, over 60%, or USD 338 billion, was provided through the potentially most distorting instruments, namely market price support (USD 272 billion), and payments linked to output or the unconstrained use of inputs (USD 66 billion). Both are inefficient at transferring income to farmers, as a large share of the benefits are capitalised into land values or leak in the form of higher prices for inputs. They also tend to be inequitable, to the extent that support is linked directly to production, and not targeted to producers with low incomes. Finally, through direct incentives to increase production, they contribute to increased resource pressures, including through impacts on water quality, and can raise GHG emissions. Given also a lack of complementary environmental policies, a decreasing number of countries have succeeded in combining productivity growth with lower resource pressures and reduced emissions.

Positive and negative market price support, and the associated use of border measures, both have negative implications for food security at the global level, because they impede the efficient allocation of domestic resources and weaken the balancing role of trade in getting food from surplus to deficit regions. By constraining trade they also contribute to increased price volatility on international food markets.

USD 202 billion of producer support that is less coupled to production decisions creates fewer distortions at the margin and has less adverse impacts on global food security. This element also has a reduced tendency to contribute to additional resource pressures and GHG emissions. As income transfers, these payments still tend to be unequally distributed, as they are seldom made on the basis of an assessed social need, or evidence that farms would not be viable without support. On the other hand, just

USD 1.5 billion of these payments to producers were linked clearly to the provision of environmental public goods.

USD 102 billion of expenditure in is in the form of general services for the sector (GSSE), which includes USD 76 billion of public investments in R&D, biosecurity and infrastructure. These three elements account for just 6%, 2% and 9% of budgetary support to agriculture respectively, despite evidence of high returns to R&D and the potential of all three categories to support sustainable productivity growth and improved resilience – key channels for ensuring food security, viable livelihoods and sustainable resource use.

Three specific actions could enable agricultural policies to better support sustainable productivity growth and increased resilience, and accelerate progress in addressing the "triple challenge" faced by food systems

(i) Phase out price interventions and market distorting producer support. The removal of positive market price support and associated trade protection for producers may need to be offset by transitional assistance and the extension of social safety nets [see (ii)]. Conversely, the removal of policies that suppress domestic prices may reduce poorer households' access to food, calling for targeted income transfers.

(ii) Target income support to farm households most in need and where possible incorporate into economy-wide social policies and safety-nets. This would require better information on the incomes and assets of farm households, with a specific role for agricultural policy that would involve underwriting those aspects of agricultural risk management that cannot be covered by farmers themselves or by risk markets.

(iii) Re-orient public expenditures towards investments in public goods – in particular innovation systems. Investment in innovation systems, covering both knowledge generation and its transfer to the sector, should be made central to agricultural support policies. The share of payments going to essential public goods, including ecosystem services, could be almost doubled by a redirection of market distorting payments, and raised further still by a reallocation of income support to farmers whose incomes from farm and off-farm sources would be above average even without support.

Global agriculture continues to meet the core challenge of feeding a rising world population. Yet food systems overall are characterised by rising GHG emissions, declining biodiversity; the persistence of hunger concomitant with rising rates of obesity; pressures on land and water resources; and an inability to generate sustainable livelihoods for many poor farmers. Agricultural policy reforms alone cannot solve all these issues, but more sustainability and innovation-centred policies have an important role to play. More widely, a "food systems approach" requires that agricultural policymakers take a holistic view of the performance of policies related to multiple objectives, and co-ordinate to avoid incoherent policies. Three major events in 2021 can help build international momentum for policy change and accelerate progress towards the Sustainable Development Goals: the COP-26 UN Climate Change Conference, the COP-15 meeting of the Conference of the Parties to the Convention on Biological Diversity, and the UN Food Systems Summit. Countries should seize the opportunity to translate international awareness into specific national actions.

Note

[1] This report presents recent policy developments and support estimates across all OECD countries, the European Union and twelve emerging and developing economies. Costa Rica became the 38th Member of the OECD in May 2021. In the data aggregates used in this report, however, it is included as one of the 12 Emerging Eonomies.

1 Developments in Agricultural Policy and Support

This chapter first provides an overview on recent economic and market developments that provide the context for the implementation of agricultural policies. The second section presents main changes and initiatives in agricultural policies in 2020-21, focusing on policy responses to the COVID-19 pandemic that target, or strongly affect, agricultural producers, food consumers and other actors along the food supply chain. The subsequent analysis of levels and structures of agricultural support informs an assessment of the extent to which current support contributes to the food systems' "triple challenge" of achieving food security and nutrition, providing livelihoods to those connected to the sector, and reducing the environmental footprint and greenhouse gas emissions of the sector. The chapter also explores how current policies perform across productivity, sustainability and resilience, key channels for contributing to addressing these challenges. It concludes with an assessment of policy developments, and with recommendations for concrete actions.

In 2020, agricultural policies and support to the sector were significantly affected by the outbreak of the coronavirus SARS-CoV-2, the subsequent spread of the COVID-19 virus, and substantial restrictions to populations and enterprises aimed at containing the virus. These factors caused economic growth to slow significantly or even turn strongly negative in all economies, while in many countries unemployment rose as companies were forced to lay off employees. Commodity markets were affected as well, but the implications for global agricultural markets remained comparatively limited as, despite some significant stresses, food systems and supply chains proved relatively robust.

The pandemic caused major dislocations to food markets, in particular with the closure of restaurants, and the shift in consumption away from food outside the home. But the overall demand for food was fairly stable, as food supply was generally recognised to be essential and thus exempt from lockdowns, while consumers prioritised food among their expenditures. However, several advanced economies saw increased recourse to food banks among low income consumers who had seen a drastic fall in their incomes. Labour intensive sectors, such as meat processing and sectors requiring seasonal labour for planting or harvesting, were also deeply affected by the virus and measures to contain it.

As a land based activity, the production of most commodities was generally able to withstand the pandemic, although those products requiring more labour input – principally fruits and vegetables – or where supply is destined primarily for the restaurant trade, were more affected. In general, developments on agricultural markets were driven as much by non-COVID factors as by the impacts of the pandemic. Overall, the agricultural sector proved remarkably resilient, with farm incomes increasing in 2020 for a majority of countries covered in this report.

To help people and companies to cope with the economic consequences of both the virus and containment strategies, governments introduced a wide set of policies as of early 2020. In looking at changes made to agricultural policies and support, this report therefore begins by discussing policy responses to the COVID-19 pandemic that focus on, or strongly affect, agricultural producers, other actors along the food supply chain, and food consumers.

The report then analyses the level and structure of agricultural support, in particular in terms of the extent to which they help or hinders the performance of food systems, gauged in terms of their contribution to the "triple challenge" of:

1. Achieving food security and nutrition for a growing world population.
2. Providing livelihoods to farmers and others connected to the sector, either vertically along the value chain or spatially across rural economies.
3. Reducing the environmental footprint of the sector and contributing to lower greenhouse gas (GHG) emissions.

Drawing on insights from the OECD Framework for Productivity, Sustainability and Resilience, this part of the report also explores how current policies perform across the three dimensions of productivity, sustainability and resilience, which are identified as key channels through which agriculture can contribute to the challenges facing food systems. Lastly, this part of the report concludes with an assessment of the developments in policies and support, and with recommendations for concrete actions to improve the performance of agricultural policies in meeting the challenges facing global food systems.

Key economic and market developments

Conditions in agricultural markets are strongly influenced by macro-economic factors, such as economic growth (measured by gross domestic product, GDP), which generates the income supporting demand for agricultural and food products, as well as prices for crude oil and other energy sources which affect the prices of numerous production inputs in agriculture, such as fuel, chemicals and fertiliser. Energy prices

also affect the demand for cereals, sugar crops and oilseeds through the market for biofuels produced from these feedstocks.

Global economic growth, which slowed to below 3% in 2019, came to an abrupt halt in the wake of the COVID-19 pandemic. Global output in 2020 is estimated to have been more than 4% below that in 2019, reflecting policy responses to the pandemic, which included substantial restrictions in both personal and economic activities (OECD, 2020[1]).[1] GDP growth in all OECD economies turned negative. The contraction was particularly significant in the Euro area, where economic output declined by 7.5% in 2020, after low growth of 1.3% the year before. Japan was significantly hit as well, with GDP shrinking by 5.3% in 2020, after some first signs of rebounding growth in 2019 at +0.7%. The contraction was less pronounced in the United States, where economic output, which grew by more than 2% in 2019, declined by 3.7% in 2020.

The downturn in OECD economies was associated with a decreased demand for labour. Across the OECD area, unemployment, which had fallen slightly to 5.4% in 2019, increased to 7.2% in 2020. In many countries, the negative impact on employment was mitigated by substantial public interventions, including notably the widespread application of publicly supported short-time work.[2] Average inflation declined further to 1.5%, driven in particular by falling energy prices (see below).

Growth in emerging economies also fell substantially, although the extent of the downturn varied strongly. Argentina's GDP, which had seen negative growth for the last two years already, shrank by 12.9%, the first double-digit economic contraction since the currency and debt crisis of 2001-02. India's GDP contracted by 9.9%, more than 14 percentage points below 2019 growth, while South Africa's GDP fell by 8.1%, following stagnation in 2019. On the other hand, the People's Republic of China (hereafter, "China") is the only country covered in this report that maintained positive growth in 2020, at 1.8% compared with 6.1% the year before. The Indonesian economy also fared comparatively well, with a slight contraction of 2.4%, following 5% growth in 2019.

Table 1.1. Key economic indicators

	Average 2008-17	2018	2019	2020
Real GDP growth[1]				
World[2]	3.2	3.4	2.7	-4.2
OECD[2]	1.4	2.3	1.6	-5.5
United States	1.5	3.0	2.2	-3.7
Euro area	0.6	1.9	1.3	-7.5
Japan	0.5	0.3	0.7	-5.3
Non-OECD[2]	5.0	4.4	3.6	-3.0
Argentina	1.7	-2.6	-2.1	-12.9
Brazil	1.7	1.2	1.1	-6.0
China	8.3	6.7	6.1	1.8
India	6.7	6.1	4.2	-9.9
Indonesia	5.5	5.2	5.0	-2.4
South Africa	1.8	0.8	0.2	-8.1
OECD area				
Unemployment rate[3]	7.4	5.5	5.4	7.2
Inflation[1,4]	1.7	2.4	1.9	1.5
World real trade growth[1]	3.5	4.0	1.0	-10.3

Notes: 1. Percentage changes; last three columns show the increase over a year earlier. 2. Moving nominal GDP weights, using purchasing power parities. 3. Per cent of labour force. 4. Private consumption deflator.
Source: OECD (2020), OECD Economic Outlook N°108 - December 2020, Last updated November 2020, http://dotstat.oecd.org/Index.aspx?DataSetCode=EO108_INTERNET.

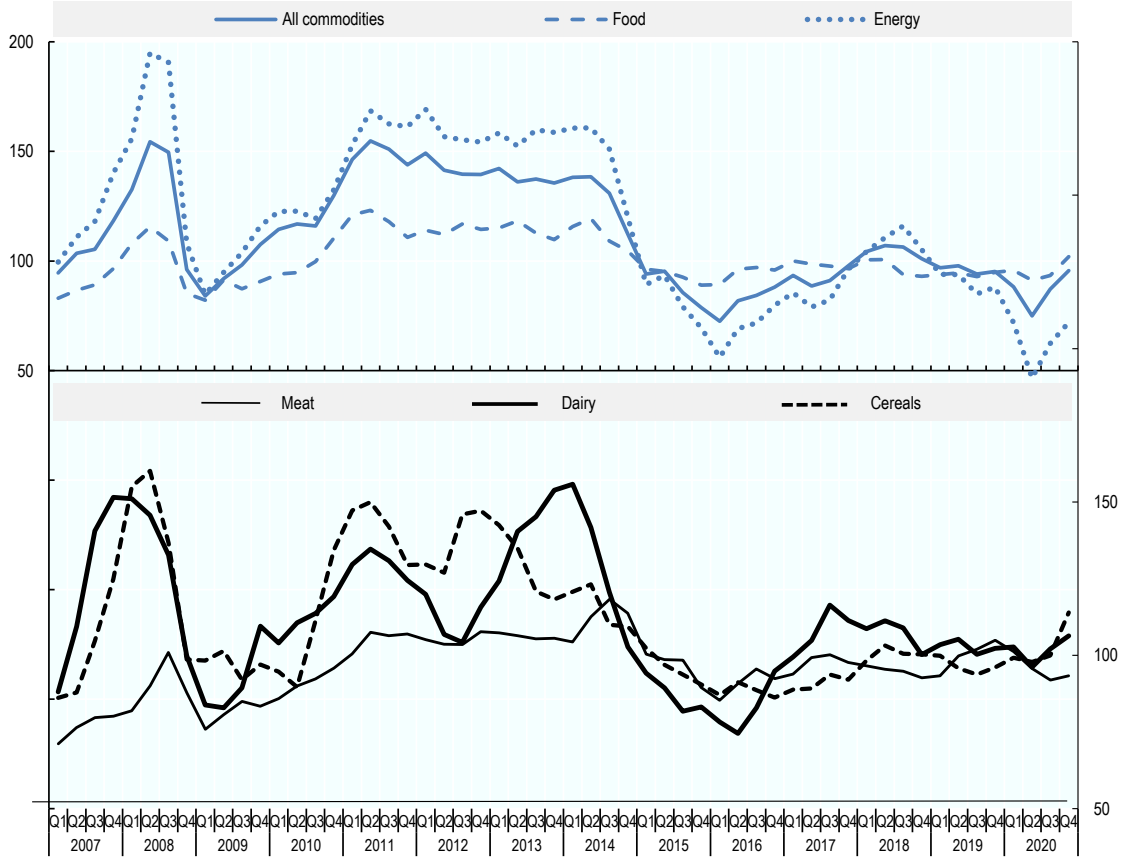
The consequences of the COVID-19 pandemic and of related restrictions are strongly visible in international trade. In real terms, global trade declined by more than 10% year-on-year, following already slow growth in 2019.

Lower economic growth and restrictions on personal and economic mobility put significant pressure on prices for energy and other non-food commodities (IMF, 2021[2]). On average, energy prices in 2020 were 30% lower than in 2019, and more than 40% below their 2018 levels. Crude oil prices, which had fallen to levels close to (and on certain markets even below) zero in April 2020, averaged 33% lower over the full year compared to 2019. Lower energy prices also pulled down fertiliser prices, which on average were 9% lower year-on-year.

In comparison, food prices remained robust. After dropping by 7% in the second quarter of 2020, average international food prices increased towards the end of the year, and annual averages ended 3% higher than in 2019, with contrasting movements between crop and livestock markets, as explained below.

Figure 1.1. Commodity world price indices, 2007 to 2020

Index 2014-16=100



Note: The top part of the graph relates to the left scale, while the bottom part of the graph to the right scale.
Source: IMF (2021), Commodity Market Review, for all commodities, food and energy indices (base year: 2016), www.imf.org/external/np/res/commod/index.aspx; FAO (2021), FAO Food Price Index dataset, for meat, dairy and cereal indices (base period: 2014-16), www.fao.org/worldfoodsituation/foodpricesindex/en.

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Global food markets saw prices for crops and livestock products moving in opposite directions. World meat markets had seen production decline in 2019 primarily due to the impact of African Swine Fever (ASF) on China's pig meat sector. While the disease continued to limit production in China and other countries such as Viet Nam during 2020, herds began to rebuild. In spite of the lower Chinese output, however, global meat prices were under significant downward pressure in 2020 due to logistical difficulties and reduced demand following the COVID-19 pandemic, which together dampened meat import demand from several key importing countries. On average, meat prices in 2020 fell by 4.5% year-on-year.

The pandemic also had significant, though varied, impacts on dairy markets. While away-from-home consumption in many countries suffered as a result of widespread confinement measures, larger retail sales for at-home consumption partly offset these losses. Fresh dairy products were particularly vulnerable to disruptions in supply chains, but many countries were able to adjust their production chains relatively quickly. As a consequence, while the effects of the pandemic varied across regions, global dairy prices changed only little year-on-year, with lower prices in the second quarter balanced by rising prices towards the end of the year.

In contrast to livestock markets, world prices for crop commodities mostly rose in 2020. Following short-term disruptions due to the COVID-19 pandemic, oilseeds markets were driven by strong demand notably for imported soybeans into China as the country began to rebuild pig herds. At the same time, lower supply growth of palm oil resulted in relatively short supplies on international markets. As a consequence, international prices rose significantly in 2020, with prices for soybeans and vegetable oils averaging 7% and almost 20% higher than in 2019.

Increased feed demand from the rebuilding pork sector in China, logistical difficulties in some major producing countries, and some temporary export restrictions following the COVID-19 pandemic, drove prices upwards in cereal markets. Pushed by increases notably towards the end of the year, average cereal prices were almost 7% higher in 2020 than in the preceding year.

Continued shortfalls in sugar production due to unfavourable weather conditions in some of the major producing countries offset lower import demand for sugar and notably reduced biofuel demand in light of reduced mobility due to the pandemic, resulting in average sugar prices increasing slightly year-on-year, but remaining well below levels seen in 2016.

Overall, food supply chains were recognised as essential services in most countries implementing COVID-19 related restrictions on economic activities, as a result of which the sector was affected by those restrictions more indirectly than directly. Often, both domestic and international trade in food products were facilitated through green corridors and other measures notwithstanding disruptions affecting trade overall. Labour shortages due to restrictions on people's movement were alleviated through exceptions for agricultural and food chain workers, and through schemes encouraging workers laid off in other sectors or students to temporarily work in agriculture and the food industry. However, income losses and economic uncertainties, together with restrictions for restaurants and other away-from-home food suppliers, generated changes in food demand which the industry needed to cope with. But the impact of economic contractions on food expenditure was mitigated through public support partly compensating for income losses, and reductions in disposable incomes seem to have led to higher shares of income being spent on food. Partly with the help of government policy responses, food systems have therefore proven remarkably resilient. Indeed, after short-term disruptions in international food markets in the early phase of the pandemic, these markets appear to have been impacted more by other factors such as livestock diseases and climatic conditions than by the pandemic itself.

Responses to COVID-19 and other recent developments in agricultural policies

As governments started implementing containment measures to slow the spread of the COVID-19 virus early in 2020, they also began introducing measures to limit impacts of the virus and associated containment measures on the agriculture and agro-food supply chains.[3] Most government responses in the sector were introduced in the first few months of the pandemic, largely in response to the shock to specific subsectors. Still, as the year went by, as new waves and strands of infection developed, governments in many countries shifted their attention towards medium-term issues by bolstering early relief measures and introducing economic recovery packages.

This section presents an overview of government measures introduced in 2020 in the 54 countries covered in this report, using different categorisations, focusing mainly on the number and type of measures, and associated budget figures. The dataset used for analysis was compiled based on the information on domestic and international trade related COVID-19 policy developments provided in country chapters in this report.[4] While the reported set of measures is comprehensive, and covers all the most important policy responses, it does not claim to capture all measures in place in all countries covered in the study.

Countries implemented a diverse set of responses to COVID-19

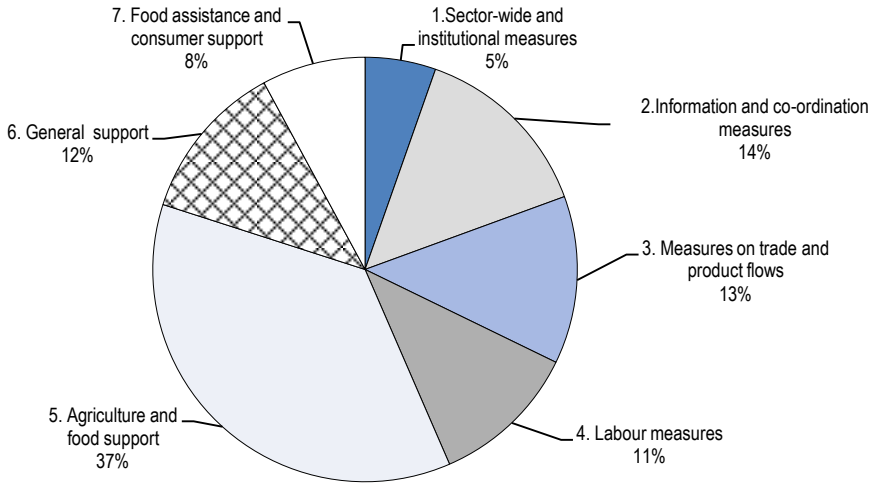
Governments of the covered countries and the European Union introduced 776 unique policy measures to respond to the COVID-19 related crisis during 2020, of which 496 were introduced in the first four months of 2020 (OECD, 2020[3]; Gruère and Brooks, 2021[4]). The overall number of unique measures for the year 2020 increases to 1 086 applied policy measures if EU-wide measures, applicable to all member states, are added to unique measures for each of the EU Member States (including for the period covered, the United Kingdom).

The nature of the government responses varied widely. OECD (2020[3]) distinguished seven categories of measures: 1) Sector-wide and institutional measures; 2) Information and co-ordination measures; 3) Measures on trade and product flows (enhancing trade or restricting trade); 4) Labour measures (biosecurity and workforce related measures); 5) Agriculture and food support (or support for agriculture and food companies); 6) General support (including packages that apply to the sector); and 7) Food assistance and consumer support (demand side interventions).[5] Unique government measures were distributed across those categories, with 37% of the 776 measures focusing on agriculture and food support, 5% on institutional measures, and 8% on food assistance measures, with the remaining four categories covering between 11% and 14% of measures (Figure 1.2).

These proportions changed since the four first months of 2020, from a focus on information and co-ordination to agriculture and food support measures. The share of agriculture and food support measures increased by 14 percentage points over the year, while the share of measures on information and co-ordination and general support declined by 7 and 4 percentage points, respectively. This evolution might reflect the need for information and communication in the early period, followed by the increased importance that some governments attached to providing support to agriculture and food companies to cushion the impact of the first wave of the virus. Shares for other categories of measures remained stable, indicating a moderate increase in the use of these measures across countries.

A wide range of measures adopted is also observed among the 54 covered countries, underscoring the comprehensiveness of government responses. Thirty-eight of the covered countries applied measures in all seven categories, while ten countries applied measures in six of the seven categories. Fifty or more countries applied trade and product flow measures, information measures or agriculture and food support measures, while the other categories of measures were each applied by at least 46 countries (Figure 1.3).

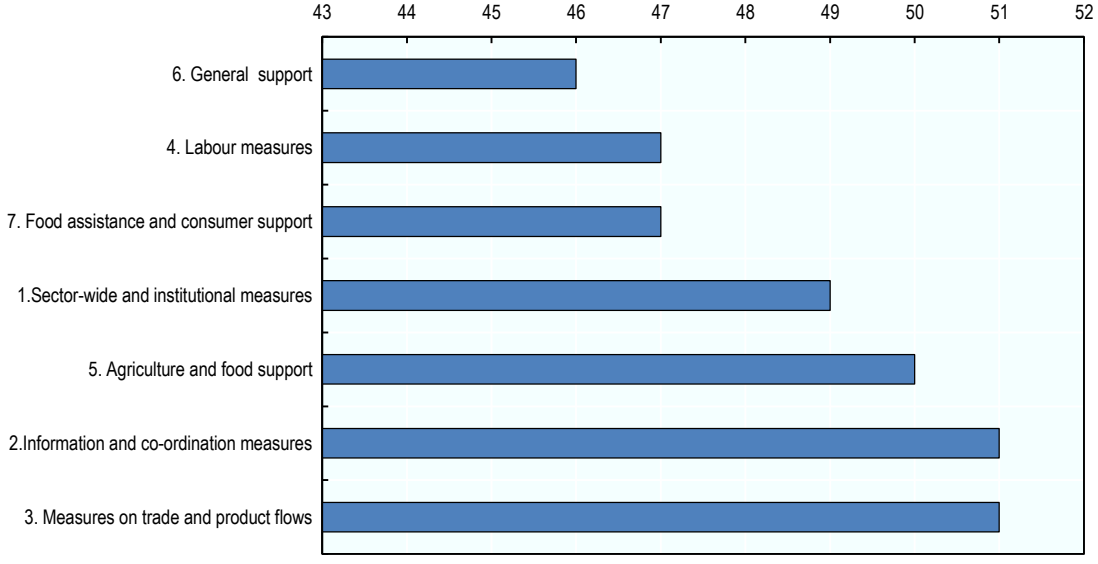
Figure 1.2. Categorisation of the COVID-19 policy responses in 2020



Note: Some of the measures belong to two categories.
Source: Information collected from the 54 countries.

StatLink https://stat.link/mqai05

Figure 1.3. Number of countries applying different categories of measures in 2020



Note: This allocation accounts for measures that cover two categories.
Source: Information collected from the 54 countries.

StatLink https://stat.link/xirs7y

At the same time, differences in the number of measures by category can be seen among regions and countries. In particular, 54% of measures undertaken by governments in OECD countries focused on the three categories of support (agriculture and food support, general support and food assistance and consumer support measures), including the largest proportion on agriculture and food support (35%), while

58% of measures undertaken by emerging economies were in the non-support categories of measures (sector wide and institutional, information and co-ordination, trade and product flows and labour measures), including the largest proportion of measures (26%) in the trade and product flow category. This difference may reflect the existing policies covering the sector in the respective groups of countries, but may also be due to differences in structures of the sector as well as the type of shocks associated with the COVID-19 pandemic and associated containment measures. A further factor may be differences in budgetary and fiscal scope to provide additional support. Among OECD countries, Asian and European countries favoured agriculture and food support measures, South American countries focused on information and co-ordination measures, Oceanian countries prioritised labour measures, and North American countries displayed no clear dominance across categories of measures.

Only 11% of the unique measures recorded explicitly built on existing policy measures already in place, almost all in the agriculture and food support category in the form of flexibility or changes in existing policy programmes. This suggests that governments often introduced new programmes, funding or approaches to respond to the crisis, or that they relied on existing policies without making notable changes. Innovative approaches were used for instance to re-channel food unused by closed schools towards families, to hire temporarily unemployed workers from cities in fields, or via the use of digital tools to ease market transactions and custom controls.

Measures varied in their purpose, timing, scope and potential impacts

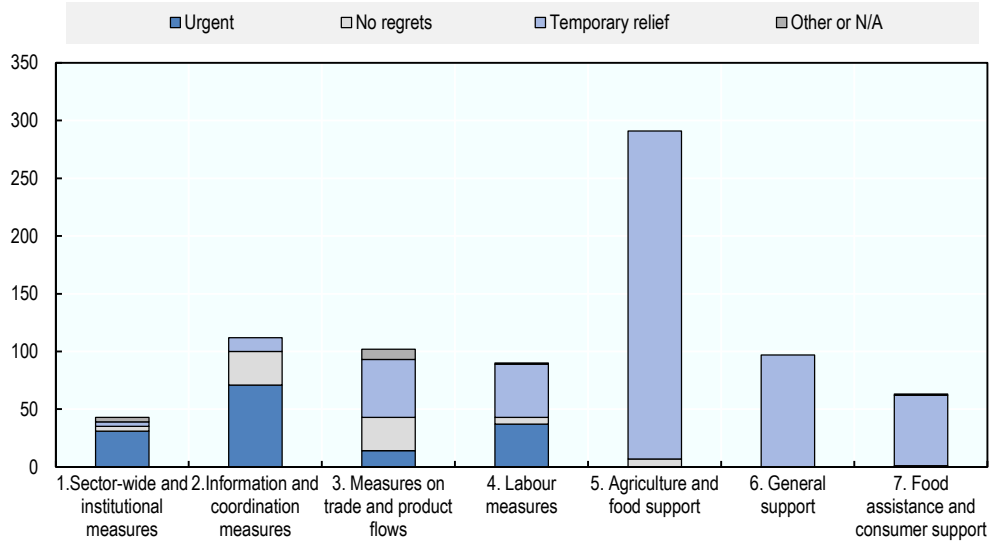
Government responses also differed in their timing and scope, from the initial imposition of lockdown measures, to policies aiming to temper the impacts of the crisis on specific supply chains or consumers or in the medium term. At the same time, several measures taken to facilitate the functioning of production or supply chains could usefully have been taken before of the COVID-19 crisis. To highlight these distinctions and better understand the implication of government responses, measures were organised in three groups:[6]

- *Urgent measures to ensure supply*: these emergency measures were taken at the onset of the crisis to ensure supply and keep the sector functioning. Examples include biosafety measures; declaring agriculture and food as an essential sector; measures to ensure the functioning of government agencies; co-ordination of responses with the private sector; and national and international logistic and transport measures, including setting up green lanes to ensure the continuation of trade. These measures are intrinsically linked to the pandemic, and would either be lifted or no longer relevant after the COVID-19 crisis. This group includes 150 unique measures (19% of the total).
- *No regrets measures:* these measures improve market functioning and thereby contribute to improved resilience. They could have been taken before, and should be maintained or even scaled up after the COVID-19 crisis. This group includes measures supporting digital innovations that facilitate e-commerce; exchange of information; agriculture job-matching information centres; and training or trade facilitation measures. This group includes 75 unique measures (10% of the total).
- *Temporary relief measures*: these measures seek to contain the impact of the crisis on agriculture and food sector actors, from producers to consumers. Governments considered them necessary but they should include sunset clauses to avoid outliving their original rationale. These measures comprise largely temporary trade and markets measures to relieve domestic economic pressure, agricultural support measures, including those that compensate producers and agro-food chain actors for damages incurred; consumer and food assistance[7] measures and measures that lifted or limited regulatory requirements for farmers. This group is the largest, with 537 unique measures (69% of the total).

The remaining 14 measures (2%) could not be attributed to any of the groups.

As expected, measures in the three support categories (5, 6 and 7) are overwhelmingly *temporary relief measures*, but measures in other categories, belong to different groups (Figure 1.4). *Urgent measures to ensure supply* include institutional and informational measures, but also labour measures and trade and product flow measures (categories 1 to 4). *No regrets measures* were mostly information and co-ordination measures and product and trade flow measures that enhance the functioning of markets (categories 2 and 3).

Figure 1.4. Grouping of unique measures by category



Source: Information collected from the 54 countries.

StatLink https://stat.link/qb5dr6

A large majority of countries implemented measures that belong to each of these groups, even if some differences are observed among countries. All but two countries applied one or more *urgent measures to ensure supply*, and the same number of countries applied *temporary relief measures*; fewer countries (46) applied at least one *no regrets measure*. OECD countries applied relatively more temporary relief measures than emerging economies, who applied relatively more of measures in the other two groups.

An additional distinction was made to identify measures that could at least temporarily be potentially market and trade distorting or environmentally harmful.[8] These mostly temporary relief measures include trade bans or export restrictions that were temporarily put in place by several countries, but also market price controls, relaxed environmental regulations, and specific agricultural support measures for different agricultural commodities. Eighty-five unique measures (11% of the total) introduced by 47 countries were identified to have potential impact on markets or the environment, belonging to the agriculture and food support category, the trade and product flow, and the food assistance categories.

Governments allocated at least USD 157 billion to respond to impacts in the agriculture and food sector

One of the key ways in which governments have addressed the economic impact of the COVID-19 pandemic and associated lockdowns is by offering liquidity, credits, and funding for relief measures. Governments in many countries have adopted comprehensive economic recovery packages, with measures that included new lines of credits, subsidised loans, flexibilities in taxes, or subsidies and which

included firms in the agriculture and food sector. At the same time, governments in many countries created specific financial support measures to the agriculture and food sector.

This section provides a preliminary assessment of budgetary allocation in response to the COVID-19 impact based on collected information. It therefore only focuses on the subset of measures for which financial information was available (in total 119 unique measures in 41 countries).

A review of the reported budgetary figures associated with the collected COVID-19 responses comes with several important caveats. First, it is impossible to track how much of the general recovery packages were used on the agricultural sector, so these are largely excluded from the assessment. Second, while these numbers include some expenditures incurred in 2020, a larger set of programmes that were announced in 2020 has not yet been delivered to the sector. As such, a majority of the numbers presented are not reflected in the 2020 data in this year's agriculture support estimate database. Third, funding for sector-wide and institutional measures (category 1) and information and co-ordination measures (category 2) was not available. Fourth, some of the measures provide support for targeted or affected individuals on the basis of unit costs, but there is no estimate of the number of individuals or firms that benefitted from the support, so these support measures are excluded from the assessment. Fourth, governments may have used existing policies and measures, potentially with budget adjustments or changes in implementation, without reporting those as related to COVID-19. All these caveats suggest the reported figures are likely to represent minimum estimates of financial support measures in the 54 countries.

In total, governments dedicated USD 157 billion in response to impacts to the sector (Table 1.2). Of this total, USD 116 billion was earmarked in the form of grants, payments or other funding, while USD 41 billion was offered in in the form of subsidised rates loans, new credit lines, and other mechanisms. At the same time, USD 5.6 trillion was provisionally identified in general recovery packages that included the food and agriculture sector (category 6 - general support). This support was not specific to the sector.

Table 1.2. Reported financial support specific to the agriculture and food sector in response to COVID-19 in the 54 countries

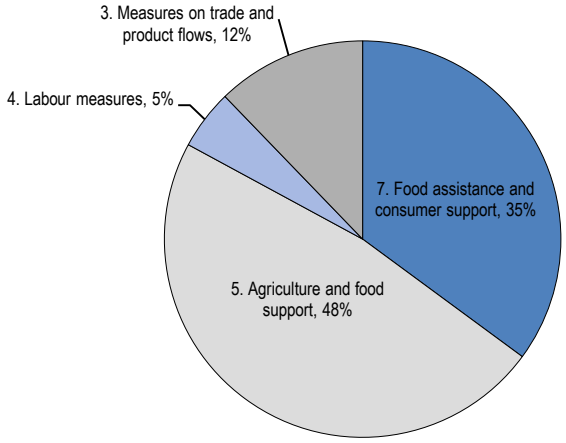
Million USD

Category of measures	5. Agriculture and food support	7. Food assistance and consumer support[1]	3. Measures on product and trade flows[2]	4. Labour measures[3]	**TOTAL**
Funding (announced)	34 410	55 024	18 909	7 654	**115 697**
Loan/credit	40 698	0	0	0	**40 698**
Other mechanisms	133	0	241	0	**374**
TOTAL	**74 941**	**55 024**	**19 151**	**7 654**	**156 769**

Notes: Reported support in this table was promised but not necessarily spent in 2020.
1. Specifically food assistance measures.
2. Measures facilitating market functioning, logistics and infrastructure (general services).
3. Including biosecurity measures.
Source: Information collected from the 54 countries.

Sector specific earmarked funding primarily focused on relief measures for agriculture and food actors, and food assistance measures (83% as shown in Figure 1.5). Twelve per cent of financial support focused on general services, such as infrastructure development, e-commerce development and measures easing trade, which are listed under the category of measures on product and trade flows. The remaining 5% of support was directed towards addressing labour shortfall, via compensation mechanisms for migrant or new farm workers, and implementing bio-sanitary measures, including compensation to the culling of minks potentially infected by the COVID-19 virus as well as equipment support.

Figure 1.5. Overall allocation of reported sector-specific financial support in response to COVID-19

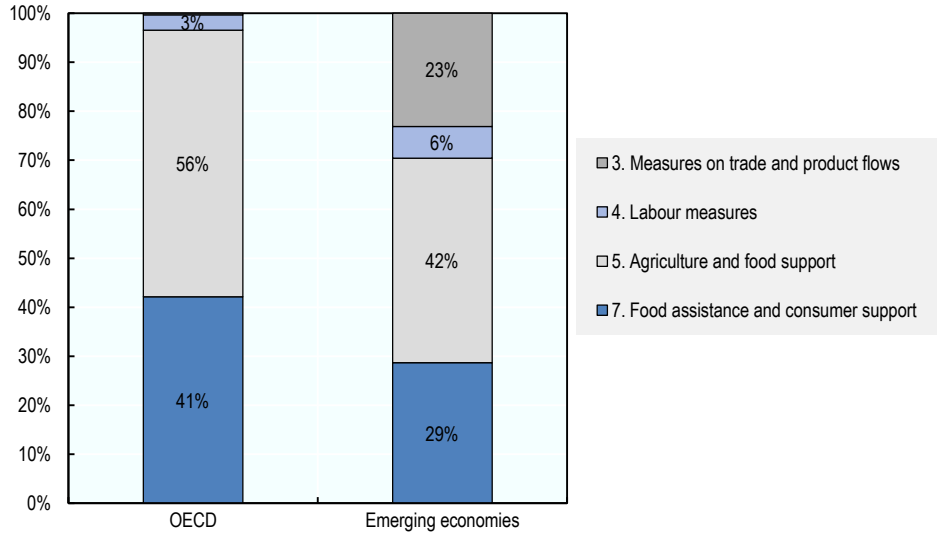


Notes: This includes promised funding, credits, loans and other support mechanism. Category 3 measures are those facilitating market functioning, logistics and infrastructure (general services), category 4 measures are labour and biosecurity measures, and category 7 measures are food assistance measures.
Source: Information collected from the 54 countries.

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There are significant differences in the reported financial support between OECD countries and emerging economies (Figure 1.6). OECD countries' financial support amounted to USD 75 billion, almost entirely dedicated to relief measures expressed in terms of agriculture and food support (USD 32 billion) and food assistance (USD 41 billion), with the remaining funding going towards labour and biosafety measures. New and expanding food assistance programmes were observed in OECD countries (Box 1.1). In contrast, emerging economies reported USD 82 billion of financial support, with USD 34 billion going to agriculture and food support and USD 24 billion to food assistance, implying lower shares of overall support in these categories, with a higher share (23%) dedicated to general services enhancing market and trade.

Figure 1.6. Overall distribution of reported sector-specific financial support by OECD and emerging economies



Note: Non OECD EU Member States do not feature in this figure. Category 3 measures are those facilitating market functioning, logistics and infrastructure (general services), category 4 measures are labour and biosecurity measures, and category 7 measures are food assistance measures.
Source: Information collected from the 54 countries.

StatLink https://stat.link/z91q6x

Box 1.1. Food assistance measures in OECD countries in response to the COVID-19 crisis

Many countries deployed public emergency food assistance measures to prevent rising food insecurity resulting from the COVID-19 crisis. These complemented other livelihood support measures that aimed to contain the pandemic's socio-economic consequences and thus the spread of poverty across OECD countries (OECD, 2020[5]).

Countries have reinforced existing food assistance programmes[1] or deployed new schemes to suit the needs of their vulnerable populations. Food assistance programmes have targeted low-income households with a particular focus on infants, children, students, the vulnerable and elderly people. Some eligibility criteria that had constrained access to pre-existing schemes were eased during the pandemic. The programmes fall into two categories:

- *The provision of vouchers* that can be used to buy food without restrictions or to buy certain types of (healthy) food products. Some countries have used digital technologies to issue benefits electronically to some vulnerable population groups and to provide information on food assistance packages for which households might be entitled (Baragwanath, 2021[6]).
- *The provision of free or subsidised meals* either in canteens or in other public places when this is possible, or by home-delivery. Home-delivery of meals required logistical adaptation and often involved partnerships with private caterers.

Governments also provided additional support for food bank operations to respond to growing emergency food aid demand. In pre-COVID-19 times, about 25% of food banks' food supply depended

on public support. The COVID-19 crisis further increased the need for public support (GFN, 2020[7]). To facilitate continued operation of food banks , OECD governments provided three types of support measures:

- *Operational and financial support*: Mostly offered by local authorities, such support provided storage, cooking and distribution facilities, as well as protection materials and staff. Several governments also provided financial support for food purchases and to cover additional operating costs related to sanitary protocols.
- *Flexibility in existing programme implementation*: The rules behind food banks' public support were relaxed as a result of the COVID-19 pandemic. For instance, the **European Union's** Coronavirus Response Investment Initiative Plus (CRII+) made it possible to provide food assistance indirectly via food vouchers for food banks supported by the Fund for European Aid to the Most Deprived (FEAD).
- *Food donations*: Ministries, mostly those in charge of agriculture, were involved in programmes recovering food products that were supposed to be served in schools or in restaurants. For example, the United States Department of Agriculture (USDA) was involved, via the pre-existing Emergency Food Assistance Programme (TEFAP) and the new Farmers to Families Food Box Program, in the purchase of domestically-grown food products to be provided to vulnerable population. Food donations programmes in the United States (USDA, 2021[8]) and also in the European Union (FEBA, 2020[9]) are expected to continue in 2021.

Note: 1. Information on existing programmes can be found in (Placzek, 2021[10]).

With regard to agriculture and food support measures, OECD countries favoured funding mechanisms, such as direct payments, grants or increased allocation to existing support programmes (83%), while emerging economies supported the sector via preferential loans and credit mechanisms (99%). Large countries on both sides drive this pattern, with the United States accounting for 69% of total agriculture and food support via earmarked funding, and India accounting for 90% of loans and credits to be granted to the sector in response to the COVID-19 crisis.

Sixteen of the 119 measures displaying financial support were identified as potentially market and trade distorting or environmentally harmful. These agriculture and support measures amounted to USD 731 million, which is significant but remains marginal compared to the total earmarked funds dedicated to the agriculture and food support (USD 35 billion) or to the global agriculture support estimates conveyed in this report.

Other key policy trends and developments in 2020

While policies for agriculture and food have been strongly influenced by the COVID-19 pandemic, other changes were also made in 2020. Specific information on the developments is summarised below, with details on adjustments made to policies and programmes within countries available in the country chapters within this report.

Several countries have revised their agricultural policy frameworks. **Colombia** introduced the "Together for the Countryside" (*Juntos por el campo*) initiative, including a range of new policy programmes and subsidies for transportation, machinery and equipment, and variable inputs. **Indonesia** introduced specific programmes to increase production capacity on about 165 000 hectares of swampy land in Central Kalimantan, and to expand rice planting areas with 250 000 hectares of rice, maize, shallots and chilies in deficit areas. **Japan** revised its "Basic Plan for Food, Agriculture and Rural Areas", which sets out policy directions, food self-sufficiency goals and commodity production targets for the next ten years. **Mexico** published the Sectoral Programme for Agriculture and Rural Development 2019-2024, focusing on

improving agricultural productivity for food self-sufficiency, reducing poverty rates in rural areas, and increasing small-scale agricultural producers' incomes. **Viet Nam** approved a series of strategies, plans and programmes to promote agricultural and rural development, including a new Livestock Development Strategy for 2021-30; a plan to promote investment in the agricultural and rural sector for 2021-25; a Master Programme on Sustainable Agricultural Development and Adaptation to Climate Change in the Mekong River Delta for 2030; a Scheme for Developing Organic Agriculture for 2020-30; and an irrigation strategy for 2030.

The **European Union** also released a number of major policy initiatives: the European Parliament and the Council agreed on transitional rules for the Common Agricultural Policy (CAP) for 2021-22, while negotiations continue on CAP reform. In May 2020, the European Commission released more details on proposed Green Deal initiatives most relevant to the agricultural sector – specifically, the Farm to Fork and the Biodiversity strategies, which seek to halt biodiversity loss in Europe, transform EU food systems into global standards for competitive sustainability, protect human and planetary health and safeguard the livelihoods of all actors in the food value chain.

New support measures and reforms to existing policies were introduced. **Argentina** shifted to more active export restrictions, reintroducing taxes that were reduced or eliminated between 2015 and 2018. **Brazil** created financial mechanisms to attract funds for rural credit, reducing preferential annual interest rates provided by Pronaf, the main credit programme for small farmers. **Korea** established a new direct payment system, combining the direct payments for rice, upland crops and less favoured areas into a single scheme. The income compensation scheme for rice, which has been the main payment scheme in Korea, was converted into a decoupled payment programme and accompanied by environmental cross compliance regulations. **Norway** eliminated its last export subsidies on cheese and processed agricultural products as of the end of 2020. **The Philippines** established a Rice Competitiveness Enhancement Fund to support investments in machinery and equipment, breeding and distribution of high quality rice seeds, credit and expansion. The **Russian Federation** (hereafter "Russia") expanded its railroad tariff subsidies to cover the transportation of soybean meal, vegetables and mineral fertilisers. **Viet Nam** extended a land tax exemption to the end of 2025, allowing farm households and organisations to avoid paying an agricultural land use tax or continue benefiting from a land tax reduction.

A number of countries developed new climate-related policies and strategies. **Canada** has established a new Natural Climate Solutions for Agriculture Fund, which will support carbon sequestration and beneficial management practices, such as cover crops or shelterbelts, through development, testing, peer-to-peer learning and solution sharing with farmers. Furthermore, under the "A Healthy Environment and A Healthy Economy" plan, the government of Canada plans to invest USD 123 million over seven years to support the agricultural sector in developing transformative clean technologies, reducing emissions from fertilisers to 30% below 2020 levels, boosting climate-smart agriculture, and supporting the production and use of low-carbon fuels. **Japan** published a national Green Growth Strategy in December 2020, outlining a comprehensive plan to achieve net-zero GHG emissions across the economy by 2050. The Ministry of Agriculture, Forestry and Fisheries has also announced a strategy for sustainable food systems, named "Measures for Achievement of Decarbonisation and Resilience with Innovation", which aims to achieve zero CO_2 emissions from agriculture, reduce the use of chemical pesticides and fertilisers, and make all subsidies carbon neutral by 2040. **Korea** released the 2050 Carbon Neutral Strategy, a long-term plan for GHG emissions mitigation. The strategy sets out four tasks for the agricultural sector: transition to smart farming; develop and deploy low-carbon agricultural practices; promote participatory policies for farmers and consumers; and scale up the deployment of eco-friendly energy. **New Zealand** has developed a ten-year roadmap for boosting primary sector export earnings while reducing biogenic methane emissions in accordance with the 2019 Zero Carbon Act. In addition, the "He Waka Eke Noa – Primary Sector Climate Action Partnership" seeks to reduce agricultural GHG emissions and enhance the sector's resilience to climate change. **Ukraine** introduced new legislation to outline its strategy on environmental policies, along with a framework to monitor, report and verify the country's GHG emissions. **Chile**, **Iceland**, **Israel** and

Viet Nam also outlined new strategies and objectives in 2020 to reduce their GHG emissions from agriculture.

In addition, several countries took steps to improve the sustainable management of their water resources. This group includes **Chile** (currently developing a Ministerial water plan), **New Zealand** (through the 2020 National Environment Standards for Freshwater), and **Viet Nam** (via the Irrigation Strategy to 2030). This follows a more general trend in OECD countries, where governments changed their agriculture and water policies, in the last decade, broadly in line with the OECD Council Recommendation on Water (Gruère, Shigemitsu and Crawford, 2020[11]; OECD, 2021[12]).[9]

Several countries strengthened their promotion of organic farming. Notably, the **European Union**'s Farm to Fork Strategy includes several agriculture-specific targets, one of which is to increase the share of farmland under organic farming to at least 25%. Furthermore, increasing the area of organic farming is also a key policy objective of **Japan**'s Ministry of Agriculture, Forestry and Fisheries. **Russia** introduced a new law providing requirements for the production and labelling of organic products. The creation of a system of certification for organic products is ongoing, with 64 producers currently certified. **Viet Nam** approved a Scheme for Developing Organic Agriculture in 2020-30, setting out specific goals to increase the share of organic production in agricultural land use and for improving the value per hectare of organic production by 2030.

Some countries developed new solutions to tackle food loss and waste. **Canada** is investing USD 15 million to establish the Food Waste Reduction Challenge, encouraging innovative business models to develop solutions to prevent or divert food waste along the food supply chain. **Turkey** published a national strategy document and action plan on Prevention, Reduction and Monitoring of Food Loss and Waste, setting four strategic goals and 13 targets.

Risk management and disaster assistance policies were strengthened. **Australia** introduced drought resilience response programmes through the Future Drought Fund, and provided support to farm clean up and emergency response activities through the National Bushfire Recovery Fund. **China**'s Ministry of Agriculture and Rural Development and the Ministry of Finance jointly allocated USD 47 million to a new disaster relief fund assisting agricultural producers in flood-hit southern provinces. **Kazakhstan's** mandatory crop insurance system was transformed into a voluntary insurance scheme with a view towards expanding crop and livestock insurance markets in the country. In **New Zealand**, a flooding event and significant drought affecting large parts of the country triggered public support for recovery and relief, as well as to individual farmers in hardship through Rural Assistance Payments. **Turkey** provided additional coverage through the state-supported agricultural insurance scheme, issuing 2.1 million insurance policies and USD 250 million of state insurance premium support. The **United States** provided an additional USD 1.5 billion for the continuation of disaster assistance programme delivery, adding several new qualifying disaster events and eligible participants under the Wildfire and Hurricane Indemnity Program Plus (WHIP+). The USDA's Risk Management Agency also introduced a new policy to help farmers recover from hurricanes, covering 70 different crops.

New laws and regulations on animal and plant health were introduced. **Chile**'s animal and plant health agency promoted electronic certification, now established for exports to 34 countries and covering around 70% of all phytosanitary certificates. **Costa Rica**'s animal and plant health institutions established a single export window to deal with sanitary and phytosanitary procedures, and created an online system for consulting phytosanitary certificates for agricultural exports in real time. **Switzerland** introduced new plant health legislation, requiring stricter regulations and stronger preventive measures to protect plants from harmful pests. In the **United States**, the USDA's Animal and Plant Health Inspection Service (APHIS) published the Sustainable, Ecological, Consistent, Uniform, Responsible, Efficient (SECURE) rule, the first comprehensive revision of the Agency's biotechnology regulations in over 30 years. The new rule puts in place a more efficient process to identify plants that would be subject to regulation, focusing on the properties of the plant rather than on its method of production.

Concerning land reform and investment, **Russia** increased support for investments in agriculture, including purchases of agricultural machinery, goods and processing equipment. The company Rosagroleasing aims to supply 9 000 units of equipment in one year, which represents a 40% increase on last year's numbers. **South Africa** established the Agriculture Development Agency to support the development of sustainable land reform programmes and reduce barriers to the commercialisation of small-scale farmers. **Ukraine** passed new legislation ending the ban on the sale of agricultural land. As of July 2021, individual citizens of Ukraine will be permitted to purchase up to 100 hectares of land, while from January 2024 purchases of up to 10 000 hectares will be made available to legal entities whose founders or final beneficiaries are Ukrainians, and which do not have business abroad or in offshore companies. **Viet Nam** approved a plan to promote investment in the agricultural and rural sector in 2021-25, including the following priorities: evaluating market potentials, trends and investment partners; building a database on investment promotion activities; establishing a list of projects calling for investment; and providing support to enterprises and investors.

Some countries provided new support to agricultural innovation and the development of digital technologies. **Japan** published the Smart Agriculture Comprehensive Policy Package, identifying key measures to advance data-driven agriculture over the next five years. The Ministry of Agriculture, Forestry and Fisheries also established the Conception and Projects for DX of Agriculture Initiative, which provides a roadmap for the development of artificial intelligence, big data, and the digitalisation of administrative procedures. **Korea** established the Smart Agriculture Project, which aims to promote the application of new technologies and attract young and innovative farmers to the agricultural sector. Young farmers can benefit from concessional leasing of agricultural facilities and farmlands in smart farm complexes, and cross-sectoral R&D projects will be conducted to support the development of new technologies. **Turkey** introduced the Digital Agriculture Market (DITAP), a digital platform to help develop supplier linkages between smallholders and large-scale food processing and retail firms. DITAP also helps small farmers to access markets for inputs such as seeds and fertilisers, and provides a platform for farmers to lease their land.

Numerous countries have concluded bilateral and regional trade agreements. On 15 November 2020, the Regional Comprehensive Economic Partnership (RCEP) was concluded by fifteen countries in the Asia-Pacific region, including **Australia**, **China**, **Indonesia**, **Japan**, **New Zealand**, the **Philippines**, **Korea** and **Viet Nam**. The Agreement will reduce tariffs on goods among the 15 participating economies by 90% over two decades from entry into force, and provides a framework for strengthening co-operation in the areas of standards, technical regulations, and conformity assessment procedures, as well as for streamlining rules of origin and border processes for perishable goods. The Canada-United States-Mexico Agreement (CUSMA) entered into force on 1 July 2020, preserving the existing agricultural commitments under the North American Free Trade Agreement (NAFTA). The **European Union** and **Mexico** finished negotiations on a new EU-Mexico trade agreement, which will further liberalise more than 85% of the agricultural tariff lines that were left out of the original EU-Mexico Global Agreement that has been in force since 2000. On 31 January 2020, the **United Kingdom** left the EU Single Market and Customs Union, ending the free movement of people, goods and services with the **European Union**. The rules governing trade and movement between the two are laid down in the draft EU-UK Trade and Cooperation Agreement, which was agreed on 24 December 2020 and ratified by the European Parliament on 27 April 2021. Of particular relevance to agriculture, the trade component of the agreement includes duty- and quota-free imports on all goods that comply with rules-of-origin provisions.

Several additional bilateral free trade agreements (FTAs) were negotiated or came into effect in 2020 and 2021, helping to facilitate bilateral trade in agricultural products. These include: the Canada–United Kingdom Trade Continuity Agreement; Colombia-Israel FTA; European Union-Viet Nam FTA; Indonesia-Australia Comprehensive Economic Partnership Agreement (CEPA); Indonesia-Korea CEPA; Japan-US FTA; Korea-Israel FTA; Ukraine-Israel FTA; United Kingdom-Israel FTA (and related protocol for the mutual recognition of organic produce); United Kingdom-Japan CEPA; United Kingdom-Korea FTA; United

Kingdom-Mexico Trade Continuity Agreement; United Kingdom-Ukraine political, free trade and strategic partnership agreement; United Kingdom-Viet Nam FTA; United States-China Phase One Trade Agreement. Numerous other FTA negotiations are ongoing.

Trade promotion and market development policies were introduced by a number of countries. **India** initiated reforms to remove limits on private stocking, trading or buying of commodities, allow farmers to sell their agricultural products outside of government-regulated markets, and promote barrier-free inter and intra-state trade of agricultural commodities. The government also established a new Agriculture Infrastructure Fund to support farmers, producer organisations and agribusinesses through subsidised loans for post-harvest infrastructure such as cold storage, collection centres and processing units. To facilitate the exports of processed food products, the Ministry of Trade of **Indonesia** adopted measures to simplify the certificate of origin service and introduce automatic authentication procedures in licensing processes. **Japan** introduced the Act on Facilitating the Export of Agricultural, Forestry and Fishery Products and Food, which streamlines export policies for these products. The Strategy to Realize Export Expansion of Agricultural, Forestry, Fishery Products and Food designates products to prioritise resources and actions for agricultural export expansion. **Russia** introduced a programme to support exports of agricultural products, including additional financing for export infrastructure, simplification of border procedures, veterinary and phytosanitary services, information support, and support to promotion and market access.

Are agricultural support policies helping to address the triple challenge faced by food systems?

Food systems face a daunting “triple challenge”. First and foremost, they are expected to achieve food security and nutrition for a growing world population. Second, they have an essential role to play in providing incomes and livelihoods for hundreds of millions of people involved in farming and other segments of the food chain. And third, they must do so in a sustainable manner, without depleting land, water and biodiversity resources, while contributing to reductions in greenhouse gas (GHG) emissions. The urgency of these challenges is reflected in the international political timetable, with food and agriculture at the heart of foreseen discussions in 2021 at the COP-26 UN Climate Change Conference, the COP-15 meeting of the Conference of the Parties to the Convention on Biological Diversity, and the UN Food Systems Summit.

Agricultural support policies have played a major role in shaping today’s food systems. Historically, the provision of support to agriculture has been motivated by a variety of policy objectives, which have included ensuring food security, supporting farmers’ incomes and livelihoods and improving environmental outcomes – key components of the “triple challenge”. The instruments chosen to pursue these objectives have varied widely. Some countries have relied on trade and open access to markets to ensure food security, while others have stressed domestic production and high rates of self-sufficiency, maintained via subsidies and trade protection. Countries have similarly varied in the extent to which they see income support as a goal for agricultural policy (as opposed to being covered by wider social protection programmes), and in the instruments they have chosen to deliver it. Most countries also have specific agri-environmental programmes, but many of the environmental impacts of agricultural policies stem from the choice of policies to address the first two objectives.

This section begins with an overview of the level and composition of agricultural support policies across countries. This is followed by an assessment of the implications of agricultural support for the performance of food systems, reflected in the extent to which they may be helping or hindering progress in meeting the triple challenge. Finally, the section considers the effectiveness of agricultural support policies in strengthening the overall productivity, sustainability and resilience of the agricultural sector – key channels for improving the performance of food systems.

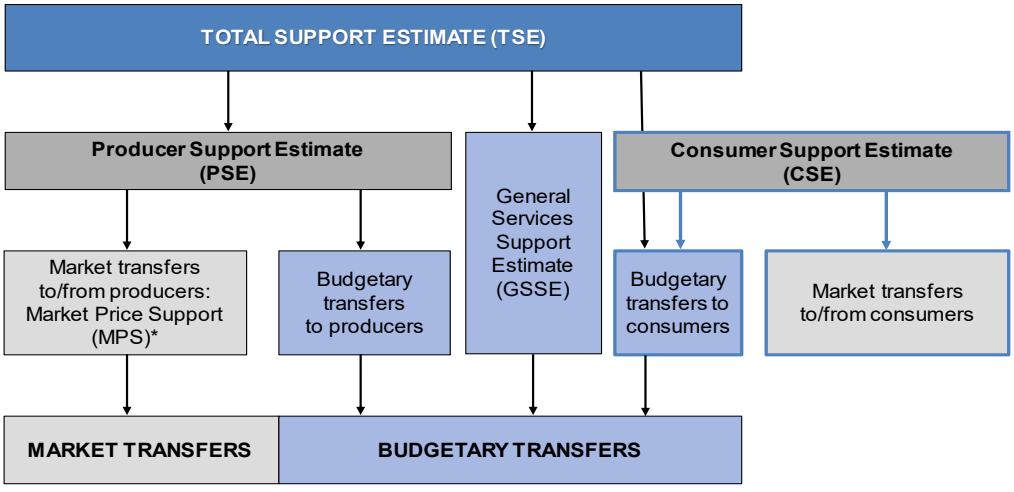
An overview of support to agriculture

The OECD has been monitoring developments in agricultural support in OECD countries on an annual basis since 1988, with an increasing number of economies outside the OECD area included since then. This exercise quantifies different forms of policy intervention according to their implementation criteria, and forms the basis for an assessment of policy performance against stated objectives.

The current assessment covers 54 countries across six continents, including all OECD member countries, 5 non-OECD EU Member States, and 12 emerging and developing economies.[10] Together, these countries represent three-quarters of global agricultural value-added. The assessment also discusses aggregate results for OECD member countries, the emerging economies, and all countries combined. In these aggregates, however, Costa Rica, which became the 38th Member of the OECD in May 2021, is included as one of the 12 Emerging Economies. The European Union is presented as one economic region, and includes the United Kingdom, which has left the European Union in early 2020 but remained part of the single market and continued to implement the Common Agricultural Policy through to the end of 2020 (a separate set of support indicators is presented in this report for the United Kingdom for 2017-20).

Figure 1.7 provides an overview of the structure of agricultural support indicators. The Total Support Estimate (TSE) is the OECD's broadest indicator of support. It comprises policy expenditures in general services for primary agriculture that benefit the sector as a whole (General Services Support Estimate or GSSE); policy transfers to individual producers (Producer Support Estimate or PSE); and budgetary support to consumers included in the Consumer Support Estimate (CSE). Annex 1.A provides definitions of the OECD indicators of agricultural policy support.

Figure 1.7. Structure of agricultural support indicators



Note: *Market Price Support (MPS) is net of producer levies and excess feed cost.
Source: Annex 1.A.

In 2018-20, agricultural support policies across the 54 countries covered in this report generated USD 720 billion per year in transfers to agriculture. This was counter-acted by more than USD 104 billion per year in implicit taxation of farmers. Individual producers received USD 540 billion in support per year (about 75% of all positive transfers to agriculture) through various support measures, including higher prices paid by consumers.

Governments employ a variety of different policy measures to deliver agricultural support (Figure 1.8). An important share of support is delivered through measures that modify domestic prices relative to world

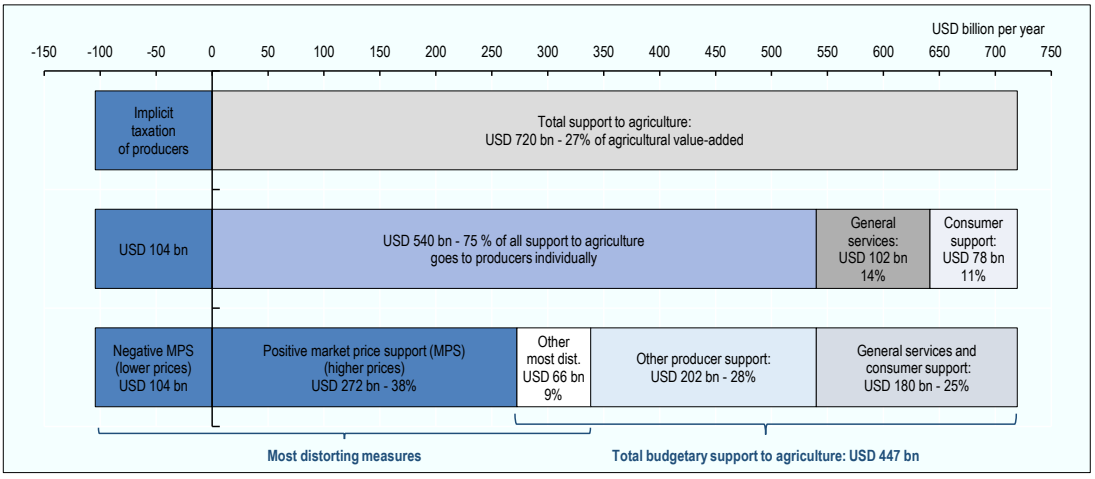
market prices. These policies do not result in government expenditures per se, but rather represent market transfers from consumers to producers, or vice-versa:

- Market price support (MPS) arises from policies that create a price gap between domestic market prices and border prices for specific agricultural commodities (Box 1.2). Import licences, tariffs, tariff rate quotas and minimum prices are examples of measures that would result in higher prices paid by consumers. Total positive MPS amounted to USD 272 billion per year in 2018-20.
- Some emerging and developing countries (Argentina, India, Viet Nam, Kazakhstan, Russia and Indonesia) implicitly tax producers on some or all agricultural commodities through measures that depress the domestic prices of these products, such as export taxes and export restrictions (resulting in negative market price support). Overall, negative MPS amounts to more than USD 104 billion per year.

The remaining support measures amounted to USD 447 billion per year, and are delivered in the form of budgetary payments and expenditures targeted to the agricultural sector (i.e. they represent transfers from taxpayers to producers, consumers, or to the sector as a whole):

- Other most distorting support refers to subsidies linked to output or the unconstrained use of variable inputs (USD 66 billion per year), which have similar propensity to create market distortions to those generated by MPS.
- Other producer support (USD 202 billion per year) includes payments based on land area, animal numbers, receipts or income, or payments not linked to the production of agricultural commodities, such as payments based on historical entitlements. These subsidies are considered to be “less coupled” to production and therefore more efficient in transferring income to the owners of land and other production factors. Payments can also be conditional on specific production practices and input uses designed to support environmental objectives. This category also includes specific payments designed to encourage farmers to adopt environmentally friendly technologies and practices.
- Policies that benefit the agricultural sector as a whole include investments in R&D and innovation, infrastructure (including off-farm irrigation systems, transportation and the provision of information and communication technologies), biosecurity, marketing and public stockholding. These policies are measured by the General Services Support Estimate (GSSE), which amounted to USD 102 billion per year, or 14% of all positive transfers to agriculture.
- Subsidies for consumers (such as food assistance programmes) amounted to USD 78 billion per year, or 11% of all positive transfers to agriculture.

Figure 1.8. Breakdown of agricultural support, total of all countries, 2018-20

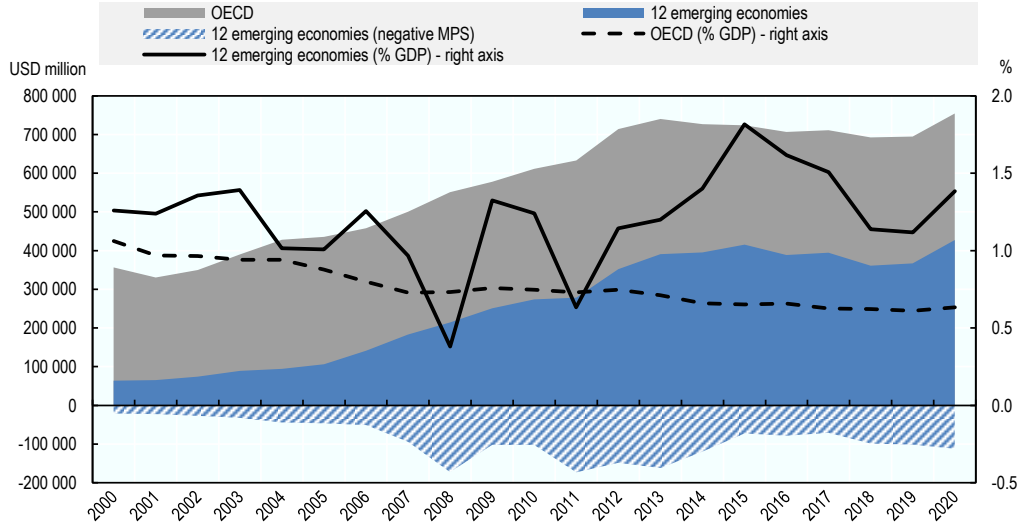


Notes: Data refer to the All countries total, including all OECD countries, non-OECD EU Member States, and the 12 Emerging Economies. "Implicit taxation" of producers refers to negative market price support, "General services" refers to the General services support estimate, "Consumer support" is transfers to consumers from taxpayers, "Other most dist." refers to the most distorting producer support measures other than market price support (i.e. support based on output payments and on the unconstrained use of variable inputs).
Due to missing value-added data, the Total support to agriculture in 2018-20 is related to agricultural value-added data for 2017-19.
Source: Based on OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Total support to agriculture has grown considerably in nominal terms over the past two decades, largely driven by increasing support in large emerging economies (Figure 1.9). The nominal value of the total support estimate (TSE) for OECD countries has remained relatively stable, reaching USD 329 billion in 2018-20, with reforms stalling over the last decade following some previous reforms. At the same time, the share of total support in GDP has declined steadily from 1.0% in 2000-02 to 0.6% in 2018-20, reflecting the declining importance of the sector. In the 12 emerging economies, the TSE grew from USD 44 billion in 2000-02 to USD 280 billion in 2018-20, driven by increasing rates of producer support in the largest emerging economies – in particular, China, India and Indonesia. The TSE for emerging economies averaged 1.2% of GDP in 2018-20, reflecting the importance of support in the largest emerging economies, which are home to large agricultural sectors with sizeable agricultural populations. Additionally, emerging economies subjected their producers to more than USD 104 billion in negative market price support (i.e. implicit taxation) in 2018-20.

Figure 1.9. Evolution of total support to agriculture in OECD and 12 emerging economies, 2000 to 2020



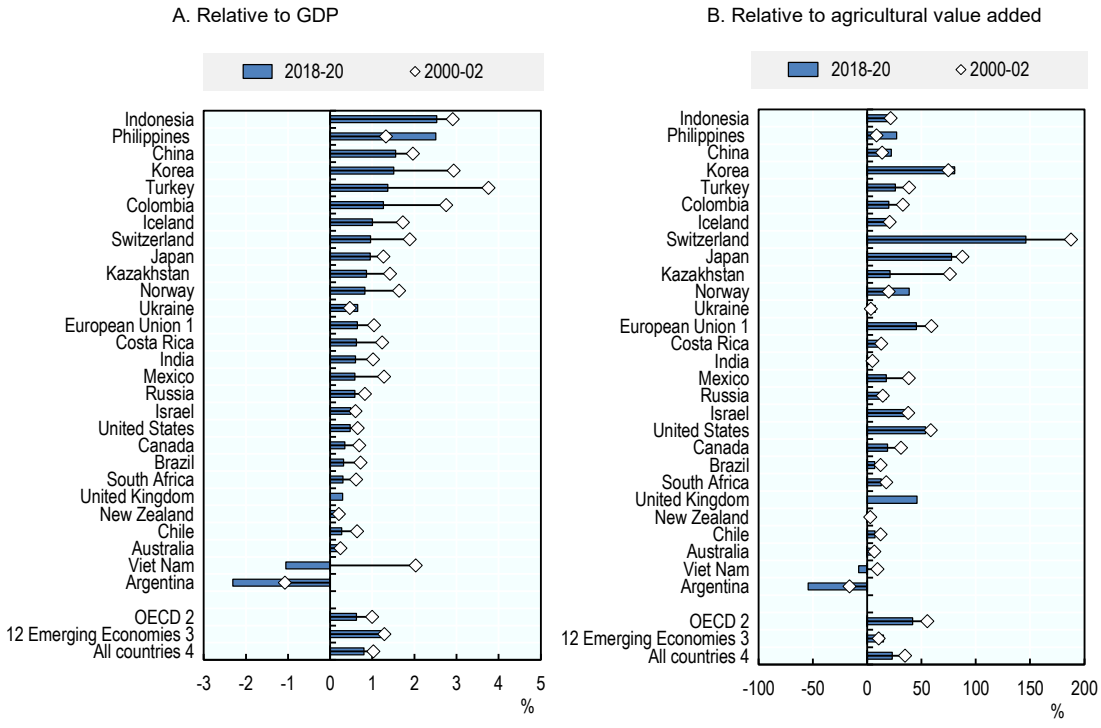
Notes: Negative MPS for OECD countries, mostly reflecting adjustments for higher feed costs due to positive MPS for feed commodities, averaged USD 427 million per year between 2000 and 2020, and is therefore too small to be visible on the graph.
The OECD total does not include the non-OECD EU Member States. Latvia and Lithuania are included only from 2004.
The 12 Emerging Economies include Argentina, Brazil, China, Costa Rica, India, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Aggregate figures mask the diversity in levels of support across countries (Panel A in Figure 1.10). The share of TSE in GDP (%TSE) indicates the cost of support to the sector for the overall economy. It was highest in Indonesia (2.5%), the Philippines (2.5%), and China (1.6%), partly reflecting the fact that agriculture has a comparatively high weight in the economies of these countries. The largest reductions in the %TSE since 2000-02 (in percentage points) have occurred in Turkey, Colombia and Korea – countries where the burden of support was initially high, but nonetheless still remained above 1.2% in 2018-20.

The level of total support in OECD countries continues to be high when measured relative to agricultural value added, amounting to 42% in 2018-20 (Panel B in Figure 1.10). Total support relative to the size of the sector varies widely across OECD countries, from 146% in Switzerland, 81% in Korea, and 78% in Japan, to less than 10% in just three countries: Australia, Chile and New Zealand. In comparison, total support in the 12 emerging economies represented just 15% of agricultural value added in 2018-20. The importance of support to the sector is highest in the Philippines (27%), China (22%), and Kazakhstan (21%). Total support is low relative to agricultural value added in India (4%) and Brazil (7%), and negative in Argentina and Viet Nam. The total effective tax on agriculture relative to the size of the sector was 54% in Argentina and 8% in Viet Nam.

Figure 1.10. Total Support Estimate by country, 2000-02 and 2018-20



Notes: Countries are ranked according to the %TSE in 2018-20.
Due to missing value-added data, the 2018-20 average TSE is related to agricultural value-added data for 2017-19 except for Japan and the United States (2016-18) and for Canada and New Zealand (2015-17).
1. EU15 for 2000-02, EU28 for 2018-19 and EU27 plus UK for 2020.
2. The OECD total does not include the non-OECD EU Member States. Latvia and Lithuania are included only for 2018-20.
3. The 12 Emerging Economies include Argentina, Brazil, China, Costa Rica, India, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam.
4. The All countries total includes all OECD countries, non-OECD EU Member States, and the Emerging Economies.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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The Producer Support Estimate (PSE) measures policy transfers to individual agricultural producers. Transfers to producers in the PSE comprise market price support (MPS) provided through domestic market prices that are higher (or lower if support is negative) than world prices, and budgetary payments from the government to farmers (Figure 1.7). The price gaps generated by trade policies and domestic market interventions are typically calculated as a differential between domestic and reference prices, but in some cases alternative methods are used for these calculations (Box 1.2).

Box 1.2. Market price support – concept and interpretation

Market price support (MPS) is defined as the "annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, arising from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity, measured at the farm gate level" (OECD, 2016[13]). It is calculated for individual commodities, as the gap between the domestic price paid to producers and the equivalent price at the border (market price differential, MPD), multiplied by the quantity produced, and aggregated to the national level.

This definition contains three key elements. First, it measures the transfers that arise from policy measures that create a price gap (e.g. import tariffs, minimum prices, export taxes, etc.). Second, it measures gross transfers (positive or negative) to agricultural producers from consumers and taxpayers. Third, it is measured at the farm gate level to ensure that MPS values are consistent with the production and price data for the farming sector overall.

The price gap (MPD) is calculated only if policies exist that can cause the gap such as border measures that restrict or promote imports or exports, and government purchases, sales and intervention prices in the domestic market. If countries do not implement such policies, the MPD is assumed to be zero. A non-zero MPD, whether positive or negative, originates from price-distorting policies. It is important to note that MPS measures the "policy effort" (or level of support to prices), not the policy effect (e.g. the impact on farm income). In addition to policy instruments that restrict price transmission (say, a target price), market developments (such as exchange rate movements affecting world prices expressed in local currencies) may influence the implied policy effort and, hence, the resulting transfers.

The calculation of the MPD for individual commodities based on prices requires information not only on product prices, but also on differences in product qualities, processing and transportation margins, to compare like with like. In some cases, difficulties in identifying and obtaining relevant prices or other required information prevent the MPD calculation from being based on observed price gaps. An alternative option for calculating the MPD is the use of import tariffs or export taxes (OECD, 2016[13]), which is likely to provide accurate MPS estimates only if a uniform tariff or tax rate is the sole border measures in place.

The use of tariffs rather than price gap data comes with a number of complex measurement issues, covering issues such as the composition of product groups across tariff lines and the seasonality of production and trade. Moreover, in order to capture the marginal rather than the average import protection rate, the statutory applied MFN tariffs are used. In light of the growing number of preferential trade agreements (PTAs) engaged in by countries covered by this report, an important caveat therefore relates to the fact that the statutory applied MFN tariffs remain unchanged even when increased quantities of products are imported under preferential tariffs or duty-free within such PTAs. As a consequence, potential liberalising effects of new PTAs are not reflected in the MPS estimates when tariffs are used to calculate them. With the increased relevance of PTAs for international trade, it therefore becomes even more important to base the MPD calculations on price gap calculations whenever data allow.

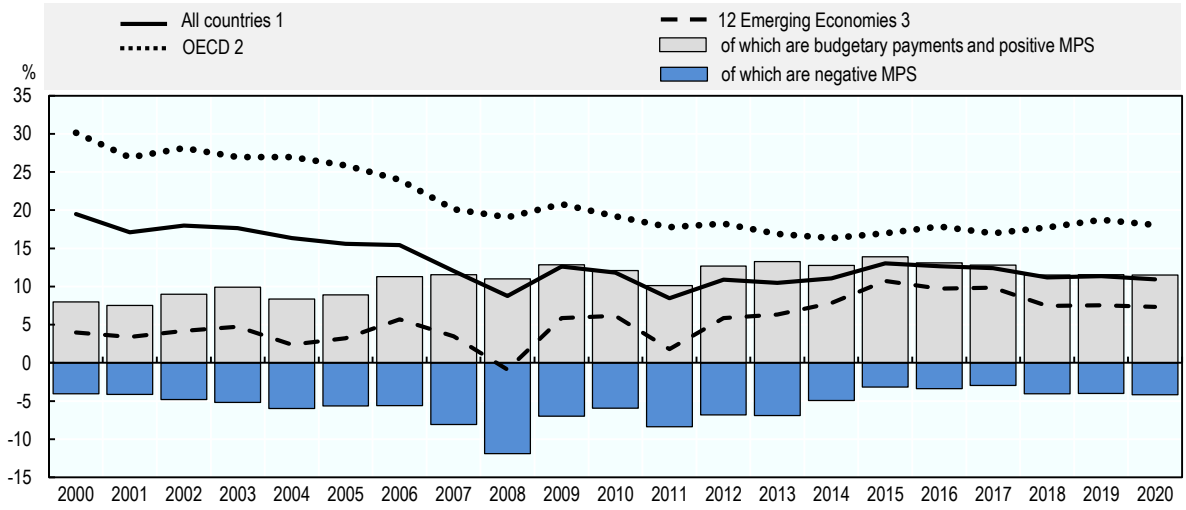
When interpreting MPS values, it is important to bear in mind that MPS is not a measure of public expenditures but an estimation of implicit or explicit transfers. MPS estimates published by the OECD therefore often differ from, and should not be confused with, those published by other organisations, including by the World Trade Organization, which may use very different concepts to calculate their indicators, despite similar names (Diakosavvas, 2002[14]; Effland, 2011[15]; Brink, 2018[16]).

Source: (OECD, 2020[3]).

The average %PSE (producer support as a share of gross farm receipts) for all 54 countries has been declining over the past two decades, from 18% in 2000-02 to 11% in 2018-20 (Figure 1.11). Within this average is a clear pattern of a decreasing rate of producer support in OECD countries and increasing rate of producer support in emerging and developing economies from the beginning of the century until 2015. In OECD countries, the %PSE fell from 28% in 2000-02 to 18% in 2018-20. Most of this decline was driven by reforms initiated prior to 2008; the pace of decline has been markedly slower since and reversed to a slight increase after 2014. In contrast, the %PSE in emerging economies almost doubled from 3.8% in 2000-02 to 7.4% in 2018-20.

Figure 1.11. Evolution of the % Producer Support Estimate, 2000 to 2020

Percentage of gross farm receipts



Notes: The two bars relate to the 12 Emerging Economies and represent a decomposition of PSE into its positive and negative parts.
1. The All countries total includes all OECD countries, non-OECD EU Member States, and the 12 Emerging Economies.
2. The OECD total does not include the non-OECD EU Member States. Latvia and Lithuania are included only from 2004.
3. The 12 Emerging Economies include Argentina, Brazil, China, Costa Rica, India, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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The %PSE in emerging economies reached a peak of 10.8% in 2015 and subsequently declined to 7.4% in 2020. This is in part due to higher levels of negative market price support, which depressed the domestic prices of certain commodities in some of these countries. Indeed, the %PSE represents the balance of positive and negative MPS elements, and tends to underestimate the extent of price distortions when both positive and negative price support are present.

Support remains highly concentrated. In 2000-02 the overall value of producer support was concentrated in OECD countries, in particular the European Union, the United States and Japan. Since then, support in some large emerging economies (China, India and Indonesia) has become increasingly important. Four countries accounted for the vast majority of the aggregate net Producer Support Estimate in 2018-20: China (44%), the European Union (24%), the United States (10%) and Japan (9%). Negative market price support was predominantly provided by India (78%). The size of the agricultural sectors in these countries means that any policy will automatically result in large absolute numbers. For this reason,

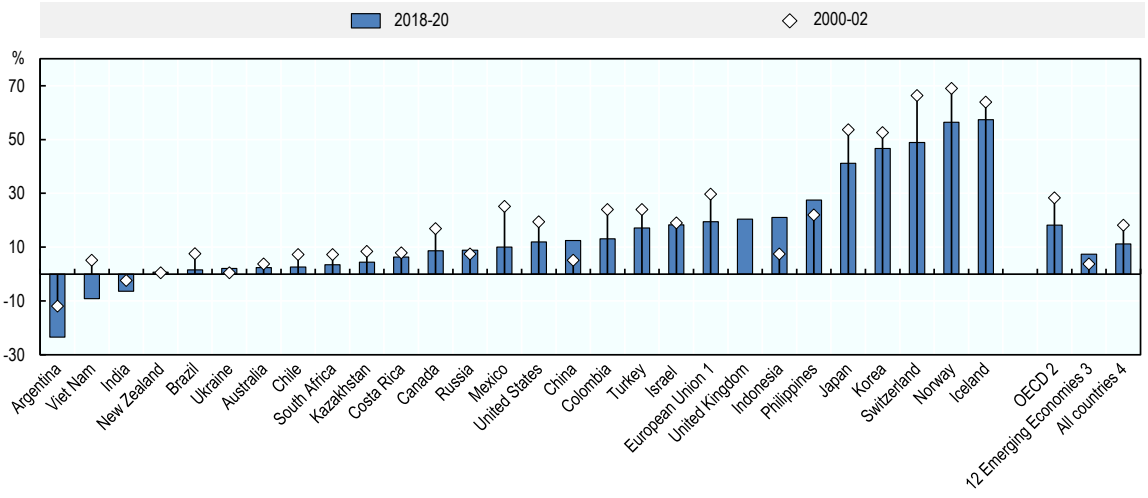
it is often useful to express the producer support estimate relative to gross farm receipts, as is done in Figure 1.12 below.

Countries differ widely in their tendency to support (or tax) their farmers. The countries with the highest levels of producer support when measured as a share of gross farm receipts are all in the OECD area. In Norway, Iceland, Switzerland, Korea and Japan, agricultural policy transfers arising from tariffs and other support measures generate between 40% and 60% of the revenues received by farmers. Producer support is above the OECD average of 18% in the Philippines, Indonesia, the United Kingdom, the European Union, and Israel. Seven countries have low levels of support, below 5%: Kazakhstan, South Africa, Chile, Australia, Ukraine, Brazil and New Zealand. Finally, three countries have negative levels of producer support, as a consequence of farmers facing implicit taxation through suppressed producer prices: Argentina, Viet Nam and India.

The level of producer support as a share of gross farm receipts has declined across OECD countries relative to the levels observed in 2000-02. Support has also declined in a number of emerging economies, notably Brazil, South Africa, Kazakhstan and Costa Rica. As mentioned previously, some of the larger emerging economies increased their level of support as measured by the %PSE, including Ukraine, Indonesia, China, the Philippines and Russia. Support to producers became more negative in Argentina and India, while Viet Nam's %PSE turned from positive in 2000-02 to negative in 2018-20.

Figure 1.12. Producer Support Estimate by country, 2000-02 and 2018-20

Percentage of gross farm receipts



Notes: Countries are ranked according to the 2018-20 levels.
1. EU15 for 2000-02, EU28 for 2018-19 and EU27 plus UK for 2020.
2. The OECD total does not include the non-OECD EU Member States. Latvia and Lithuania are included only for 2018-20.
3. The 12 Emerging Economies include Argentina, Brazil, China, Costa Rica, India, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam.
4. The All countries total includes all OECD countries, non-OECD EU Member States, and the Emerging Economies.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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How do agricultural support policies affect food security and nutrition?

According to the FAO, *"a person is food insecure when they lack regular access to enough safe and nutritious food for normal growth and development and an active and healthy life."* The severity of food insecurity can vary by time and degree, ranging from mild (uncertainty regarding one's ability to obtain food) to moderate (compromising on food quality and variety, reducing food quantity, skipping meals) to severe food insecurity (no access to food for more than a day) (FAO, 2020[17]).

The world as a whole is not on target to achieve the United Nations Sustainable Development Goals target 2.1, of "ensuring access to safe, nutritious and sufficient food for all people all year round", nor target 2.2, of "eradicating all forms of malnutrition". While the proportion of people who are undernourished declined significantly over the past few decades, this trend has reversed in recent years. The prevalence of undernourishment increased from 8.6% in 2014 to 8.9% in 2019, and the absolute number of people affected by hunger increased by 60 million over the same period. Nearly 750 million people, or 10% of the world's population, were considered to be severely food insecure in 2019, while an estimated 2 billion people (26% of the global population) experienced moderate or severe food insecurity, meaning that they did not have regular access to safe, nutritious and sufficient food.

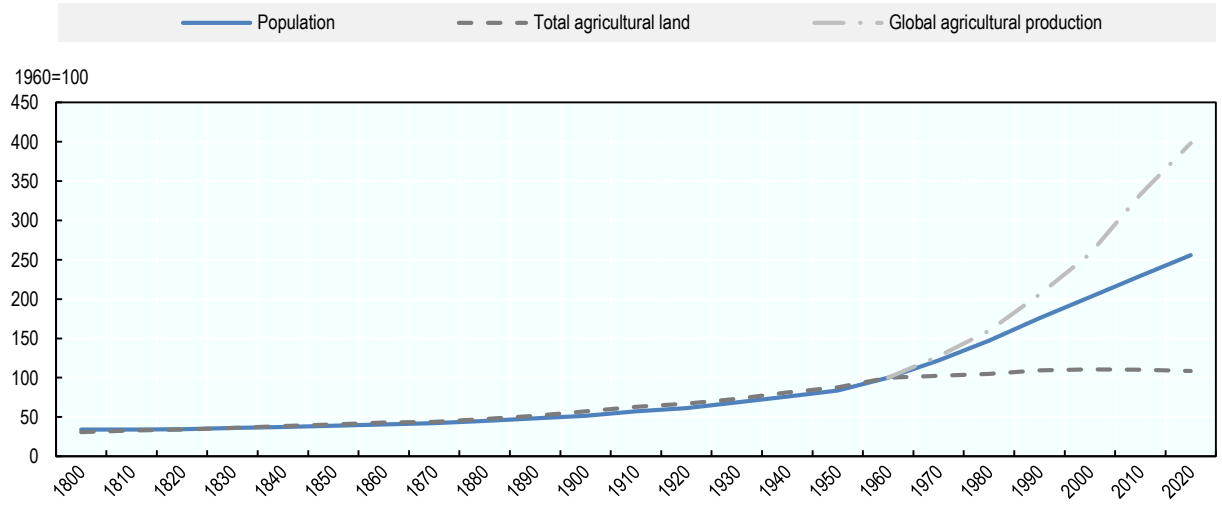
Africa and Asia currently account for 92% of the world's undernourished, or 631 million out of 688 million people. If current trends persist, the number of people affected by hunger is projected to exceed 840 million in 2030, of which 762 million (91%) will be in Africa and Asia. The COVID-19 pandemic has also led to a significant worsening of the situation, potentially resulting in an additional 83-132 million undernourished people in the world in 2020 (FAO, IFAD, UNICEF, WFP and WHO, 2020[18]).

Food security is linked to multiple areas of government policy, including macroeconomic policies that raise incomes and thereby improve access to food, trade policies that influence food availability, and public health and sanitation policies that improve food safety and nutritional outcomes. Tackling this complex and multi-faceted problem requires ensuring that sufficient food is *available,* that people have *access*[11] to food, and that food leads to good *nutritional outcomes*. A fourth requirement is the *stability* of these three dimensions over time, which implies effective risk management (OECD, 2013[19]). This section assesses the specific impact of agricultural support policies on the four dimensions of food security: *availability*, *access*, *nutrition*, and *stability*.

Food availability

A global lack of food has not been a fundamental cause of continued food insecurity around the world. Global agricultural production has increased four-fold since 1960, with the amount of food available per person growing by 56%. This remarkable growth in supply can be largely attributed to productivity growth and yield improvements, as agricultural production has rapidly outpaced population growth and the expansion of agricultural land (Figure 1.13). The *OECD-FAO Agricultural Outlook 2020-2029* projects that the pace of demand growth for agricultural commodities will slow over the coming decade, and will continue to be outpaced by efficiency gains in crop and livestock production (OECD/FAO, 2020[20]).

Figure 1.13. Global population, agricultural land use and food production



Sources: Population data from Maddison's historical statistics for 1820-1940; UN Population Division for 1950-2010; 1800 and 1810 extrapolated from Maddison. Agricultural (crops and pasture) land data for 1800-2010 from the History Database of the Global Environment (HYDE 3.2), Klein Goldewijk et al. (2017). Global agricultural production data for 1960-2010 from FAOSTAT (Net Agricultural Production Index); data for 2020 from OECD/FAO (2020), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

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Even so, some countries have suffered from a lack of food availability due to prolonged conflicts and extreme fragility. More commonly, however, food insecurity in these countries is driven by poverty and a lack of access to food. Across 15 countries with a protracted crisis for which food price data are available, the cost of a healthy diet (USD 3.80) is roughly in line with the global average (USD 3.75), yet healthy diets are unaffordable for 86% of the population (compared with the global average of 38%) (FAO, IFAD, UNICEF, WFP and WHO, 2020[18]). Thus, the notions of food availability and access to food are closely linked.

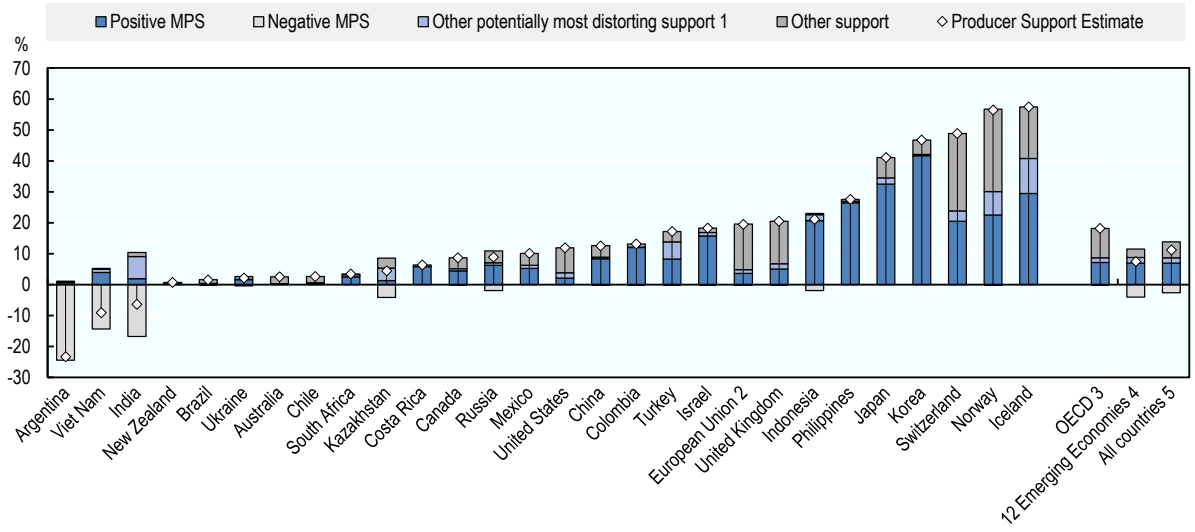
Governments can improve the availability of food by stimulating the domestic supply of food with non-distorting policies (e.g. through productivity improvements, reduced post-harvest losses, or reduced diversion of food crops to biofuels), and by limiting excess food demand (e.g. through reductions in over-consumption and consumer waste). International trade also plays a vital role in increasing the availability of food by balancing the deficits of net food importers with the surpluses of net food exporters, and permitting an allocation of production across countries that reflects relative differences in resource abundance. Trade is particularly important for the food security of regions experiencing growing food demand, which often do not correspond to the areas in which supply can be increased in an efficient and sustainable manner.

Agricultural support policies have adverse implications for global food availability by encouraging a sub-optimal allocation of resources, altering the relative mix of products grown, and displacing production to less efficient locations (OECD, 2016[21]). Many countries provide support to their agricultural sectors through measures that artificially stimulate domestic production and distort trade, with potentially significant consequences for global food availability. The most distorting measures – market price support, payments based on output and payments based on variable inputs without constraints – represent more than half of all transfers to and from producers in many countries, although some countries have implemented reforms that have decoupled support from production levels (Figure 1.14).

Agricultural support policies are therefore concentrated on measures that seek to increase domestic food availability, but often do so in an inefficient way (e.g. by raising prices), rather than through productivity-enhancing investments in R&D, innovation and infrastructure. These policies may contribute to domestic supply increases, but also encourage crops to be diverted away from human food consumption and towards the production of animal feed, biofuels, and the expansion of stocks (Pingali, 2015[22]). Policies to reduce the overconsumption of food and reduce food waste have so far had limited success, but can also play an important role in increasing domestic food availability.

Figure 1.14. Potentially most distorting transfers and other support by country, 2018-20

Percentage of gross farm receipts



Notes: Countries are ranked according to the %PSE levels.
1. Support based on output payments and on the unconstrained use of variable inputs.
2. EU28 for 2018-19, EU27 plus UK for 2020.
3. The OECD total does not include the non-OECD EU Member States.
4. The 12 Emerging Economies include Argentina, Brazil, China, Costa Rica, India, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam.
5. The All countries total includes all OECD countries, non-OECD EU Member States, and the Emerging Economies.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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The most distorting support policies reduce the global availability of food by impeding international trade (Brooks and Matthews, 2015[23]). Market price support policies such as import tariffs, quotas, and minimum prices may boost domestic production but also raise domestic prices, thus reducing domestic demand and food imports. These policies also reduce access to food for low income consumers (*discussed further in the section on "Access to food"*) Export taxes and restrictions (*discussed further in the section on "Stability"*) lead to higher prices and lower exports, effectively amounting to an implicit tax on farmers (negative market price support). Such measures discourage production and long-term investments in productive capacity. Collectively, these policies also influence the pattern of specialisation across countries, causing production to shift from more efficient to less efficient locations. Farmers in countries with export potential and low levels of government assistance face lower returns, due to restrictions in market access and reduced opportunities to sell into protected markets (OECD, 2013[19]; Anderson and Valenzuela, 2021[24]).

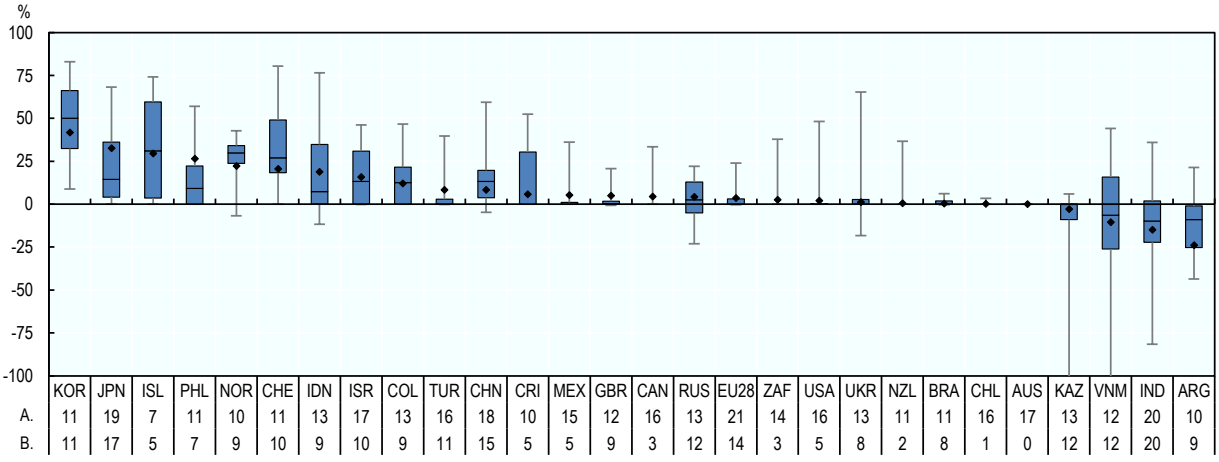
The trade-distorting effects of agricultural support policies in OECD countries have declined considerably compared with earlier decades. Export subsidies were banned under WTO rules in 2015, and many countries have replaced market price supports for individual products with less distorting measures that are decoupled from current production. For example, Switzerland provides significant direct payments to farms, almost all of which are subject to environmental cross-compliance. These have increased over time, from around 20% of support to farmers in the 1980s to almost 50% in recent years. Successive reforms to the European Union's Common Agricultural Policy (CAP) since the early 2000s have decoupled nearly half of budgetary support from production, by reducing distortive price supports and increasing direct payments to producers (of which nearly 60% are contingent on mandatory environmental constraints). Area-based payments and direct income payments have a weaker influence on production decisions, as they are not directly tied to output.

The importance of market price support is reflected in the fact that higher tariffs continue to be applied to trade in agricultural and food products, in spite of extensive tariff reductions since the 1994 Uruguay Round Agreement on Agriculture. The average applied tariff on agricultural products globally in 2018 was 7.8% (compared with 4.6% for industrial goods). At the same time, the gap between tariff rates bound under WTO rules and applied rates means that countries can raise tariffs on agricultural products to an average of 48.9% (compared with 27.1% for industrial goods). This significant water in the tariffs for agriculture adds to policy risks. Furthermore, average tariff rates mask distortions along specific product lines; while many tariff lines are at zero, some are considerably higher and may even exceed 100%, and there are many instances where tariff rates increase with higher levels of processing (OECD, 2020[5]).

To further illustrate this point, Figure 1.15 shows that levels of market price support (as a share of gross farm receipts) vary widely across countries and commodities. Only Australia, Chile, Brazil and Kazakhstan have low average levels of market price support, at or below 6% for all commodities. All other countries have at least one commodity with price support above 20%.[12] Six countries (Korea, Japan, Iceland, the Philippines, Norway and Switzerland) have high average levels of market price support in excess of 20% of gross farm receipts, while average market price support is negative in Kazakhstan, Viet Nam, India and Argentina. Figure 1.15 also demonstrates that there is significant dispersion of market price support within countries, albeit with varying distributions across commodities. In several countries, some commodities are supported whilst others are taxed, creating significant additional distortions to prices and market signals.

Figure 1.15. Relative magnitude of product-specific market price support by country, 2018-20

Simple average of MPS as a percentage of gross farm receipts



Notes: A. Number of MPS commodities. B. Number of MPS commodities with non-zero MPS values.
The ends of the whiskers represent the minimum and maximum values across commodities, while the boxes indicate ranges between the first and the third quartiles with the horizontal line inside indicating the median. Diamonds represent mean values for total agriculture. Minimum values for Kazakhstan and Viet Nam are -142% and -105%, respectively.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Broad based multilateral reform of trade and domestic support policies is likely to generate large and widespread benefits for food availability, by facilitating shifts in production to regions that are best able to meet the growing global demand for food and agricultural raw materials. OECD (2016[21]) found that the removal of all trade-related and domestic support to agriculture would increase trade in both intermediate and final agro-food commodities (the largest effect was observed for final food products, due to higher applied tariffs on processed products and the fact that products may face tariffs on multiple occasions as intermediate goods travel across borders). Removing barriers to market access therefore has the potential to boost trade (including in intermediate agricultural products) and strengthen participation in agro-food global value chains (GVCs) (Greenville et al., 2019[25]).

Intra-regional trade can improve food availability in countries that face difficulties accessing world markets and integrating in global supply chains. Bilateral and more extensive trade agreements have become increasingly prevalent in the global agricultural trading environment since the early 1990s, in part due to the slow progress of multilateral negotiations. These agreements are often viewed as a vehicle for economic and political integration amongst members, and have resulted in substantial improvements in market access, delivering reduced tariffs across a broad range of agricultural commodities (Thompson-Lipponen and Greenville, 2019[26]). In some cases, however, preferential trade agreements may cause rents to shift to participating countries, rather than creating new market opportunities.

Reforming trade-distorting support can strengthen global food availability by allowing countries to benefit from improved market access and providing an important springboard for export-led growth. Trade openness can also improve access to food and contribute to faster economic growth, by raising the incomes of exporters (allowing them to profit from higher prices than would be received in the absence of trade) and importers (who benefit from lower prices than would otherwise be paid) (Brooks and Matthews, 2015[23]). However, it is important to recognise that reforms to the most distorting forms of support are likely

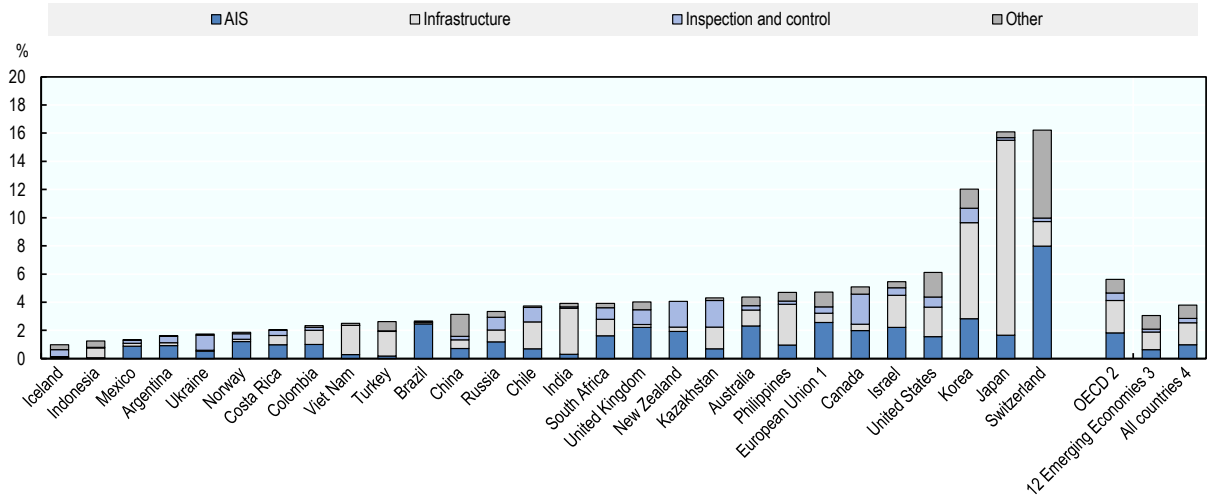
to impose short-term costs on some stakeholders. In particular, producers that formerly benefited from protection, exporters that benefited from preferential market access, and consumers that benefited from former policy arrangements may face difficulties adapting to a more competitive trading environment. In such cases, it may be necessary to provide transitional assistance. Social safety nets can facilitate structural adjustment, by ensuring adequate incomes for those with few viable economic alternatives (Brooks and Matthews, 2015[23]; OECD, 2002[27]).

It is particularly important to reform the most distorting policies that stifle innovation and hamper the agricultural sector's long-term productivity and sustainability. In recent decades, agricultural productivity growth has played an essential role in increasing the global supply of food and contributing to widespread improvements in food availability. Productivity growth has also put significant downward pressure on food prices, resulting in improved access to food for poor consumers worldwide. The growth in agricultural productivity owes much to efforts by governments to facilitate the provision of public goods and services and create enabling conditions to strengthen the competitiveness of agriculture. Continued policy attention in these areas will be fundamental to achieving sustained improvements in food security.

The General Services Support Estimate (GSSE) includes expenditures on R&D and innovation, inspection services, infrastructure development and maintenance, marketing and promotion, and public stockholding. Despite its potential to contribute to sustainable productivity growth and strengthen food security, the GSSE tends to be much lower than support provided directly to producers: in 2018-20, it represented 13% of the Total Support Estimate (TSE) in OECD countries, and 20% of the TSE across the 12 emerging economies.

When measured as a share of agricultural value added, the GSSE stood at just 5.6% in OECD countries and 3.0% in the 12 emerging economies in 2018-20 (Figure 1.16). Expenditures on general services were highest in Switzerland (16% of agricultural value added), Japan (16%) and Korea (12%). In the remaining countries, the GSSE ranged between 1.0% of agricultural value added in Iceland and 6.1% in the United States. The composition of expenditure also varies widely across countries: agricultural knowledge and innovation systems accounted for just 5% of GSSE expenditures in Indonesia, and 92% in Brazil[13]. Spending on infrastructure development and maintenance ranged from 3% of the GSSE in Ukraine to 86% in Japan.

Figure 1.16. General Services Support Estimate: Share in agricultural value added and composition, 2018-20



Notes: "AIS" refers to the Agricultural knowledge and innovation system. "Other" includes the marketing and promotion, cost of public stockholding, and miscellaneous categories of the GSSE. Countries are ranked according to the share of total GSSE in agricultural value added. Due to missing value-added data, the 2018-20 average GSSE is related to agricultural value-added data for 2017-19 except for Japan and the United States (2016-18) and for Canada and New Zealand (2015-17)

1. EU28 for 2018-19, EU27 plus UK for 2020.

2. The OECD total does not include the non-OECD EU Member States. Latvia and Lithuania are included only for 2018-20.

3. The 12 Emerging Economies include Argentina, Brazil, China, Costa Rica, India, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam.

4. The All countries total includes all OECD countries, non-OECD EU Member States, and the Emerging Economies.

Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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R&D plays a vital role in strengthening productivity in agricultural production, food processing and delivery to consumers. There is ample evidence that public investments in agricultural R&D generate large rates of return (Alston et al., 2010[28]; Piesse and Thirtle, 2010[29]), and can have positive implications for food security (Kristkova, van Dijk and van Meijl, 2017[30]). Public funding is crucial in areas where private investors are missing, and can help to stimulate private investment, including through public-private partnerships (PPPs). Governments should also work to create an enabling environment for private investments, provide stable funding for knowledge infrastructure, and strengthen linkages within the agricultural innovation system between R&D and technical assistance. Making innovation systems more collaborative and demand-driven can improve the impact of public expenditure. Efforts to improve the governance of the agricultural innovation system may include the development of long-term strategies for agricultural innovation, involving stakeholders more formally and earlier in the process, and strengthening evaluation frameworks (OECD, 2019[31]). Agricultural R&D remains dominated by the public sector in many countries, while private research tends to focus on specific areas (e.g. genetic improvements, fertilisers and chemicals, machinery, food processing). However, growth in public agricultural R&D investment has been slowing over the past decade in high-income countries (Heisey and Fuglie, 2018[32]).

In addition to maintaining strong levels of investment in agricultural R&D, investments in productivity-enhancing infrastructure can also strengthen food availability. Well-developed transportation infrastructure, including rural road networks and access to port facilities, can help to connect farmers with markets and allow them to take advantage of export opportunities. Ensuring affordable access to ICTs in rural areas

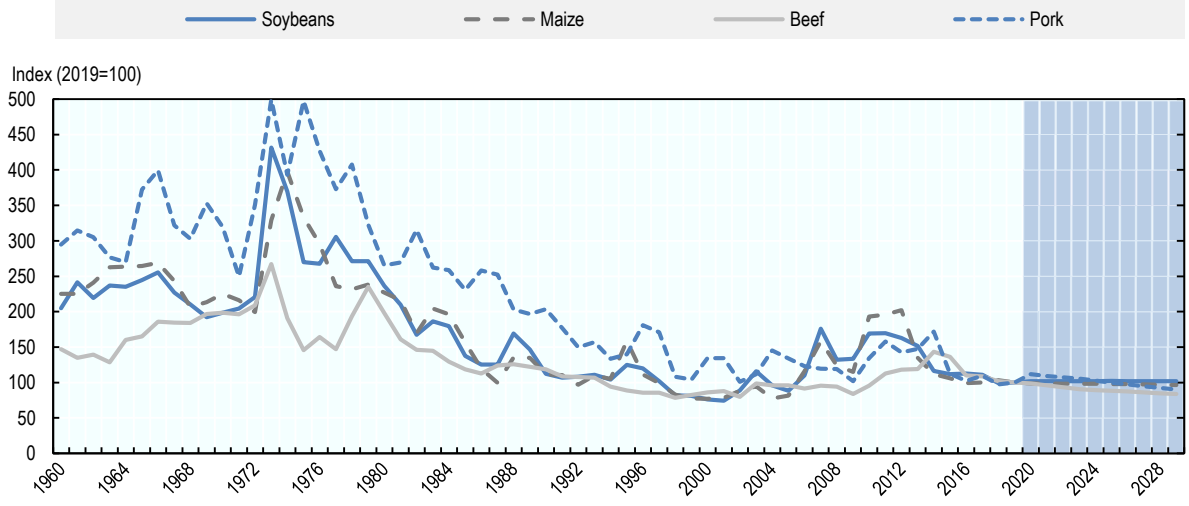
can provide farmers with real-time information on food prices and weather conditions, improve the reach of early-warning systems, and facilitate the adoption of new digital technologies and innovations. At the same time, some investments to expand irrigation infrastructure may slow structural change and hamper the development of diversified farming systems, with potential negative consequences for environmental sustainability.

Access to food

Access to food is fundamentally driven by two related factors: the price of food, and real incomes. High agricultural prices can impede access to food for low-income consumers, who typically spend a large proportion of their household budgets on food. Food prices have been declining since the mid-1970s and are low by historical standards (Figure 1.17). With no major structural shifts in agricultural commodity demand on the horizon, the *OECD-FAO Agricultural Outlook 2020-2029* projects flat to declining real agricultural prices over the next ten years (OECD/FAO, 2020[20]).

It is important to recognise that farmers are affected by food prices as both buyers and sellers. Whilst higher prices can improve incomes and access to food for some farmers, the majority of the rural poor are net buyers of food staples (OECD, 2013[19]). Sharp increases in the prices of food staples – as was witnessed during the 2007-08 food price crisis – can therefore lead to lower real incomes and weaken the purchasing power of poor farmers as well as consumers, undermining food security objectives. Several studies have found that higher food prices have a negative impact on poverty and welfare outcomes, particularly for poor households who tend to spend a greater share of their incomes on food (Filipski and Covarrubias, 2012[33]; Ivanic and Martin, 2008[34]).

Figure 1.17. Long-term evolution of real agricultural prices



Notes: Historical data for soybeans, maize and beef from World Bank, "World Commodity Price Data" (1960-1989). Historical data for pork from USDA QuickStats (1960-1989).
Source: OECD/FAO (2020), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

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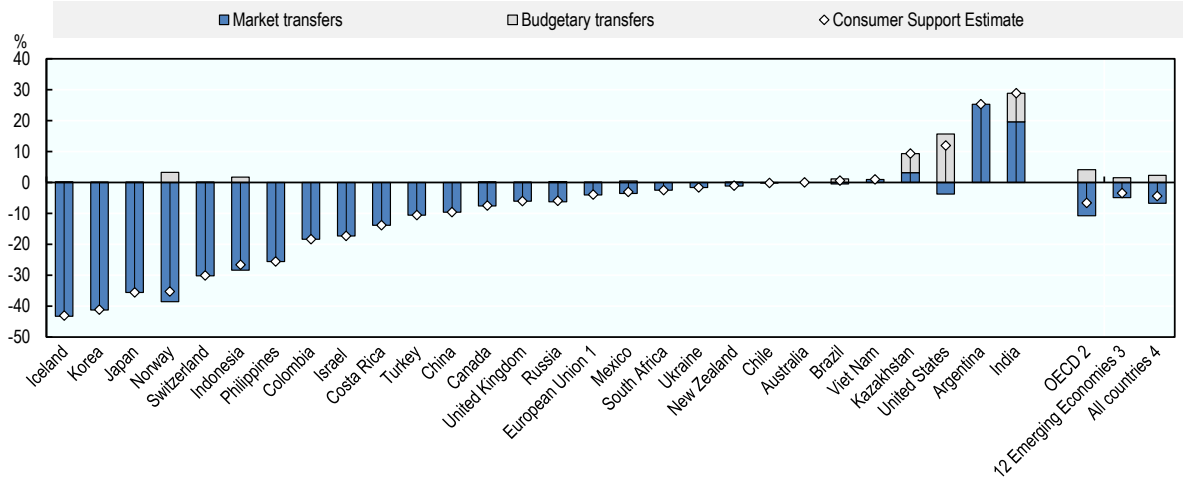
The prospect of continued low prices for food staples bodes well for the overall accessibility of food. However, there are concerns that healthy and nutritious foods remain unaffordable for much of the world's population, leading to rising rates of hunger, food insecurity and malnutrition. According to the *State of Food Security and Nutrition in the World 2020*, healthy diets[14] cost 60% more than diets that only meet the

requirements for essential nutrients, and are nearly five times more expensive than diets that only meet the basic dietary energy needs through a starchy staple. More than 1.5 billion people cannot afford a diet that meets the required levels of essential nutrients, and over 3 billion people cannot afford the cheapest healthy diet (FAO, IFAD, UNICEF, WFP and WHO, 2020[18]).

Agricultural support policies are often implemented by raising domestic prices above world market prices, leading to higher costs for the consumers of agricultural commodities. The percentage Consumer Support Estimate (%CSE) expresses the monetary value of the transfers to consumers (both through prices and through food assistance programmes) as a percentage of consumption expenditure (measured at farm gate). When domestic prices are higher than world market prices, consumers are effectively subjected to implicit taxation. In most countries, consumers are harmed by market price support policies, resulting in negative values for the %CSE (Figure 1.18). The level of this implicit tax ranges from zero in Australia to more than 35% in Iceland, Korea, Japan and Norway. Some emerging economies (India, Argentina, Kazakhstan and Viet Nam) have a positive %CSE, meaning that they implicitly tax producers and support consumers by artificially lowering the prices for agricultural commodities. The United States is the only OECD country with a positive %CSE, due to the high level of budgetary transfers for food assistance programmes.

Figure 1.18. Composition of the Consumer Support Estimate by country, 2018-20

Percentage of consumption expenditure at farm gate



Notes: Countries are ranked according to percentage CSE levels. A negative percentage CSE is an implicit tax on consumption.
1. EU28 for 2018-19, EU27 plus UK for 2020.
2. The OECD total does not include the non-OECD EU Member States.
3. The 12 Emerging Economies include Argentina, Brazil, China, Costa Rica, India, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam.
4. The All countries total includes all OECD countries, non-OECD EU Member States, and the Emerging Economies.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Market price support policies generally result in lower real incomes and reduced access to food. Poor consumers are disproportionately burdened by higher agricultural prices, as food accounts for a greater share of their household budgets. In addition, small farmers in emerging and developing economies are often net buyers of agricultural commodities, and therefore bear a part of these costs. Market price support also has a negative influence on the competitiveness of downstream segments of the food chain: livestock

producers face higher costs for animal feed, and food processing industries face higher prices for their inputs. Furthermore, if support measures are sufficient to cause countries to have an export surplus, they can curtail export opportunities for farmers in countries with low levels of government assistance (such as Australia, Brazil and New Zealand) (Anderson and Valenzuela, 2021[24]).

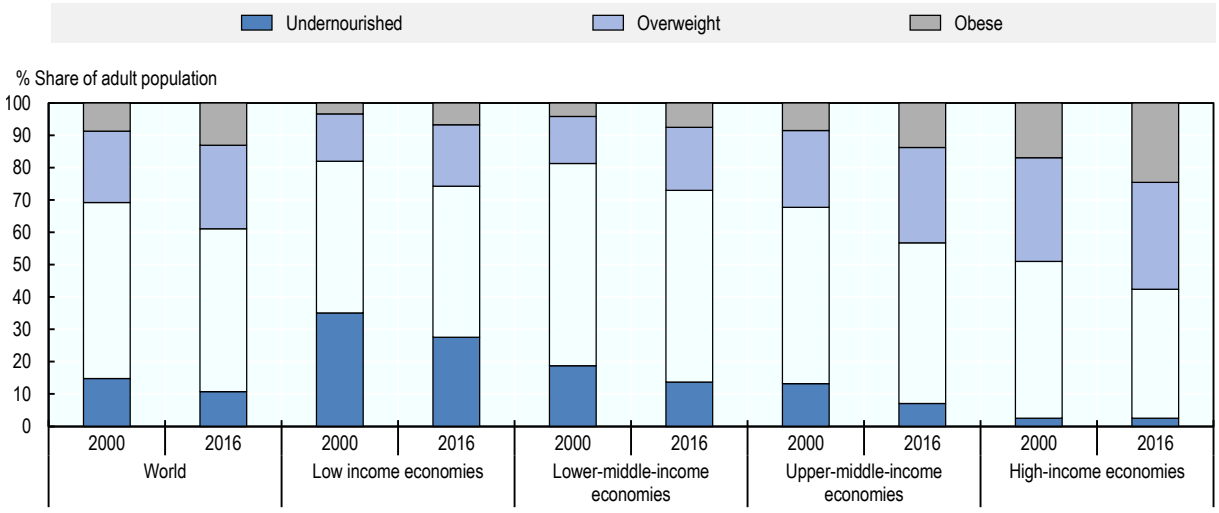
While prices clearly matter and have a strong influence on the affordability of food, real incomes and poverty levels also play an essential role in determining access to food. If incomes are extremely low, even cheap food can be out of reach for the poor (OECD, 2021[35]). In many emerging and developing countries, increases in food prices such as those experienced during the 2007-08 food price crisis were largely compensated for by robust growth in incomes. Countries therefore have much better prospects of strengthening access to food by raising incomes and tackling poverty than by attempting to lower domestic prices below world levels (OECD, 2013[19]).

Governments have a range of policy tools at their disposal to support the incomes of rural households and improve access to food (*discussed further in the section on "Incomes and* livelihoods. Conditional cash transfers have been a popular and effective tool deployed by many developing countries in recent years. Such programmes provide cash to poor households on the condition that they make pre-determined investments (e.g. in schooling for their children). Emergency food reserves can also be used to protect the most vulnerable, provided they supply food to specific groups without disrupting private markets (OECD, 2013[19]). In addition, many countries have introduced social safety nets and food assistance programmes to provide low-income households with better access to food. Examples include the USDA's Supplemental Nutrition Assistance Programme and National School Lunch Programme, Korea's Food Voucher Assistance Programme, and the United Kingdom's Healthy Start scheme (Placzek, 2021[10]). The COVID-19 pandemic has also had a measurable impact on access to food, mainly through declines in income and increases in global poverty (Laborde et al., 2020[36]). In response to the crisis, for example, India's food subsidy allocation increased from USD 13 billion in the 2020-21 budget estimate to USD 48 billion in the revised budget estimates, reflecting the additional cost of free food grain distribution in the wake of the COVID-19 pandemic.

Nutrition

Poor nutrition is a significant threat to the health and well-being of the world's population. According to estimates from the *State of Food Security and Nutrition in the World 2020*, 144 million children (21%) under the age of five were stunted, 47 million (6.9%) were affected by wasting, and 38 million (5.6%) were overweight in 2019. At least 340 million children suffer from micronutrient deficiencies (FAO, IFAD, UNICEF, WFP and WHO, 2020[18]). Countries are also facing a growing public health burden linked to poor quality diets: more than two billion people (about 40% of the world's adult population in 2016) are overweight or obese, and adult obesity is rising in all regions across the globe (Figure 1.19). Across the OECD, almost 60% of the population is overweight or obese, and nearly 25% of people are obese (OECD, 2019[37]).

Figure 1.19. Undernourishment, overweight and obesity, 2000-2016



Source: WHO (2019), Global Health Observatory, World Health Data Platform, https://www.who.int/data/gho.

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Malnutrition and obesity have significant negative consequences for health, quality of life, productivity and economic outcomes. Poor diets have been associated with increased rates of type II diabetes, cancer, cardiovascular diseases and other non-communicable diseases, as well as shorter lifespans. According to the *Global Burden of Diseases, Injuries, and Risk Factors Study*, dietary risks[15] such as a high intake of salt, sugar and red or processed meat, and a low intake of whole grains, fruits and vegetables, were responsible for 7.9 million deaths among adults aged 25 years and older in 2019 (GBD 2019 Risk Factors Collaborators, 2020[38]). In OECD countries, overweight and obesity will claim an estimated 92 million lives by 2050, reducing life expectancy by nearly three years (OECD, 2019[37]).

Poor diets and unhealthy food choices impose considerable economic costs on society, including reduced school performance for children, higher rates of workplace absenteeism, and lower labour productivity. The combined economic impact of overweight on life expectancy, health expenditure and labour market productivity will reduce GDP by an estimated 3.3% per annum in OECD countries between 2020 and 2050 (OECD, 2019[37]).

The causes of poor nutrition in developed countries are complex and highly context-dependent, and include urbanisation, changes in lifestyles, socio-economic factors, as well as the low cost and widespread availability of processed and fast food (Placzek, 2021[10]). In addition, there are concerns that agricultural support policies may have contributed to worsening health and nutritional outcomes. Since the late 1960s, many countries have pursued national food security goals through an overarching focus on achieving self-sufficiency in the production of cereal crops such as wheat, maize and rice. Agricultural R&D was heavily biased towards staple grains, through large-scale public investments in the development of new crop varieties and advances in plant breeding. Policies such as price supports, preferential credit, input subsidies, and grain procurement for public stocks, as well as infrastructure investment (e.g. in irrigation networks), strongly encouraged farmers to specialise in the production of staple crops. As a result, global grain production increased substantially, and developing countries experienced rapid increases in yields per hectare during the Green Revolution: between 1960 and 2000, yields rose by 208% for wheat, 109% for rice, 157% for maize, 78% for potatoes, and 36% for cassava (Pingali, 2012[39]).

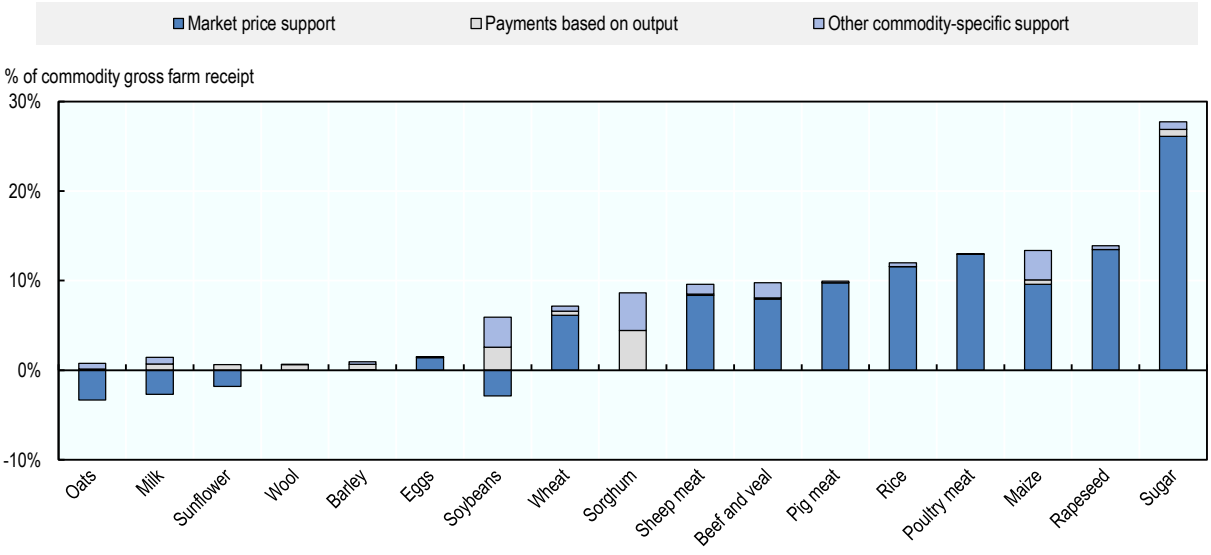
Over the past few decades, agricultural productivity growth has been a fundamental driver of poverty reduction and widespread improvements in global food security (Alston et al., 2010[28]; Kristkova, van Dijk

and van Meijl, 2017[30]; Piesse and Thirtle, 2010[29]). In particular, productivity-led declines in food prices have substantially improved access to food for poor consumers, resulting in increased calorie availability per capita and a significant fall in the prevalence of undernourishment globally. However, an excessive policy focus on staple crops may have reduced dietary diversity by promoting the production of energy-dense cereals at the expense of micronutrient-rich non-staple foods, such as fruits, vegetables and pulses (Pingali, 2015[22]). As land and resources were increasingly allocated towards staple crops, important sources of critical micronutrients were displaced and became relatively less affordable (Bouis, 2000[40]; Kataki, 2002[41]). For example, during the 1970s and 1980s, farmers in India diverted land away from pulses to produce wheat and rice, leading to sharp increases in the price of pulses and a drop in their per capita consumption (Hazell, 2009[42]). More recently, work by the OECD has demonstrated that agricultural policies promote staple products such as rice and wheat at the expense of other production activities (OECD, 2016[21]). Today, diets across many societies are characterised by an over-consumption of processed foods, sugar and fat, and insufficient consumption of fruits and vegetables (Giner and Brooks, 2019[43]). With the exception of Asia and some upper-middle income countries, most countries do not have enough fruits and vegetables available to meet the FAO/WHO recommendation of consuming a minimum of 400 g per person per day (FAO, IFAD, UNICEF, WFP and WHO, 2020[18]).

The current structure of agricultural support policies may have significant consequences for nutritional outcomes. Figure 1.20 shows the transfers to specific commodities (expressed as a share of commodity gross farm receipts), which collectively represented more than 47% of producer support in 2018-20. Sugar has the highest reliance on government support, with transfers amounting to 28% of commodity gross farm receipts. Milk is highly supported in many OECD countries, although the aggregate %SCT hides significant variation in milk policies across countries (including -33% of implicit taxation in India). Energy-dense foods such as vegetable oils (rapeseed), staple crops (maize and rice) and meat also feature prominently, while relatively limited support is provided for fruits and vegetables. These measures ossify production and increase the supply of these commodities. To the extent that support measures encourage the production of nutrient-poor commodities, this may hamper incentives for farmers to diversify their production towards foods that are potentially richer in micronutrients.

At the same time, it is worth noting that most commodity-specific transfers come from increased domestic prices through policies such as import tariffs, quotas and minimum prices. Their immediate effect would therefore be to *reduce* the domestic consumption of these products. However, this effect may be small if consumers are not very responsive to higher prices (e.g. if demand is inelastic, or if the value of agricultural commodities accounts for a small share of overall food expenditures), and may be overwhelmed by the price-depressing effects of other support policies, such as taxpayer-financed subsidies and investments in R&D (Beghin and Jensen, 2008[44]; Pingali, 2015[22]).

Figure 1.20. Transfers to specific commodities (SCT), all countries, 2018-20



Note: Data refer to the All countries total, including all OECD countries, non-OECD EU Member States, and the 12 Emerging Economies.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Reducing trade-distorting support could therefore facilitate a transition towards more diverse agricultural production systems, providing consumers with access to a broader range of nutritious foods necessary for a healthy diet (Brooks and Matthews, 2015[23]). Decoupled payments allow farmers to follow market signals in their production decisions, without biasing choices on what to produce, or whether to remain in the sector at all. Furthermore, there may be scope to rebalance support measures that directly encourage the production of staple crops towards the provision of a greater diversity of nutrient-rich perishable foods (Global Panel on Agriculture and Food Systems for Nutrition, 2020[45]).

Additional public and private investments may be needed to strengthen market infrastructure and information systems for nutrient-rich perishable foods (Pingali, 2015[22]). Investments in transport and storage infrastructure (including cold chains) can help to retain the nutritional value of fresh produce and high-value food products (FAO, IFAD, UNICEF, WFP and WHO, 2020[18]). Public funding for R&D and innovation focused on micronutrient-rich foods and food fortification, along with efforts to strengthen farmers' knowledge and capacities, can provide further incentives for the production of nutrient-rich foods and the development of diversified farming systems (Bowman and Zilberman, 2013[46]; Global Panel on Agriculture and Food Systems for Nutrition, 2020[45]). In countries where per capita meat consumption exceeds healthy levels, a shift towards more plant-based diets, with lower levels of ruminant meat consumption, would have the twin potential of benefiting public health while lowering GHG emissions (Giner and Brooks, 2019[43]).

While there may be a need to rebalance agricultural investments across sub-sectors and towards more nutrition-sensitive investment, agriculture and trade policies are not always the best instrument to address the complex and multifaceted challenges of global malnutrition. Work by the OECD suggests that governments should favour demand side strategies for encouraging healthier food choices, with a parallel need to work with industry at the supply-demand interface, and in some cases impose stricter regulations on retailers, for example in the marketing of specific food products, in particular to children (Giner and Brooks, 2019[43]). Given alarming trends in public health, some governments are also giving increased consideration to fiscal measures. In particular more than 40 countries have imposed consumption taxes

on sugar and sweetened beverages, a product category where consumption levels often exceed by a large margin those recommended by health guidelines (Hattersley et al., 2020[47]). The announcement in the United Kingdom of a soft drinks levy resulted in several major companies reformulating their products ahead of the introduction of the tax, suggesting that the credible threat of policy action can play an important role in prompting change and may be as important as the action itself.

Stability

Building stability in food systems is fundamental to achieving food security over the long term. Farmers and consumers are increasingly confronted with risks relating to climate change, natural disasters, price volatility and external shocks, such as the COVID-19 pandemic. Stability can also be influenced by agricultural support policies, including through sudden and unanticipated changes in the policy landscape.

Trade plays an essential role in maintaining stability in the global food system. By allowing produce to flow from food surplus areas to food deficit areas, trade helps to absorb the impacts of local and regional supply shocks. This generally results in lower price volatility, reduced uncertainty of supply, and greater integration of global and regional markets (OECD, 2013[19]). Where production variability is weakly correlated among countries, trade can help to mitigate supply volatility and manage domestic food shortages driven by poor harvests, droughts, floods and other catastrophic events (Brooks and Matthews, 2015[23]). The stabilising role of trade is only likely to increase in importance, as domestic production shocks become more frequent due to climate change. Policy distortions that impede trade's role in maintaining stability in food systems can be measured by comparing the prices received by producers with world market prices (Box 1.3).

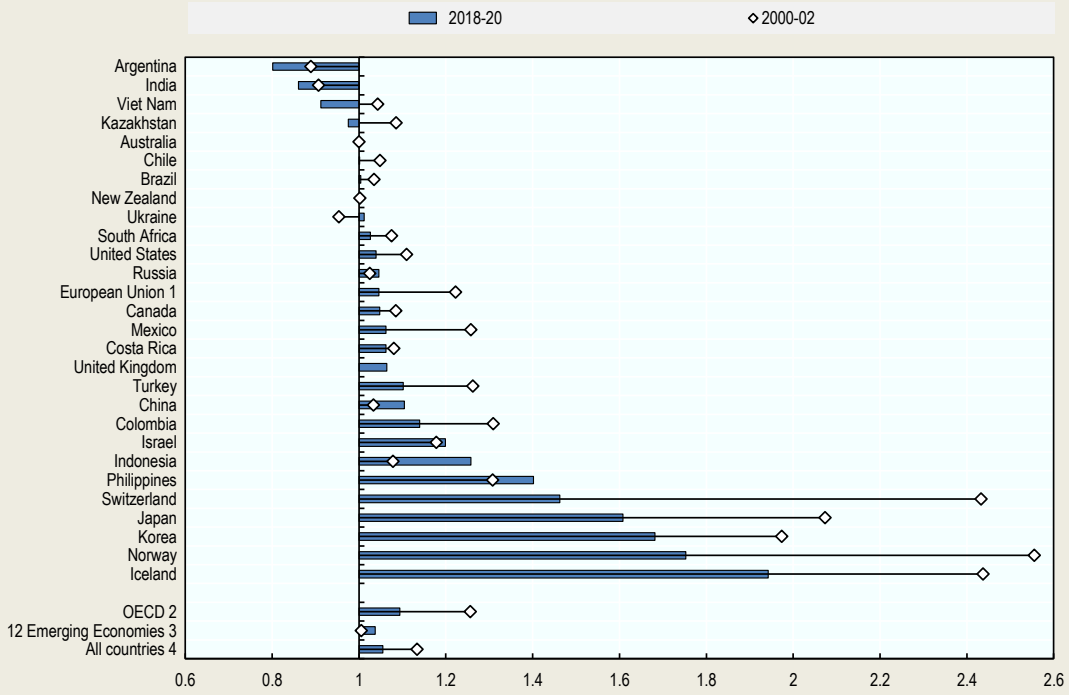
Box 1.3. The Nominal Protection Coefficient

The extent to which agricultural policies distort trade and impede price transmission is reflected in the degree of alignment between the prices received by producers and those prevailing on world markets. The Nominal Protection Coefficient (NPC) is a ratio that compares effective prices received by producers (including per unit output payments) with world market prices (Figure 1.21).

The differences between effective producer prices and world prices are largest in Iceland (94%), Norway (75%), Korea (68%) and Japan (61%). At the other end of the spectrum, effective producer prices are more than 10% below world market prices in India (-14%) and Argentina (-20%). The closest alignment between effective producer prices and world prices is observed in Australia, Chile, Brazil and New Zealand (all less than 1%).

Since 2000-02, producer prices have become more closely aligned with world markets across almost all OECD countries (Israel's NPC has increased slightly). The picture across the emerging economies is more mixed, with widened price gaps observed in seven out of twelve countries.

Figure 1.21. Producer Nominal Protection Coefficient by country, 2000-02 and 2018-20



Notes: Countries are ranked according to 2018-20 levels.
1. EU15 for 2000-02, EU28 for 2018-19 and EU27 plus UK for 2020.
2. The OECD total does not include the non-OECD EU Member States. Latvia and Lithuania are included only for 2018-20.
3. The 12 Emerging Economies include Argentina, Brazil, China, Costa Rica, India, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam.
4. The All countries total includes all OECD countries, non-OECD EU Member States, and the Emerging Economies.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Many countries have attempted to pursue self-sufficiency in staple crop production through border interventions such as import tariffs, quotas, and export restrictions. These measures ostensibly attempt to protect domestic constituents and prevent the transmission of international food price volatility onto domestic markets. The viability of such strategies is questionable however, as reducing a country's integration with world markets will only increase its exposure to volatility in domestic output and prices. Domestic shocks tend to be more frequent and severe than international shocks, with output in individual countries varying to a much greater degree than the world output of individual food commodities (Brooks, 2012[48]).

Trade policy interventions such as export taxes and restrictions are often introduced with the stated intention of stabilising domestic markets, but have the perverse effect of withdrawing products from world markets, reducing food availability and contributing to higher and more volatile world prices. During the 2007-08 food price crisis, several countries placed temporary export restrictions on staple crops as a means to protect their domestic consumers from rising food prices. A number of grain-exporting emerging and developing economies adopted export bans, whilst several major grain-importing nations reacted by reducing pre-existing import tariffs and relaxing tariff-rate quotas. These measures exacerbated the

increases in world prices and ultimately undermined the reputations of exporting countries as reliable suppliers on world markets, resulting in reduced long-term demand from traditional trading partners (Deuss, 2017[49]).

The reallocation of trade caused by export restrictions may encourage importing countries to lose confidence in international markets, and pursue less efficient policy objectives such as self-sufficiency and the expansion of public stocks. Public stockholding policies are almost always implemented using other policy instruments such as administered prices, trade policy measures, and import and export monopolies. These policies are often ineffective in reducing domestic price volatility, and may lead to negative spill-overs in international markets. In comparison to private stockholding, public stocks are arguably less responsive to market developments, and may therefore exacerbate rather than mitigate volatility if stock changes are misaligned with market needs. In particular, the acquisition of large amounts of grain to build or replenish public stocks can decrease the available supply on international markets, potentially putting upward pressure on world market prices. Conversely, the sudden release of large amounts of grains from public stocks can depress world market prices (Deuss, 2015[50]).

Trade interventions have had limited success in stabilising domestic market prices, and can result in significant welfare losses for poorer food-deficit countries (Anderson and Nelgen, 2012[51]). Whilst price stabilisation policies have on occasion been successful in containing the impact of large international price movements, they can transfer instability onto world markets and often prove to be fiscally unsustainable. Moreover, heavy trade distortions on some agricultural products make them susceptible to trade retaliation, thus adding to instability and uncertainty. Removing trade restrictions and market distortions could further strengthen the capacity of trade to stabilise markets and reduce price volatility, by allowing regions with better harvests to supply output to regions with worse harvests. If trade measures cannot be avoided, governments should design rules to limit their negative spill-over effects on other countries (OECD, 2013[19]).

Trade's role in promoting stability can be further strengthened through investments in transport and storage infrastructure, as well as efforts to improve the transparency of information on supply, demand, stocks and prices – including through international initiatives such as the G20-led Agricultural Market Information System (AMIS). However, trade openness may not be sufficient to contain rare but severe international shocks, such as simultaneous harvest failures, price spikes on world markets, and supply chain disruptions such as those witnessed during the onset of the COVID-19 pandemic (OECD, 2021[35]). It may be necessary to gather more information on market concentration at various stages of food supply chains, and where appropriate, to actively support the geographic diversification of food and feed supplies in order to limit the risks of bottlenecks.

Beyond agricultural support policies, a range of other measures can be introduced to strengthen stability in the food system. Market-based mechanisms such as weather-indexed insurance can help to finance food imports during weather-related shortfalls in domestic production, without requiring costly monitoring of individual farms. Care should be taken to avoid subsidised insurance products that do not accurately reflect producers' risk profiles, as such programmes can hamper incentives for on-farm risk management and crowd out private insurance options (OECD, 2020[52]). Well-functioning futures markets for agricultural commodities can play a significant role in reducing price fluctuations, through option contracts that lock in future import purchases at pre-determined prices. Furthermore, targeted social programmes (including cash transfers) can be an effective tool to mitigate the impacts of international price volatility on low-income households (OECD, 2013[19]).

How do agricultural policies affect incomes and livelihoods?

Food systems are a major source of incomes and livelihoods around the world. Primary agriculture accounted for 27% of total employment in 2019, and recent estimates suggest that there are at least 570 million farms worldwide, most of which are small (less than 2 hectares) and family-operated (World

Bank, 2021[53]; Lowder, Skoet and Raney, 2016[54]). Food systems jobs represent the majority of self and wage employment in developing countries, with farming generating about 68% of rural income in Africa and about half of rural income in South Asia (Townsend et al., 2017[55]). Beyond farm production, food systems support job creation in a range of upstream and downstream industries, such as input supply, food processing, transport and logistics, supermarket chains and restaurants.

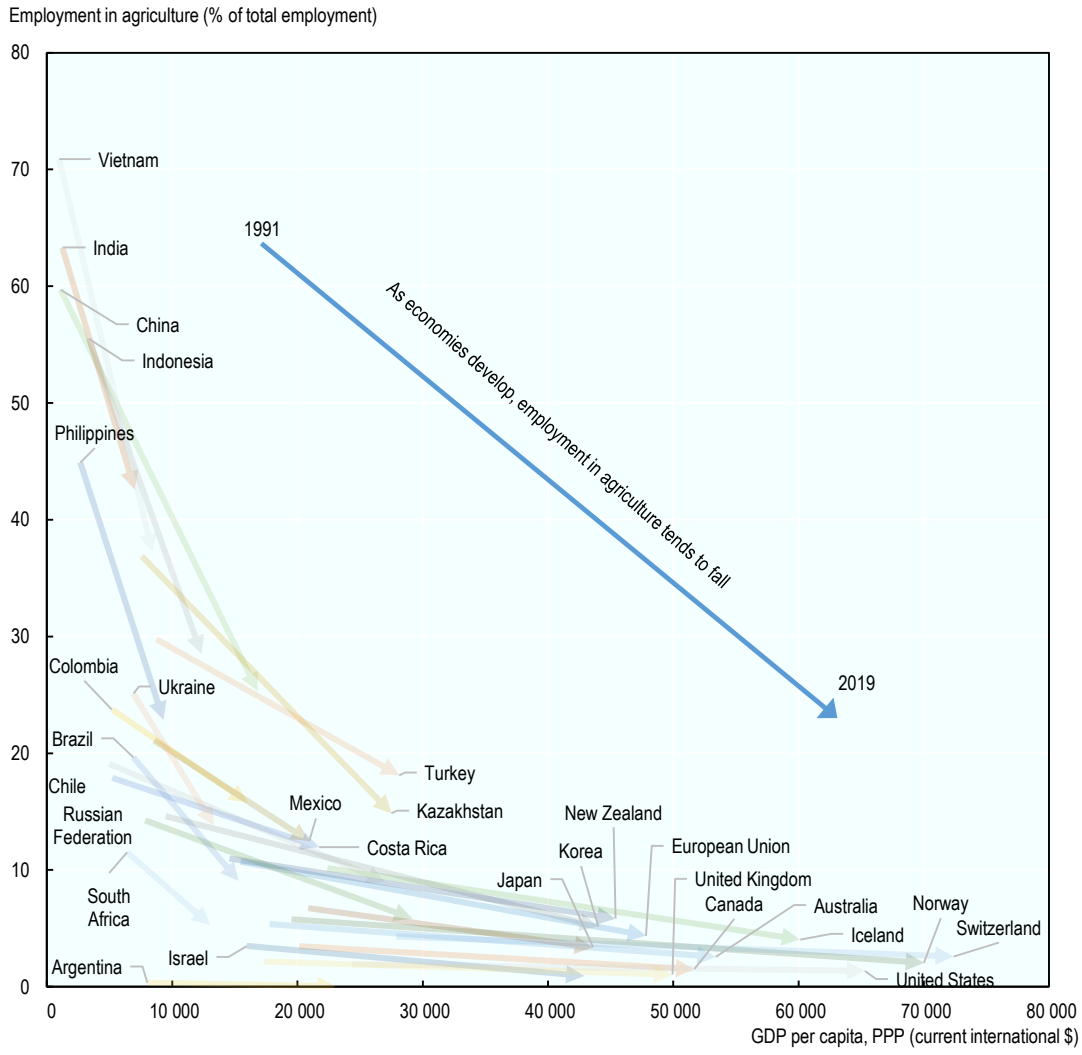
The structural transformation of economies has important influences on the development of agriculture and food systems. As countries develop, productivity improvements lead to rising agricultural output yet a decline in agriculture's share in GDP, releasing labour out of agriculture and into faster growing non-agricultural sectors. With growing rural to urban migration and a consolidation of farm structures, agriculture's share in total employment tends to decline as per capita incomes rise (Figure 1.22).

Structural change is also accompanied by transformations in the food system, with greater job opportunities offered by other segments of the value chain such as food processing, retail and other food services. Urbanisation and higher per capita incomes lead to changes in consumer preferences and new demands for fresh, processed and convenience foods. In low income countries (e.g. in eastern and southern Africa) agriculture accounts for about 90% of food-related employment, while in high income countries such as the United States, food services account for about two-thirds of all jobs in the food system (Townsend et al., 2017[55]). Food and beverage manufacturing now ranks among the top three manufacturing sub-sectors by value added in 27 OECD countries (OECD, 2021[35]).

At the same time, the agricultural sector is becoming increasingly integrated into global value chains (GVCs), providing new sources of employment and opportunities for farmers to grow their incomes. Foreign direct investment (FDI) and trade have facilitated greater participation in GVCs, spurred by the liberalisation of investment, falling tariffs, and reductions in trade-distorting support for agricultural producers (Punthakey, 2020[56]). Trade and GVC participation account for an estimated 20-26% of total agricultural labour income globally, with significant employment spill-overs in other supporting sectors such as industry and services (Greenville, Kawasaki and Jouanjean, 2019[57]).

Agricultural development can play an essential role in improving livelihoods and reducing rural poverty. However, it is important to recognise that rural regions are diverse and complex socio-economic systems that extend beyond agriculture, and encompass a broad range of manufacturing and service sector activities (e.g. mining, renewable energies, tourism). Indeed, many farm households derive a substantial share of their income from non-agricultural sources (OECD, 2003[58]). This implies that policies and investments to strengthen incomes and livelihoods should aim to offer multiple development pathways for farm households: improving competitiveness and productivity within agriculture, diversifying income sources among household members, and facilitating the transition of labour into non-agricultural sectors (Brooks, 2012[48]).

Figure 1.22. Agriculture's share in employment and GDP per capita, 1991-2019



Source: World Bank (2021), World Development Indicators, https://databank.worldbank.org/source/world-development-indicators.

StatLink https://stat.link/6dnjv1

In 2018-20, the governments of 54 countries provided USD 540 billion per year in support to farm incomes, either through higher prices paid by consumers or direct payments to farmers. This represents 75% of the USD 720 billion in positive transfers to agriculture. In contrast, a relatively low proportion of total support (14%: USD 102 billion) is provided in the form of general services, a category that includes public goods and services such as R&D and innovation, inspection services, infrastructure development and maintenance, and public stockholding (*discussed previously, in the section on "Food Availability"*). Consequently, the current structure of agricultural support does not encourage farmers to diversify their income sources and provides disincentives for them to leave the sector, thereby limiting adjustment pathways beyond agriculture.

Government intervention in agriculture is often justified by the need to improve the incomes of farmers. While support policies may have some success in raising farm household incomes, they often do so at considerable cost to consumers and taxpayers. Policies tend to be poorly targeted: official policy statements are seldom clear about which farm households should qualify for support, and policies often

fail to establish explicit eligibility criteria and discriminate between high income and low income farm households (OECD, 2002[27]; de Frahan, Dong and De Blander, 2017[59]). They are also inequitably distributed, with support based on output or factors of production resulting in a greater share of the benefits accruing to large-scale farms. Finally, they result in significant leakages, meaning that a substantial share of support accrues to other unintended beneficiaries (e.g. input suppliers, downstream industries, landowners, programme administration costs).

Evidence suggests that there is a clear inverse relationship between the tendency of a policy to distort markets and its efficiency in transferring income benefits to farmers (Dewbre, Antón and Thompton, 2001[60]). In other words, policies that pay farmers without affecting their production decisions generally result in a greater share of support being retained by the household (while also minimising impacts on production and trade). This result is confirmed by estimates of the income transfer efficiency of support policies for OECD countries, which show that the share of monetary transfers accruing to farmers are just 17% for input subsidies, 23% for market price support, 26% for deficiency payments, and 47% for area payments (OECD, 2003[58]). This is because market price support and other distorting policies stimulate output, and much of the value of the support is paid out to input suppliers or capitalised into land values (especially for area payments, where over 90% of the benefits are absorbed in increased land values). Such policies raise costs for farmers who want to buy or lease land, and slow structural change. In contrast, direct income payments have a far higher income transfer efficiency, as they can be decoupled from agricultural activity and targeted to households that are in need of assistance (e.g. through the imposition of limitations on payment levels) (OECD, 2003[58]).

The vast majority of the world's farmers are small-scale producers with less than 2 hectares of land, who collectively produce an estimated 30-34% of the global food supply (Ricciardi et al., 2018[61]). Policies to strengthen incomes in the food system will therefore need to focus on improving productivity and connecting small farmers with markets. Increasing investments in public goods such as rural infrastructure, agricultural R&D, technology transfer, extension and advisory services, can help farmers to increase their competitiveness (Brooks, 2012[48]). New technologies can reduce transaction costs and increase efficiencies: digitalisation is facilitating greater financial inclusion, and e-commerce platforms are increasingly linking entrepreneurial producers with national and foreign markets. Standards, labelling and certification schemes aim to create more differentiated products and can sometimes be explicitly designed with the intention of improving farmers' livelihoods (e.g. Fairtrade certification). Digital technologies also have significant potential to create efficiencies in Sanitary and Phytosanitary systems (SPS), and can enhance trade in agricultural and food products (OECD, 2021[62]).

While policies need to enable farmers to take advantage of the rising opportunities offered by agricultural development, they also need to protect those who are unable to adjust to competitive pressures. Productivity growth puts pressure on the incomes of less competitive farmers, due to declining real prices which are not fully offset by a decline in production costs. Improving agricultural productivity therefore inevitably implies that some less productive farmers that are unable to adjust will need to leave the sector. If less productive farmers have access to viable economic alternatives in non-agricultural sectors, income support may not be necessary and may hamper the transition out of agriculture. If viable alternatives do not exist, then transitional assistance to another economic activity may be more effective than income support (OECD, 2002[27]).

Ultimately, many of the policies required to improve farmers' incomes are non-agricultural. They include investments in education and healthcare, peace and political stability, sound macroeconomic management, developed institutions, property rights, and governance (Brooks, 2012[48]). Labour market and regional development policies can facilitate the absorption of labour into other sectors, including downstream processing sectors. Social safety nets (e.g. conditional cash transfer programmes) can be an effective means for providing income support whilst ensuring equal treatment between agricultural and non-agricultural households. Income objectives and appropriate indicators should be clearly defined, with

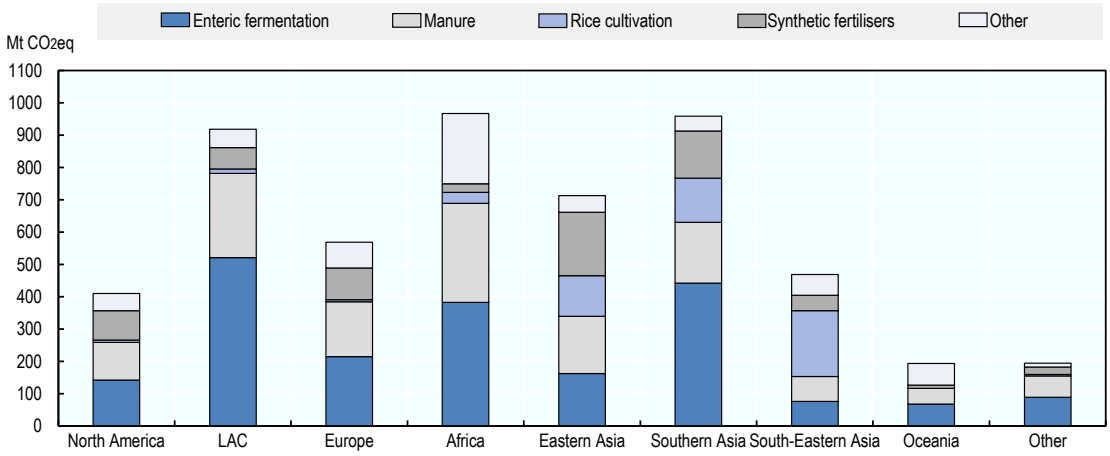
comprehensive information on the economic situation of farm households collected to allow for a more accurate assessment and monitoring of income deficiencies (OECD, 2003[58]).

How do agricultural policies affect resource use and the environment?

The food systems underpinning the world's current food consumption patterns are a major driver of climate change and a significant source of environmental pressures worldwide. Agriculture, forestry and other land use activities contribute an estimated 16-27% of total anthropogenic greenhouse gas (GHG) emissions, including 13% of carbon dioxide (CO_2), 44% of methane (CH_4), and 81% of nitrous oxide (N_2O). Other pre- and post-production segments of global food systems (e.g. energy, transport and industry) account for approximately 5-10% of emissions from human activity (IPCC, 2019[63]).

Direct GHG emissions from agriculture vary across regions and emanate from a variety of sources (Figure 1.23). Two-thirds of direct emissions from agriculture come from livestock, with enteric fermentation[16] alone accounting for 40%. Emissions from manure contribute another 26% to direct emissions. Synthetic fertilisers are responsible for 13% of direct emissions from agriculture, and rice cultivation accounts for 10%.

Figure 1.23. Direct emissions from agriculture, by region and source, 2018



Notes: 2018 or latest available. LAC is Latin America and the Caribbean. Manure includes manure applied to soils, manure left on pasture, and manure management. Other includes the FAOSTAT categories Burning - Crop Residues, Burning - Savanna, Crop Residues, and Cultivation of Organic Soils.
Source: FAO (2021[62]), FAOSTAT database, http://www.fao.org/faostat/en/#home.

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In recent decades, growth in agricultural production has put increasing pressure on natural resources. Agriculture currently uses approximately half of the world's habitable land (IPCC, 2019[63]). Livestock occupies about 78% (40 million km^2) of all agricultural land; this includes 35% of global crop production which is devoted to the production of animal feed (Dasgupta, 2021[64]). Irrigated agriculture accounts for an estimated 70% of global freshwater usage (equivalent to 2 797 km^3 per year in withdrawals from surface and groundwater resources), and an even higher share of consumptive water use (i.e. water that is not returned to the environment) due to the evapotranspiration of crops (United Nations, 2021[65]). Empirical studies have shown that agricultural expansion is a major cause of deforestation (Busch and Ferretti-Gallon, 2017[66]) Recent estimates suggest that large-scale commercial agriculture (i.e. cattle ranching, soy production and palm oil plantations) accounts for about 40% of tropical and sub-tropical deforestation,

while local subsistence agriculture is responsible for a further 33% (Hosonuma et al., 2012[67]; FAO and UNEP, 2020[68]).

Food production is also the world's most significant driver of terrestrial and marine biodiversity loss. Around 80% of all threatened terrestrial bird and mammal species are in danger of habitat loss due to agricultural expansion (Tilman et al., 2017[69]). The conversion of natural ecosystems for crop production or pasture has been the biggest cause of habitat loss globally, driving an 82% decline in the collective weight of wild mammals since 1970. Farmed animals such as cows and pigs now account for 60% of the global biomass of all mammal species (compared with just 4% for wild mammals), while farmed chickens, ducks and turkeys account for 71% of the global biomass of all bird species (wild birds make up 29%) (Benton et al., 2021[70]). In many regions, soil and pollinator biodiversity have deteriorated considerably due to the over application of chemical fertilisers and pesticides, along with farm practices such as tilling and ploughing (Dasgupta, 2021[64]). Agricultural intensification has also been identified as a leading cause of widespread declines in insect biodiversity, together with climate change (Raven and Wagner, 2021[71]).

Beyond their effects on production and trade, agricultural support policies have significant consequences for the environment and resource use. Support policies can induce negative environmental impacts on the *intensive margin* (e.g. increased input use, livestock numbers, water use), on the *extensive margin* (e.g. reallocating land and other inputs between different outputs), or on the *entry-exit margin* (e.g. expansion or contraction of agricultural land relative to other land uses) (Henderson and Lankoski, 2019[72]).

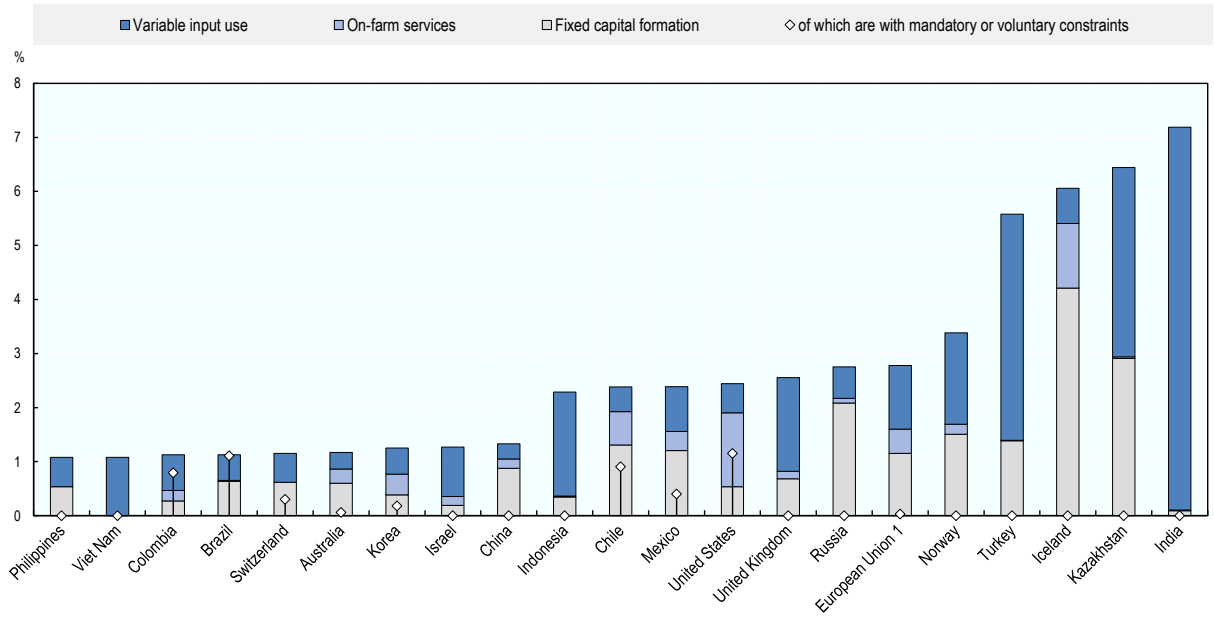
Market price support, payments based on commodity output and payments based on unconstrained variable input use are among the potentially most environmentally harmful support policies (Henderson and Lankoski, 2019[72]; Henderson and Lankoski, 2020[73]; OECD, 2020[74]; DeBoe, 2020[75]). Such policies are coupled to farmers' production decisions and cannot be easily targeted, thus providing incentives for the intensification of input use, the allocation of land for supported crops, and the entry of land to the agricultural sector. Studies have shown their negative impacts on water quality and direct agricultural GHG emissions, and they may negatively influence biodiversity by promoting less diverse agricultural systems (DeBoe, 2020[75]; Lankoski and Thiem, 2020[76]). At the global level, however, the widespread adoption of these policies may constrain emissions by lowering production as a result of resource inefficiencies (Laborde et al., 2021[77]).

Payments based on variable inputs without appropriate constraints can encourage the excessive use of fertilisers, herbicides and pesticides. Over application of fertilisers and animal manure leads to substantial nutrient surpluses and nitrogen and phosphorus run-off. Nitrogen pollution causes severe damage to freshwater ecosystems, harming invertebrates and fish, causing acidification and eutrophication, stimulating the growth of toxic algae and lowering oxygen levels in water (hypoxia). Excessive or inadequate pesticide use has been associated with declines in populations of birds, insects, amphibians and aquatic and soil communities, as well as negative impacts on human health (Guerrero, 2018[78]; Sud, 2020[79]).

In most countries, support based on input use is provided without constraints to protect against the over application of variable inputs. India has the largest rate of support based on inputs, primarily allocated to electricity price subsidies for groundwater pumping and irrigation, and fertiliser subsidies. These measures were worth 7.2% of gross farm receipts in 2018-20 (Figure 1.24). Kazakhstan and Iceland provide support based on inputs amounting to 6.4% and 6.1% (respectively) of gross farm receipts, although in Iceland most support based on input use is directed to fixed capital formation (i.e. on-farm investments), which are potentially less environmentally damaging than general fertiliser subsidies. The optimal policy mix for support that encourages the use of environmentally harmful inputs would be to impose a tax to account for the damage they cause to waterways and natural ecosystems (Anderson and Valenzuela, 2021[24]).

Figure 1.24. Use and composition of support based on input use in selected countries, 2018-20

Percentage of gross farm receipts



Notes: Figure presents countries having share of payments based on input use above 1% for 2018-20 period. Countries are ranked according to the total share of payments for 2018-20.
1. EU15 for 2000-02, EU28 for 2018-19 and EU27 plus UK for 2020.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Well-designed environmental policies and regulations can play an essential role in containing some of the adverse environmental impacts of input use. Policy makers have a range of instruments at their disposal, including regulatory procedures for pesticide use, targets for reducing nitrogen and phosphorus discharges, fertiliser accounting systems, nitrogen quota systems, bans on manure application on bare fields, fertiliser taxes for non-agricultural uses, taxes on phosphorus content in feed, as well as agri-environmental schemes and advisory services (OECD, 2021[35]). Water pricing or market mechanisms related to the scarcity of water can help to encourage more efficient water use and prevent the depletion of surface and groundwater resources. However, irrigation prices typically do not reflect the full cost of water use, and many countries only partially recover the operational, maintenance and capital costs associated with water use (Gruère, Shigemitsu and Crawford, 2020[11]). Governments of OECD countries have undertaken a number of policy changes related to water in agriculture since 2009, increasing their alignment with OECD recommendations in this area (Box 1.4).

Box 1.4. Agriculture and water policies progressed from 2009 to 2019

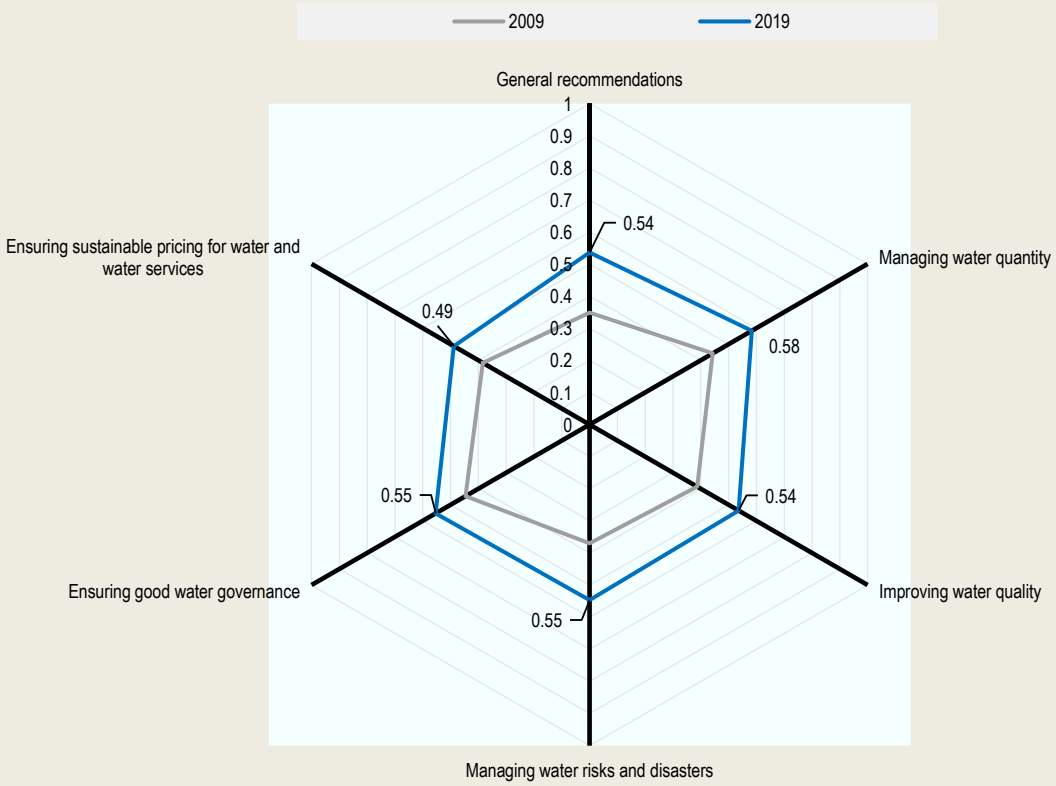
Agriculture is facing growing water risks including intensified droughts and floods due to climate change, and growing competition for water from energy, industry and expanding cities. Meanwhile, agriculture also generates negative environmental impacts on water resources. It remains the largest user of water, accounting for about 70% of total global freshwater demand, and agricultural water pollution by nitrates, phosphorus, and pesticides is a growing concern in most countries.

Given these conditions, managing water for irrigation, bolstering resilience to agricultural water risks, and reducing agricultural pollution are recognised objectives shared by OECD and G20 countries. A 2020 OECD study surveying governments' actions on agriculture and water from 2009 to 2019,[1, 2] found a wide diversity of policy changes taking place in the management of water quantity, water quality, and water risks in agriculture. Some countries undertook important water policy reforms, whereas others mainly improved existing policies. The study also showed that these changes were on average relatively aligned with the OECD guidance on water policy and governance defined by the *2016 OECD Council Recommendation on Water* (Figure 1.25).

To progress further, relatively water abundant countries should pay attention to their approaches to managing water quantity and risks under climate change; all countries should consider improving their policies to reduce pollution from agriculture; and selected countries should consider making additional efforts to recover water charges and to use pricing instruments, in line with the *2016 OECD Council Recommendation on Water*.

Notes: 1. The survey was conducted on 38 countries including: OECD countries (Australia, Austria, Belgium (the Flanders region only), Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States), OECD accession countries (Colombia and Costa Rica), pending adherents to the OECD Council Recommendation on Water (Cabo Verde) and the European Union.
2. Survey responses were converted into quantitative indices of alignment of policy changes with OECD recommendations.

Figure 1.25. Average relative alignment of agriculture and water policies in 38 countries with the OECD Council Recommendation on Water, 2009 and 2019



Note: Higher indices -further from the centre- indicate increased alignment with the OECD Council Recommendation; 0 indicates no alignment, 1 perfect alignment. Categories represent the relevant chapters of the Recommendation. Pricing indices of alignments were adjusted to account for text caveats in the Recommendation and should be subject to cautious interpretation.
Source: (Gruère, Shigemitsu and Crawford, 2020[11]).

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Payments based on current land area create incentives to expand cropping areas and maintain marginal lands in production. Non-uniform crop area payments may have mixed environmental impacts, depending on whether less or more emission intensive crops are favoured with non-uniform payment rates. If crop area payments favour arable farming over livestock production, they may induce a shift away from livestock and a reduction in agricultural GHG emissions and nutrient surpluses. Conversely, area payments may increase GHG emissions in countries where crops account for the dominant share of agricultural GHG emissions (Henderson and Lankoski, 2019[72]). Payments based on animal numbers without constraints will generally result in increased livestock numbers, which can be achieved either through increased stocking densities or increased area, and in either case are likely to cause negative environmental effects (DeBoe, 2020[75]).

Fully decoupled payments based on non-current crop area (e.g. payments based on historical entitlements or overall farming income) are among the least environmentally harmful support policies (Henderson and Lankoski, 2019[72]). These measures allow farmers to follow market signals in their production decisions, and in some cases, production is not required for farmers to receive support payments. If historical acreage is fixed for payments, then there is no incentive to bring additional land into the sector (Lankoski and Thiem, 2020[76]). However, payments based on historical entitlements could still affect incentives, if farmers expect

their current decisions to influence future payments (DeBoe et al., 2020[80]). Moreover, by supplementing farmer incomes and making agriculture more profitable relative to other land uses, decoupled payments could still stifle structural change and hinder the conversion of agricultural land to more sustainable land uses. Ultimately, the environmental impact of decoupled payments depends on the type and effectiveness of mandatory environmental conditions and requirements (cross compliance) that accompany payments (DeBoe, 2020[75]).

Reorienting agricultural support towards decoupled payments and away from the most production distorting forms of support could reduce environmental pressures and substantially strengthen the sustainability of production. At the same time, it is important to recognise that agricultural policies can shape the structure and intensity of production over the long term. Decoupling is therefore unlikely to be sufficient on its own, particularly in countries with a high livestock density and intensive production systems (OECD, 2020[74]; Lankoski and Thiem, 2020[76]). In such cases, additional measures may be needed to ensure that policies and market prices reflect the negative environmental externalities associated with agricultural production.

Agricultural policies can also be specifically designed to generate positive environmental outcomes, by encouraging farmers to provide environmental goods and services such as carbon sequestration, preservation of rural landscapes, resilience to natural disasters, pollination, habitat provision, and control of invasive species. Agri-environmental payments that encourage the use of environmentally friendly inputs or practices (e.g. compliance with fertiliser use restrictions) are potentially among the most environmentally beneficial types of support measures (DeBoe, 2020[75]). However, just USD 1.5 billion of the USD 268 billion per year of budgetary payments to producers in 2018-20 was linked clearly to the provision of environmental public goods (i.e. payments based on specific non-commodity outputs).

Some policies, such as support based on non-commodity output, can occasionally have positive environmental effects. For example, land retirement policies can create incentives for farmers to switch from crop production to permanent pasture or forests, encouraging a contraction of agricultural land and reducing environmental pressures. However, if not managed well, a contraction of agricultural land resulting from land abandonment can in some instances lead to negative environmental outcomes such as biodiversity loss, increases in invasive species, or a greater risk of wildfire (DeBoe et al., 2020[80]). While reductions in agricultural land use often have beneficial environmental effects, they can also be accompanied by the intensification of production on remaining land areas, potentially resulting in unintended negative environmental impacts.

This underscores the importance of carefully managing the reform process to account for potential unintended environmental consequences. For example, reductions in market price support can also result in land abandonment and further intensification of production, with potential negative consequences for biodiversity and landscape ecology. Agri-environmental payments can create adverse environmental impacts in mixed dairy and crop production systems, particularly if they favour crop production and encourage land use changes from pasture to cereals (Henderson and Lankoski, 2019[72]). Policy makers should therefore take a proactive approach to managing the process of policy reform and subsequent land use transitions. Furthermore, agri-environmental schemes could benefit from improvements in their design and in the design of mandatory constraints to better deliver environmental improvements (DeBoe, 2020[75]). OECD work with national-level collaborators seeks to exploit such potential benefits.

Are agricultural support policies improving the productivity, sustainability and resilience of the sector?

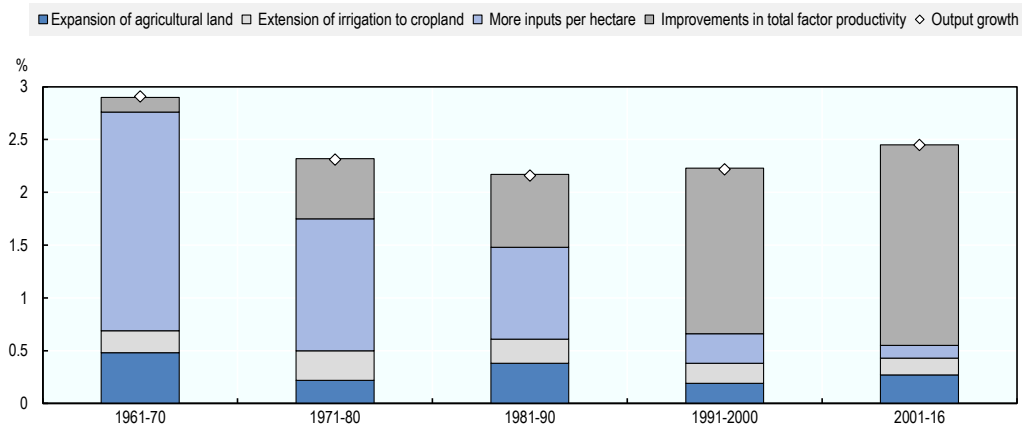
The world faces a daunting “triple challenge” of providing safe and nutritious food for all, improving incomes and livelihoods along the food supply chain, and contributing to environmental sustainability. Meeting this challenge will require effective responses and co-ordination across many areas of public policy. With respect to the agro-food sector, simultaneous progress in achieving sustainable productivity growth and

improved resilience will be essential for the sector to contribute effectively to each dimension of the triple challenge. The *OECD Agro-Food Productivity-Sustainability-Resilience Policy Framework* provides a structured tool for identifying policy priorities that strengthen long-term productivity, enhance environmental performance, and increase resilience. The Framework highlights the importance of developing coherent and integrated policy approaches that encompass the wider enabling policy environment for food systems. Governments should seek to establish synergies across the objectives of productivity, sustainability and resilience, while managing trade-offs and avoiding contradictory policy signals.

With the global population projected to reach 10 billion by 2050, food systems are facing growing pressure to use resources sustainably, protect ecosystems, preserve biodiversity, and reduce greenhouse gas emissions. Strengthening productivity and sustainability is therefore fundamental to enable food systems to produce more with the use of less inputs and natural resources. At the same time, vulnerabilities to climate change highlight the need to build resilience to natural disasters and strengthen capacities to respond to an evolving risk environment.

Figure 1.26 shows that the drivers of agricultural output growth have shifted dramatically over time, with important consequences for resource use and environmental sustainability. Historically, most of the growth in food production came from increases in the total area of agricultural land used for crop and animal production. After 1960, however, more intensive use of inputs (e.g. synthetic fertilisers, pesticides, labour and machinery) became the most important driver of output growth. This trend persisted until the 1990s, when improvements in total factor productivity (i.e. efficiency improvements such as better farm management practices, improvements in crop varieties and breeds) took over as the most important factor contributing to global agricultural production.

Figure 1.26. Sources of growth in global agricultural output, 1961-2016



Note: Each bar represents the annual average per cent growth over that period.
Source: USDA, Economic Research Service, International Agricultural Productivity statistics (November 2019 revision).

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Total factor productivity growth has driven a "decoupling" of food production and land use, enabling global food production to increase four-fold since 1960, while agricultural land use has grown by just 10% (see the section on *Food availability*). Land use changes from agriculture are still a major concern, driving deforestation, declines in biodiversity, GHG emissions, and the depletion of soil organic carbon (IPCC, 2019[63]). Nonetheless, productivity growth has been indispensable in enabling agriculture to feed the world, while preventing worse and potentially catastrophic outcomes for environmental sustainability.

There are important synergies to be realised in policies to promote productivity, sustainability and resilience. For example, improvements in technology and farm management practices have facilitated a decline in the emissions intensity of agriculture (i.e. emissions per unit of output) across most regions. Direct emissions from agriculture grew by approximately 0.5% per year between 1990 and 2016, while crop production grew by an estimated 2.5% per year and livestock production grew by about 1.9% per year over the same period (OECD, 2021[35]). This has primarily been achieved through more efficient use of inputs, such as fertilisers, animal feed and land, which are significant sources of emissions.

Efficiency gains have also allowed many countries to reduce their use of synthetic nitrogen fertilisers and pesticides, while steadily expanding agricultural production. Advances in genomic science and precision agriculture can strengthen sustainable productivity by allowing for a more judicious application of environmentally harmful inputs. Globally, some 45% of nitrogen added to fields is not taken up by crops, implying that there is considerable scope to decrease emissions and reduce nutrient surpluses without compromising productivity and food security (Blandford and Hassapoyannes, 2018[81]). Pesticide use can often be decreased without affecting the productivity and profitability of farms, resulting in reduced health and environmental risks (Lechenet et al., 2017[82]). Similarly, evidence suggests that with more sanitary farming practices, the use of antibiotics on animal farms for growth-promoting purposes can be eliminated with little or no adverse impact on the economic or technical performance of farms (Ryan, 2019[83]).

A comprehensive approach to resilience and risk management can contribute to productivity and sustainability by enhancing the long-term stability of food systems. Resilience implies strengthening the agricultural sector's capacity to prepare and plan for adverse events, absorb the impacts of negative shocks, adapt in response to an evolving risk environment, and transform if current processes and systems are no longer sustainable (OECD, 2020[52]). Developing a diverse portfolio of risk management instruments is necessary to tackle food security risks, and can strengthen farmers' capacities to innovate and adapt to climate change (OECD, 2013[19]). Public funding for R&D can support the development of new innovations such as drought-resistant seeds and water management technologies, which allow farmers to manage risks more effectively and maintain more sustainable production practices (OECD, 2019[31]). Box 1.5 outlines the principles for effective disaster risk management for resilience.

Box 1.5. Principles for effective disaster risk management for resilience

In 2017, G7 Agriculture Ministers in Bergamo recognised the effects of natural hazards on farmers' lives, agro-food systems, agricultural production and productivity in regions all over the world, and that climate change is projected to amplify many of these impacts. Ministers also noted the importance of strengthening the resilience of farmers to natural hazards (G7 Agriculture Ministers, 2017[84]).

Responding to this imperative, the joint OECD-FAO project on *Building agricultural resilience to natural disasters* identifies good practices for building agricultural resilience at each stage of the disaster risk management (DRM) cycle. Good practices in the case study countries are identified according to principles and recommendations from key international frameworks for managing the risks posed by disasters and other critical shocks, including OECD recommendations and the Sendai Framework.[1] Based on these frameworks, each case study assesses their country-specific situation according to the following four *Principles for Effective DRM for Resilience*:

1. An inclusive, holistic and all-hazards approach to natural disaster risk governance for resilience.
2. A shared understanding of natural disaster risk based on the identification, assessment and communication of risk, vulnerability and resilience capacities.
3. An *ex ante* approach to natural disaster risk management.
4. An approach emphasising preparedness and planning for effective crisis management, disaster response, and to "build back better"[2] to increase resilience to future natural hazards.

Good practices encompass policy measures and governance arrangements that encourage public and private stakeholders to address gaps in their resilience levels. This can be done by helping stakeholders understand the risks that they face from natural hazards and their responsibilities for managing the risks they pose to their assets. For example, while rarer catastrophic risks such as natural hazard-induced disasters (NHID) may require public intervention, on-farm strategies and the individual farmer's overall capacity to manage risk also play a critical role in reducing risk exposure to catastrophic events, particularly over the long term (OECD, 2009[85]; OECD, 2020[52]). Specifically, good practices that build agricultural resilience to natural hazards are policies and governance arrangements that:

- Encourage public and private actors to consider the risk landscape over the long term, including to take into account the potential future effects of climate change on the agricultural sector, and to place a greater emphasis on what can be done *ex ante* to reduce risk exposure and increase preparedness.
- Provide incentives and support the capacity of farmers to prevent, mitigate, prepare and plan for, absorb, respond, recover from, and more successfully adapt and transform in response to natural hazards.
- Consider a wide range of future scenarios, including expected environmental, economic and social structural change, and contribute to agricultural productivity and sustainability, even in the absence of a shock or stress.
- Take into account the trade-offs inherent in natural disaster risk management, including between measures to build the capacities of the sector to absorb, adapt, or transform in response to natural disaster risk, and between investing in risk prevention and mitigation *ex ante* and providing *ex post* disaster assistance.
- Are developed with the participation of a wide range of actors, to ensure that all relevant stakeholders are equally involved in the design, planning, implementation, monitoring and evaluation of interventions; and share a common understanding of the risk landscape and their respective responsibilities for managing natural disaster risk.

Note: 1. OECD's Approach to Risk Management for Resilience (OECD, 2009[85]); (OECD, 2011[86]); (OECD, 2020[52]); the Sendai Framework for Disaster Risk Reduction (UNISDR, 2015[87]); the OECD Recommendation on the Governance of Critical Risks (OECD, 2014[88]); and the Joint Framework for Strengthening resilience for food security and nutrition of the Rome-based Agencies (FAO, IFAD and WFP, 2019[89]).
2. Building back better is defined as using the recovery, rehabilitation and reconstruction phases after a disaster to increase the resilience of nations and communities through integrating disaster risk reduction measures into the restoration of physical infrastructure and societal systems, and into the revitalisation of livelihoods, economies and the environment.

Potential trade-offs between policies to promote productivity, sustainability and resilience also deserve special attention. For example, improvements in total factor productivity often lead to lower prices and increased food demand. In some cases, this may trigger an expansion of production, resulting in higher GHG emissions (Blandford and Hassapoyannes, 2018[81]). Productivity-driven increases in production have also been associated with large-scale reductions in biodiversity on farms, with fewer varieties and breeds of plants and animals being cultivated. This loss in genetic diversity undermines the resilience of food systems to pests, pathogens and climate-related shocks (IPBES, 2019[90]). Measures to strengthen resilience by building redundancies into supply chains may involve some trade-offs with productivity performance (at least in the short-term).

Efforts to strengthen total factor productivity in livestock production (e.g. through advances in herd genetics, feed and pasture quality, farm and animal management) have translated into declining emissions intensities over time. However, enteric fermentation from ruminant livestock production remains the leading source of direct emissions from agriculture worldwide, with beef having the largest emissions footprint by a wide margin (in terms of CO_2eq per 100 g of protein produced) (Blandford and Hassapoyannes, 2018[81]). Generally, countries with a high livestock density (per hectare) have high nitrogen and phosphorus

surpluses and high GHG emissions from agriculture, thus making it difficult to achieve sustainable productivity (Lankoski and Thiem, 2020[76]).

Policy choices to reduce GHG emissions from agriculture also invoke trade-offs. Emission taxes can significantly reduce emissions by reallocating production towards less emission-intensive commodities, but may raise production costs and increase food prices. They could also induce carbon leakage if applied unilaterally by specific countries. Abatement subsidies used to reward carbon sequestration require government expenditures, and are half as effective in mitigating GHG emissions, but have a much lower impact on agricultural production and per capita food consumption, and would eliminate potential carbon leakage. A shift to lower emission diets by consumers is assessed to have a much smaller impact on reducing agricultural emissions than any emission tax (Henderson et al., 2021[91]; OECD, 2019[92]).

Box 1.6. Benchmarking productivity and environmental sustainability performance

Countries have attempted to pursue productivity growth in agriculture while improving environmental sustainability, with varying degrees of success. Some have been relatively successful in exploiting synergies and simultaneously strengthening their productivity and sustainability performance. Others have had to manage trade-offs, achieving improvements in one area at the expense of another. In some instances, countries have witnessed declines across both areas of productivity and sustainability.

Figure 1.27 and Figure 1.28 provide insights on productivity-sustainability linkages, by benchmarking total factor productivity (TFP) growth and environmental performance across countries. Environmental performance can be measured using a variety of metrics such as GHG emissions, nutrient balances, resource use and biodiversity. To measure sustainability across a wide range of countries, an index was constructed using two OECD agri-environmental indicators: GHG emissions per hectare of agricultural land (a proxy for impacts on climate change), and Nitrogen surplus (NS) in kg/ha (a proxy for impacts on air and water quality). These metrics are by no means exhaustive and cannot capture all of the environmental impacts arising from agricultural production. However, they are consistently available for 48 out of the 54 countries covered in this report, and are thus useful for international benchmarking.

The *Strong Environmental Index* measures the relative development of each country's worst performing environmental indicator. Measuring sustainability using the worst performing indicator does not allow for substitution between the different environmental outcomes, meaning that poor performance in one indicator cannot be compensated for by better performance in another. Each indicator is standardised[1] to allow for comparisons across measures, and converted such that higher values indicate better performance. The relative environmental performance of each country can then be compared to its growth in total factor productivity.

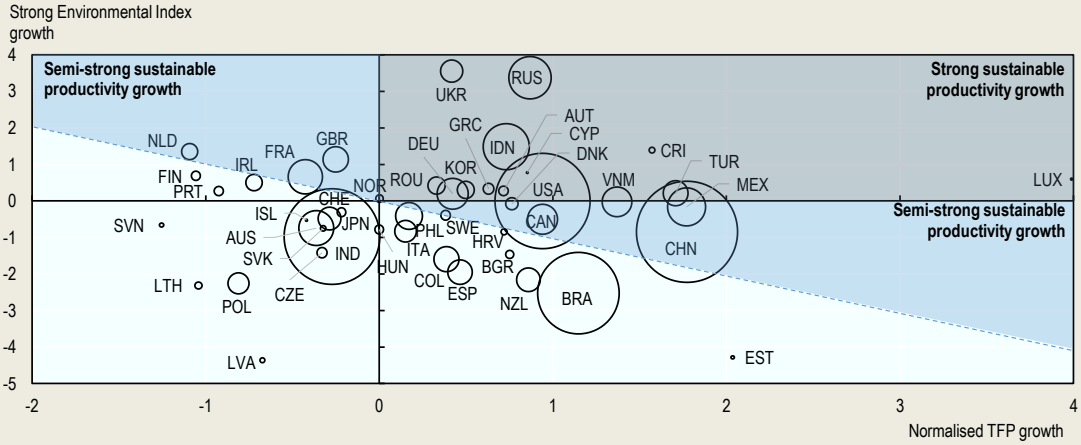
Figure 1.27 plots TFP growth against the *Strong Environmental Index* growth for the period from 1997 to 2006. The median for OECD countries was used as a base for standardisation, meaning that countries located above (below) the x-axis and to the right (left) of the y-axis performed above (below) the OECD median. Furthermore, the dashed line is a 45-degree line, indicating the threshold where an increase (decrease) in productivity growth is matched by an equivalent decrease (increase) in environmental performance. This allows for three categories of sustainable productivity performance to be distinguished:

- Countries in the upper-right quadrant achieved *strong sustainable productivity growth*: they were able to improve their performance by more than the OECD median across each of the three indicators (GHG, NS and TFP).
- Countries located above the dashed line (but not in the upper-right quadrant) achieved *semi-strong sustainable productivity growth*, meaning that their productivity growth was sufficiently high to compensate for a decline in environmental performance (or vice-versa).

- Countries located below the dashed line either experienced declines in both dimensions (lower-left quadrant), or their improvement in productivity (sustainability) was offset by a relatively larger decline in sustainability (productivity).

A comparison of Figure 1.27 and Figure 1.28 reveals that the number of countries achieving *strong sustainable productivity growth* has declined in the most recent decade. From 2007 to 2016, only five countries achieved *strong sustainable productivity growth* (improvements in all environmental indicators and TFP growth relative to the OECD median), whereas from 1997 to 2006, that was the case for 13 countries. With the exception of the United States, countries that have achieved strong sustainable productivity growth during 2007-16 are small countries that have limited contributions to total agricultural GHG emissions (Belgium, Denmark, Lithuania and Croatia). Some of the most important countries in terms of their contributions to total agricultural GHG emissions (China, India and Brazil) have not made progress in achieving strong sustainable productivity growth. Figure 1.28 also shows that there was more heterogeneity in productivity growth across countries between 2007 and 2016, when compared with the previous decade.

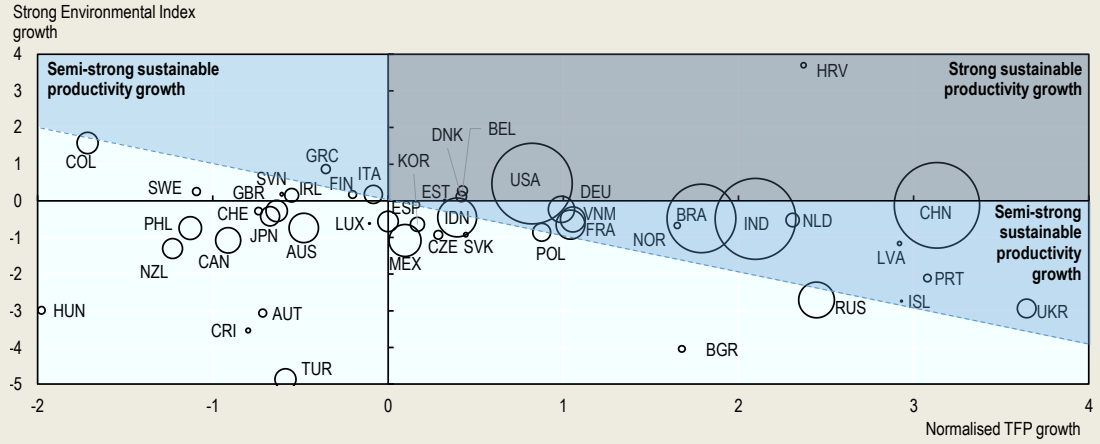
Figure 1.27. Sustainable productivity growth, 1997-2006



Notes: The strong environmental index is the minimum of the standardised growth rates of GHG emissions intensity per hectare of agricultural land area and Nitrogen surplus for the years 1997-2006. Positive values imply better environmental growth outcomes relative to the OECD median. The size of the bubbles represents the country's total agricultural GHG emissions in 2005. The countries used in the normalisation include all OECD countries, except for Chile and Israel.
Due to data limitations, some countries covered by the present report are not included in this analysis.
Sources: Authors' calculations based on USDA, Economic Research Service (2019), International Agricultural Productivity (database), for agricultural TFP growth; and OECD (2021), OECD Agri-Environmental Indicators (database) for GHG emissions intensity and Nitrogen surpluses (measured in kilogrammes per hectare).

StatLink https://stat.link/nvqury

Figure 1.28. Sustainable productivity growth, 2007-2016



Notes: The strong environmental index is the minimum of the standardised growth rates of GHG emissions intensity per hectare of agricultural land area and Nitrogen surplus for the years 2007-16. Positive values imply better environmental growth outcomes relative to the OECD median. The size of the bubbles represents the country's total agricultural GHG emissions in 2005. The countries used in the normalisation include all OECD countries, except for Chile and Israel. Due to data limitations, some countries covered by the present report are not included in this analysis.
Sources: Authors' calculations based on USDA, Economic Research Service (2019), International Agricultural Productivity (database), for agricultural TFP growth; and OECD (2021), OECD Agri-Environmental Indicators (database) for GHG emissions intensity and Nitrogen surpluses (measured in kilogrammes per hectare).

StatLink https://stat.link/arn7oe

Note: 1. The modified z-score for each country c and indicator i is calculated according to the following equation: $Z_c = \frac{x_c - \tilde{x}}{1.486 * MAD_J}$

where x_c is the value of the indicator for country $c \in N$, $\tilde{x}$ is the median of the indicator across the subset of J OECD countries, MAD_J= median($|x_J - \tilde{x}|$) is the median absolute deviation. The MAD is multiplied by a constant 1.486 to approximate the standard deviation.
Source: (Lankoski and Thiem, 2020[76]); (OECD, 2020[74]); (OECD, 2021[93]).

Assessing support and reforms

Agricultural policy changes in 2020 were dominated by responses to the COVID-19 pandemic

Governments responded swiftly to the COVID-19 pandemic, with measures that were required to keep food and agriculture markets functioning, and that were mostly co-operative at the international level. As a result, most shocks were absorbed rapidly, with trade and markets recovering during the year. Average gross farm receipts for OECD and emerging economies actually increased in 2020, and in several large countries the sector was the best performing or least affected economically. That said, income shocks have affected the food security of many poorer consumers. Moreover, the virus remains active in many countries.

An estimated 776 unique policy response measures were adopted by governments of countries covered in this report, covering all categories of measures, highlighting the breadth and responsiveness of public actions to address the impact of the crisis. While 19% of these measures were urgent responses to ensure supply and keep the sector functioning, just under 70% of measures took the form of temporary relief, and should be phased out as the crisis recedes. Ten per cent of measures are "no regrets", in the sense that

they improve market functioning and thereby contribute to improved resilience. These measures, such as trade facilitation, should be maintained or even scaled up after the crisis. The remaining 2% of measures did not fit this classification. At the same time, 11% of measures, mostly introduced as temporary relief, were identified as potentially market distorting or environmentally harmful. In particular, these included export bans, other trade restrictions, and regulatory flexibilities. Some of these were applied temporarily, and the remainder need to be rescinded.

A first and partial assessment of budgetary expenditures in response to the COVID-19 crisis suggests that a minimum of USD 157 billion was earmarked in funding or offered in financing means (subsidised loans or credit) to the sector. Close to half of this amount (USD 75 billion) was allocated to support for agriculture and food sector actors, and a further USD 55 billion to food assistance programmes, with the remaining USD 27 billion directed towards general services or labour and biosecurity measures. These amounts do not include the share of economy-wide recovery packages adopted in these countries (which exceeds USD 5.6 trillion) from which the agriculture sector may have benefited.

OECD countries favoured relief measures for the agro-food sector and food assistance, largely via earmarked funds, while emerging economies used more non-support measures and allocated relatively more loans and credits towards the agriculture and food sector. While extensive contingencies were made for the agricultural sector, the fact that overall economic effects were in many cases less serious than those faced in other sectors means that actual financial disbursements may turn out to be substantially lower than allocations.

Although the COVID-19 pandemic dominated policy responses, a number of other policy reforms or initiatives were introduced in 2020. In addition to revised agricultural policy frameworks, and changes or reforms to existing support measures and policies, two important developments relate to strengthened agri-environmental policies and the continued trend of new bilateral or regional free trade agreements. New steps aimed at enhancing the environmental performance of agriculture and food systems include the European Union's Green Deal together with the Farm to Fork and Biodiversity Strategies, the Carbon Neutral Strategy, New Zealand's 2019 Zero Carbon Act and complementing strategies in 2020, Canada's A Healthy Environment and A Healthy Economy plan, Japan's Green Growth Strategy, and new strategies on reducing agricultural GHG emissions in several other countries. A number of initiatives also focused on making water management systems more sustainable, and on tackling food loss and waste.

On the trade side, the existing trend towards bilateral and regional trade agreements continued in 2020. With the Regional Comprehensive Economic Partnership, the world's largest Free Trade Agreement was signed in 2020, including the ten members of the Association of South-East Asian Nations and five other countries in Asia-Pacific. Smaller trade agreements also continued to be put in place, including a number of agreements signed by the United Kingdom to ensure continued trade relations after the country's departure from the European Union.

Reforms to agricultural policies have stalled

In 2018-20, agricultural support policies across the 54 countries covered in this report generated USD 720 billion per year in transfers to agriculture, which in nominal terms is more than twice the aggregate level of transfers observed in 2000-02, but nevertheless lower when expressed relative to agricultural value added. About three-quarters of this support, USD 540 billion, was directed to individual producers, either in the form of higher prices or through direct payments.

Reforms in OECD countries have stalled in the past ten years, with little change in the level or composition of support. Indeed, some countries have rolled back earlier reform efforts. Across the 54 countries, two-thirds of support is still provided in ways that are potentially most market and trade distorting, likely to harm the environment including by raising GHG emissions. This is reflected in a weakened sectoral performance in terms of delivering sustainable productivity growth.

Overall, total net support to the sector (TSE) costs the economy 0.8% of combined GDP across the 54 countries, down from 1.0% at the beginning of the century. When measured relative to the size of the agricultural sector, total net support amounted to 23% of agricultural value added in 2018-20, compared with 35% in 2000-02.

Producer support as a share of gross farm receipts (%PSE) has been declining over the past two decades, from 18% in 2000-02 to 11% in 2018-20. While producer support in OECD countries declined from 28% of gross farm receipts (GFR) in 2000-02 to 18% in 2018-20, it almost doubled in emerging economies from 3.8% in 2000-02 to 7.4% in 2018-20. To some extent, the decline in the overall average %PSE also reflects higher levels of negative market price support in some emerging economies.

A central element of many countries' support policies continues to be market price support. Total positive price support amounted to USD 272 billion per year in 2018-20, corresponding to 7% of the combined GFR. In contrast, a small number of countries implicitly taxed their farmers by suppressing domestic prices of some or all commodities, for instance through export restrictions. This resulted in a transfer of USD 104 billion per year away from producers.

Of payments to farmers, USD 66 billion was linked to output or unconstrained input use, and has a similar tendency to create distortions as market price support. Added to the positive price transfer, this gives a total of USD 338 billion of potentially most distorting support to producers. A larger amount, USD 202 billion, was more decoupled from production decisions. Of this, only a small element, USD 1.5 billion, was conditional on the provision of clearly identified public goods, such as ecosystem services.

Payments to agriculture as a whole, "general services" (GSSE), amounted to USD 102 billion, or 14% of total net support. This category includes investments in public goods, such as R&D and innovation, off-farm infrastructure and biosecurity (USD 76 billion). It also includes payments with a potential to distort markets, in the form of marketing and promotion and support for public stockholding (USD 42 billion).

Subsidies for consumers (such as food assistance programmes) amounted to USD 78 billion per year, or 11% of all positive transfers to agriculture. Nonetheless, on average consumers were taxed by agricultural policies, as these subsidies remained small relative to the higher food expenditures, due to the persistent market price support in many countries.

The variation in support levels across countries remains significant, however. Levels of producer support in 2018-20 ranged from less than 3% of GFR in New Zealand, Brazil, Ukraine, Australia and Chile to between 40% and 60% in Japan, Korea, Switzerland, Norway and Iceland, while net producer support was negative in Argentina, Viet Nam and India. High levels of producer support continue to be underpinned by a strong focus on market price support, but the importance of budgetary payments to producers varies strongly as well. Iceland, Norway, India, Turkey and Kazakhstan directed most-distorting output and input support to their producers at rates of between 4% and 12% of GFR in 2018-20, while less distorting payments worth more than 10% of GFR were provided in the European Union and the United Kingdom, as well as in Iceland, Switzerland and Norway.

Overall, most current support policies are not serving the wider needs of food systems

Across the dimensions of the triple challenge – ensuring food security and nutrition for all, providing livelihoods to farmers and others along the food chain, and using natural resources sustainably while reducing greenhouse gas emissions – food systems are sometimes accused of "systems failure". Such an assessment overlooks important achievements, not least that of feeding a world population that has grown from 3 billion in 1960 to about 7.5 billion today, predominantly through improved yields and productivity rather than increased agricultural area. Even so, policies have not managed to address rapid structural change across food systems and the problems these changes have induced, be they a rising incidence of obesity, continued adjustment pressures on farmers, or mounting resource pressures and GHG emissions.

The USD 272 billion of positive market price intervention and USD 104 billion of implicit taxation both have negative implications for food security at the global level, because they impede the efficient allocation of domestic resources and weaken the balancing role of trade in getting food from surplus to deficit regions. By constraining trade, they also contribute to increased price volatility on international food markets.

The USD 338 billion of potentially most distorting support, comprising market price support and payments linked to output or the unconstrained use of inputs, is inefficient at transferring income to farmers, as a large share of the benefits are capitalised into land values or leak in the form of higher prices for inputs. It also tends to be inequitable, to the extent that support is linked directly to production. Finally, through its direct incentive to increase production, it contributes to increased resource pressures, including through impacts on water quality, biodiversity, and can raise GHG emissions. At the global level, however, the widespread adoption of such policies may constrain emissions by lowering production as a result of resource inefficiencies.

The USD 202 billion of producer support that is decoupled from production decisions creates fewer distortions at the margin and therefore has less adverse impacts on global food security. It also has a reduced tendency to contribute to additional resource pressures and GHG emissions. While the effects on farmers' incomes may still be inequitably distributed, there tend to be lower rates of leakage to non-farm landowners or input suppliers.

Two important rationales for farm support are to provide social transfers in order to redress problems of low incomes, and to support the provision of environmental public goods. However, little of the budgetary support that is extended to producers is based on an assessment of their overall income from all sources, while just USD 1.5 billion of the USD 268 billion of budgetary payments to producers was linked clearly to the provision of environmental public goods.

Instruments with potentially more positive effects on food security, incomes and resource use mostly fall within the category of general services for the sector (GSSE), and include investments in R&D, biosecurity and infrastructure. However the USD 102 billion of expenditure in this category represented just 16.5% of total net support (TSE) in 2018-20, a slight decline from the 17.2% estimated for 2000-02. Across the OECD, this share was even lower at 13.5% in the most recent period. Relative to the size of the agricultural sector, support to general services declined even more strongly, from 6% of agricultural value added in 2000-02 to 3.8% in 2018-20. Despite evidence of high returns, spending on agricultural knowledge and innovation systems was just USD 26 billion per year (1.0% of agricultural value added), while spending on the development and maintenance of infrastructure for the sector amounted to USD 42 billion per year (1.5% of agricultural value added).

Agricultural policies should focus on promoting sustainable productivity growth and improved sectoral resilience

The foremost ways in which agricultural policies can contribute to improved food systems performance are through sustainable productivity growth and system-wide resilience. The former is necessary to reconcile the objective of ensuring food security (i.e. availability and access at affordable prices) with resource constraints. It also contributes to income generation, albeit while imposing a burden on those producers who do not participate in productivity gains (and which may require flanking policies). The latter will be required to confront new sources of risk caused by a changing climate, unanticipated changes in policy, or the economy-wide effects of shocks external to the agricultural sector, such as the global COVID-19 pandemic.

As policy reforms have stalled, progress in achieving sustainable productivity growth has also deteriorated. For the 48 countries for which data are available, only five countries achieved *strong sustainable productivity growth* (improvements in all environmental indicators and TFP growth relative to the OECD median) between 2007 and 2016, compared with 13 countries between 1997 and 2006. Similarly, the

disproportionately low allocation of resources to policies that enhance the sector's capacity to absorb risks has undermined its capacity to adapt and transform in response to those risks.

Trade plays an essential role in maintaining stability and fostering resilience in the global food system. By allowing produce to flow from food surplus areas to food deficit areas, trade helps to absorb the impacts of local and regional supply shocks. This generally results in lower price volatility, reduced uncertainty of supply, and greater integration of global and regional markets. Where production variability is weakly correlated among countries, trade can help to mitigate supply volatility and manage domestic food shortages driven by poor harvests, droughts, floods and other catastrophic events. The stabilising role of trade is only likely to increase in importance, as domestic production shocks become more frequent due to climate change. The continued use of price policies – in the form of both positive and negative market price support – and associated use of border measures undermines this critical aspect of resilience.

Three specific actions could enable agricultural policies to better support sustainable productivity growth and increased resilience, and accelerate progress in addressing the "triple challenge" facing food systems

Phase out price interventions and market distorting producer support. These policies have the most negative overall impact on food security and the environment. They are also an inefficient way of supporting livelihoods, with poor targeting in terms of either who is paying for the policy or who is receiving the benefit. The withdrawal of positive market price support and associated trade protection would nevertheless imply a loss of income by producers that may need to be accompanied by transitional assistance and social safety nets. Conversely, the removal of policies that suppress domestic prices would raise prices, with a potential need for targeted income transfers to low-income households and consumers.

Target income support to farm households most in need; where possible shift its role away from agricultural budgets, and towards economy-wide social policies and safety nets. In many countries, income support predominantly benefits large farm households with comparatively high income and wealth. A move to more targeted support would bring gains in efficiency and equity, but require deeper investments in data collection, in particular on the total incomes and assets of agricultural households. Agricultural policy would still have an important role in underwriting those aspects of agricultural risk management that cannot be covered by farmers themselves or by risk markets, and in fostering greater resilience to future shocks.

Re-orient public expenditures towards investments in public goods with the potential to deliver sustainable productivity growth and improved sectoral resilience. Specifically, investments in innovation systems should be made central to agricultural support policies. However, innovation – which encompasses not just new technologies, but improved practices and systems – is currently marginal, with just 6% of all budgetary support going to research and innovation directly, 9% to public investments in infrastructure and 2% to biosecurity. These shares could be almost doubled by a redirection of market distorting payments, and raised further still by a reallocation of income support away from farmers whose incomes from farm and off-farm sources would be above average even without support. Public goods can also be generated by individual agricultural producers in the form of ecosystem services and other environmental amenities demanded by societies. Targeted and tailored payments to producers can foster the availability of such goods, and provide additional income opportunities for farm households.

The formidable challenges facing food systems call for a range of policies, many of which extend beyond primary agriculture

Food systems around the world face a formidable triple challenge of providing food security and nutrition to a growing global population, providing livelihoods to those along the food supply chain, and contributing to environmental sustainability. Effective agricultural policies can make an important contribution to each

of these goals, but they will not be sufficient. A wider food systems approach means mobilising policies in a wide range of areas that go beyond primary agriculture, for example via targeted policies to encourage healthier dietary choices, broad policies to ensure balanced rural and economic development, and economy-wide plans to curb GHG emissions. It also means exploiting synergies and managing trade-offs between the different dimensions of the triple challenge. A “food systems approach” to addressing these challenges requires that agricultural policymakers take a holistic view of the performance of policies related to multiple objectives, and co-ordinate to avoid incoherent policies.

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Annex 1.A. Definition of OECD indicators of agricultural support

Nominal indicators used in this report

Producer Support Estimate (PSE): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income. It includes market price support, budgetary payments and budget revenue foregone, i.e. gross transfers from consumers and taxpayers to agricultural producers arising from policy measures based on: current output, input use, area planted/animal numbers/receipts/incomes (current, non-current), and non-commodity criteria. PSE categories are defined in Box 1 A.1.

Market Price Support (MPS): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers arising from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity, measured at the farm gate level. MPS is available by commodity, and sums of negative and positive components are reported separately where relevant along with the total MPS.

Producer Single Commodity Transfers (producer SCT): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policies linked to the production of a single commodity such that the producer must produce the designated commodity in order to receive the payment. This includes broader policies where transfers are specified on a per-commodity basis. Producer SCT is also available by commodity.

Group Commodity Transfers (GCT): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policies whose payments are made on the basis that one or more of a designated list of commodities is produced, i.e. a producer may produce from a set of allowable commodities and receive a transfer that does not vary with respect to this decision.

All Commodity Transfers (ACT): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policies that place no restrictions on the commodity produced but require the recipient to produce some commodity of their choice.

Other Transfers to Producers (OTP): The annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policies that do not require any commodity production at all.

Consumer Single Commodity Transfers (consumer SCT): The annual monetary value of gross transfers from (to) consumers of agricultural commodities, measured at the farm gate level, arising from policies linked to the production of a single commodity. Consumer SCT is also available by commodity.

Consumer Support Estimate (CSE): The annual monetary value of gross transfers from (to) consumers of agricultural commodities, measured at the farm gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on consumption of farm products. If negative, the CSE measures the burden (implicit tax) on consumers through market price support (higher prices), that more than offsets consumer subsidies that lower prices to consumers.

General Services Support Estimate (GSSE): The annual monetary value of gross transfers arising from policy measures that create enabling conditions for the primary agricultural sector through development of private or public services, institutions and infrastructure, regardless of their objectives and impacts on farm production and income, or consumption of farm products. The GSSE includes policies where primary agriculture is the main beneficiary, but does not include any payments to individual producers. GSSE transfers do not directly alter producer receipts or costs or consumption expenditures. GSSE categories are defined below.

Total Support Estimate (TSE): The annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures that support agriculture, net of the associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products.

Total Budgetary Support Estimate (TBSE): The annual monetary value of all gross budgetary transfers from taxpayers arising from policy measures that support agriculture, regardless of their objectives and impacts on farm production and income, or consumption of farm products.

Ratio indicators and percentage indicators

Percentage PSE (%PSE): PSE transfers as a share of gross farm receipts (including support in the denominator).

Percentage SCT (%SCT): Single Commodity Transfers as a share of gross farm receipts for the specific commodity (including support in the denominator).

Share of SCT in total PSE (%): Share of Single Commodity Transfers in the total PSE. This indicator is also calculated by commodity.

Producer Nominal Protection Coefficient (producer NPC): The ratio between the average price received by producers (at farm gate), including payments per tonne of current output, and the border price (measured at farm gate). The Producer NPC is also available by commodity.

Producer Nominal Assistance Coefficient (producer NAC): The ratio between the value of gross farm receipts including support and gross farm receipts (at farm gate) valued at border prices (measured at farm gate).

Percentage CSE (%CSE): CSE transfers as a share of consumption expenditure on agricultural commodities (at farm gate prices), net of taxpayer transfers to consumers. The %CSE measures the implicit tax (or subsidy, if CSE is positive) placed on consumers by agricultural price policies.

Consumer Nominal Protection Coefficient (consumer NPC): The ratio between the average price paid by consumers (at farm gate) and the border price (measured at farm gate). The Consumer NPC is also available by commodity.

Consumer Nominal Assistance Coefficient (consumer NAC): The ratio between the value of consumption expenditure on agricultural commodities (at farm gate) and that valued at border prices.

Percentage TSE (%TSE): TSE transfers as a percentage of GDP.

Percentage TBSE (%TBSE): TBSE transfers as a percentage of GDP.

Percentage GSSE (%GSSE): Share of expenditures on general services in the Total Support Estimate (TSE).

Share of potentially most distorting transfers in cumulated gross producer transfers (%): represents the sum of positive MPS, the absolute value of negative MPS, payments based on output and payments

based on unconstrained use of variable inputs, relative to the sum of positive MPS, the absolute value of negative MPS, and all budgetary payments to producers.

Annex Box 1.A.1. Definitions of categories in the PSE classification

Definitions of categories

Category A1, Market price support (MPS): Transfers from consumers and taxpayers to agricultural producers from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity, measured at the farm gate level.

Category A2, Payments based on output: Transfers from taxpayers to agricultural producers from policy measures based on current output of a specific agricultural commodity.

Category B, Payments based on input use: Transfers from taxpayers to agricultural producers arising from policy measures based on on-farm use of inputs:

- ***Variable input use*** that reduces the on-farm cost of a specific variable input or a mix of variable inputs.
- ***Fixed capital formation*** that reduces the on-farm investment cost of farm buildings, equipment, plantations, irrigation, drainage, and soil improvements.
- ***On-farm services*** that reduce the cost of technical, accounting, commercial, sanitary and phytosanitary assistance and training provided to individual farmers.

Category C, Payments based on current A/An/R/I, production required: Transfers from taxpayers to agricultural producers arising from policy measures based on current area, animal numbers, revenue, or income, and requiring production.

Category D, Payments based on non-current A/An/R/I, production required: Transfers from taxpayers to agricultural producers arising from policy measures based on non-current (i.e. historical or fixed) area, animal numbers, revenue, or income, with current production of any commodity required.

Category E, Payments based on non-current A/An/R/I, production not required: Transfers from taxpayers to agricultural producers arising from policy measures based on non-current (i.e. historical or fixed) area, animal numbers, revenue, or income, with current production of any commodity not required but optional.

Category F, Payments based on non-commodity criteria: Transfers from taxpayers to agricultural producers arising from policy measures based on:

- ***Long-term resource retirement:*** Transfers for the long-term retirement of factors of production from commodity production. The payments in this subcategory are distinguished from those requiring short-term resource retirement, which are based on commodity production criteria.
- ***A specific non-commodity output:*** Transfers for the use of farm resources to produce specific non-commodity outputs of goods and services, which are not required by regulations.
- ***Other non-commodity criteria:*** Transfers provided equally to all farmers, such as a flat rate or lump sum payment.

Category G, Miscellaneous payments: Transfers from taxpayers to farmers for which there is a lack of information to allocate them among the appropriate categories.

Note: A (area), An (animal numbers), R (receipts) or I (income).

Definitions of labels

With or without current commodity production limits and/or limit to payments: Defines whether or not there is a specific limitation on current commodity production (output) associated with a policy providing transfers to agriculture and whether or not there are limits to payments in the form of limits to area or animal numbers eligible for those payments. Applied in categories A–F.

With variable or fixed payment rates: Any payments is defined as subject to a variable rate where the formula determining the level of payment is triggered by a change in price, yield, net revenue or income or a change in production cost. Applied in categories A–E.

With or without input constraints: defines whether or not there are specific requirements concerning farming practices related to the programme in terms of the reduction, replacement, or withdrawal in the use of inputs or a restriction of farming practices allowed. Applied in categories A–F. The payments with input constrains are further broken down to:

- Payments conditional on compliance with basic requirements that are mandatory (with mandatory);
- Payments requiring specific practices going beyond basic requirements and voluntary (with voluntary).
  - Specific practices related to environmental issues.
  - Specific practices related to animal welfare.
  - Other specific practices.

With or without commodity exceptions: defines whether or not there are prohibitions upon the production of certain commodities as a condition of eligibility for payments based on non-current A/An/R/I of commodity(ies). Applied in Category E.

Based on area, animal numbers, receipts or income: defines the specific attribute (i.e. area, animal numbers, receipts or income) on which the payment is based. Applied in categories C–E.

Based on a single commodity, a group of commodities or all commodities: defines whether the payment is granted for production of a single commodity, a group of commodities or all commodities. Applied in categories A–D.

Drivers of the change in PSE

Decomposition of PSE

***Per cent change in PSE*:** Per cent change in the nominal value of the PSE expressed in national currency. The per cent change is calculated using the two most recent years in the series.

***Contribution of MPS to per cent change in PSE*:** Per cent change in nominal PSE if all variables other than MPS are held constant.

***Contribution of price gap to per cent change in the PSE*:** Per cent change in nominal PSE if all variables other than gap between domestic market prices and border prices are held constant.

***Contribution of quantity produced to per cent change in the PSE*:** Per cent change in nominal PSE if all variables other than quantity produced are held constant.

***Contribution of budgetary payments (BP) to per cent change in PSE*:** Per cent change in nominal PSE if all variables other than BP are held constant.

***Contribution of BP elements to per cent change in PSE*:** Per cent change in nominal PSE if all variables other than a given BP element are held constant. BP elements include Payments based on output, Payments based on input use, Payments based on current A/An/R/I, production required, Payments based on non-current A/An/R/I, production required, Payments based on non-current A/An/R/I, production not required, Payments based on non-commodity criteria and Miscellaneous payments.

Change in Producer Price

***Per cent change in Producer Price*:** Per cent change in Producer Price (at farm gate) expressed in national currency. The per cent change is calculated using the two most recent years in the series.

Decomposition of the change in the Border Price

***Per cent change in Border Price*:** Per cent change in Border Price (at farm gate) expressed in national currency. The per cent change is calculated using the two most recent years in the series.

***Contribution of Exchange Rate to per cent change in Border Price*:** Per cent change in the Border Price (at farm gate) expressed in national currency if all variables other than Exchange Rate between national currency and USD are held constant.

***Contribution of Border Price expressed in USD to per cent change in Border Price*:** Per cent change in the Border Price (at farm gate) expressed in national currency if all variables other than Border Price (at farm gate) expressed in USD are held constant.

Note: The producer price change and the border price change are not calculated when the negative price gap occurs at the commodity level for the current or previous year.

Definition of GSSE categories

Agricultural knowledge and innovation system

- ***Agricultural knowledge generation***: Budgetary expenditure financing research and development (R&D) activities related to agriculture, and associated data dissemination, irrespective of the institution (private or public, ministry, university, research centre or producer groups) where they take place, the nature of research (scientific, institutional, etc.), or its purpose.
- ***Agricultural knowledge transfer***: Budgetary expenditure financing agricultural vocational schools and agricultural programmes in high-level education, training and advice to farmers that is generic (e.g. accounting rules, pesticide application), not specific to individual situations, and data collection and information dissemination networks related to agricultural production and marketing.

Inspection and control

- ***Agricultural product safety and inspection***: Budgetary expenditure financing activities related to agricultural product safety and inspection. This includes only expenditures on inspection of domestically produced commodities at first level of processing and border inspection for exported commodities.
- ***Pest and disease inspection and control:*** Budgetary expenditure financing pest and disease control of agricultural inputs and outputs (control at primary agriculture level) and public funding of veterinary services (for the farming sector) and phytosanitary services.
- ***Input control:*** Budgetary expenditure financing the institutions providing control activities and certification of industrial inputs used in agriculture (e.g. machinery, industrial fertilisers, pesticides, etc.) and biological inputs (e.g. seed certification and control).

Development and maintenance of infrastructure

- ***Hydrological infrastructure:*** Budgetary expenditure financing public investments into hydrological infrastructure (irrigation and drainage networks).
- ***Storage, marketing and other physical infrastructure***: Budgetary expenditure financing investments to off-farm storage and other market infrastructure facilities related to handling and marketing primary agricultural products (silos, harbour facilities – docks, elevators; wholesale markets, futures markets), as well as other physical infrastructure related to agriculture, when agriculture is the main beneficiary.
- ***Institutional infrastructure***: Budgetary expenditure financing investments to build and maintain institutional infrastructure related to the farming sector (e.g. land cadastres; machinery user groups, seed and species registries; development of rural finance networks; support to farm organisations, etc.).
- ***Farm restructuring***: Budgetary payments related to reform of farm structures financing entry, exit or diversification (outside agriculture) strategies.

Marketing and promotion

- ***Collective schemes for processing and marketing***: Budgetary expenditure financing investment in collective, mainly primary, processing, marketing schemes and marketing facilities, designed to improve marketing environment for agriculture.
- ***Promotion of agricultural products***: Budgetary expenditure financing assistance to collective promotion of agro-food products (e.g. promotion campaigns, participation on international fairs).
- ***Cost of public stockholding***: Budgetary expenditure covering the costs of storage, depreciation and disposal of public storage of agricultural products.
- ***Miscellaneous***: Budgetary expenditure financing other general services that cannot be disaggregated and allocated to the above categories, often due to a lack of information.

More detailed information on the indicators, their use and limitations is available in *OECD's Producer Support Estimate and Related Indicators of Agricultural Support: Concepts, Calculation, Interpretation and Use* (the PSE Manual) available on the OECD public website (http://www.oecd.org/agriculture/topics/agricultural-policy-monitoring-and-evaluation/documents/producer-support-estimates-manual.pdf).

OECD indicators of support

ACT	All Commodity Transfers
CSE	Consumer Support Estimate
GCT	Group Commodity Transfers
GSSE	General Services Support Estimate
MPS	Market Price Support
NAC	Nominal Assistance Coefficient
NPC	Nominal Protection Coefficient
OTP	Other Transfers to Producers
PEM	Policy Evaluation Model
PSE	Producer Support Estimate
SCT	Single Commodity Transfers
TSE	Total Support Estimate

Currencies

ARS	Argentinian peso
AUD	Australian dollar
BRL	Brazilian real
CAD	Canadian dollar
CLP	Chilean peso
COP	Colombian peso
CHF	Swiss frank
CNY	Chinese yuan renminbi
CRC	Costa Rican colon
EUR	Euro
GBP	British pound
IDR	Indonesian roupiah
INR	Indian rupee
ILS	Israeli shekel
ISK	Icelandic krona
JPY	Japanese yen
KRW	Korean won
KZT	Kazakh tenge
MXN	Mexican peso
NOK	Norwegian krone
NZD	New Zealand dollar
PHP	Philippines peso
RUR	Russian rouble
TRY	New Turkish lira
UAH	Ukrainian hryvnia
USD	United States dollar
VND	Vietnamese dong
ZAR	South African rand

Notes

[1] More recent estimates from OECD (2021[94]) suggest a slightly smaller GDP decline at -3.4% globally. Data provided in this section are based on the regular report from December 2020.

[2] Publicly supported short-time work schemes allow companies to temporarily reduce the work time of employees by up to 100%, while wage differences are partly or fully subsidised by the government.

[3] Three main types of impacts were observed on the agriculture and food sector (OECD, 2020[96]). First, there were impacts on agricultural production, due to the unavailability of labour, restrictions on access to intermediate agricultural inputs, and impacts on farmers' income in affected subsectors that could not sell their output. Second, there have been impacts on consumer demand, with increased food insecurity led by unemployment and income shocks associated with containment measures, reduced demand for high value products, shifts in consumer demand towards retail, over food consumed away from home, and decline in biofuel demand due to transportation restrictions. Third, supply chain disruptions were observed in many countries, due in part to contamination in processing firms, transport and logistic issues, and difficulties in obtaining inputs.

[4] Some of the early responses, such as the declaration of agriculture and food as being an essential sector that were reported in the 2020 report, have not been repeated in all country chapters for this year's edition; however, they are also included in the analysis to ensure a full coverage of measures.

[5] This categorisation can be further separated into 20 sub categories of measures (OECD, 2020[3]).

[6] This grouping was also used in Gruère and Brooks (2021[4]) to characterise early policy responses to the COVID--19. Efforts were made to ensure a consistent and unique attribution of a group to each of the policy measures, although the attribution of some measures to a specific group could be subjective.

[7] While targeted food assistance for low income households can also be considered urgent, the implemented measures essentially aim to cushion consumers from the economic impacts rather than cope with the urgency of the crisis for the delivery of agriculture and food products.

[8] The majority of measures in this group could be considered market distorting and potentially environmentally harmful if maintained for long enough to affect producers' decisions.

[9] For a discussion on agriculture and water management progress, see Box 1.4.

[10] The OECD also collaborates with other international organisations (FAO, IDB, the World Bank and IFPRI) in the Consortium for Measuring the Policy Environment for Agriculture (www.ag-incentives.org), which provides estimates for countries not covered by the OECD.

[11] *Food availability* refers to the supply of sufficient quantities of food (either through domestic production or imports), while *Access to food* refers to the ability of individuals to access adequate resources to acquire appropriate foods for a nutritious diet (FAO, 2006[95]).

[12] In the case of New Zealand, market price support for eggs and poultry arises as an unintended impact of science-based SPS measures whose sole purpose is to keep out diseases.

[13] Possibly due to underreporting of other components of the GSSE (e.g. infrastructure and inspection and control).

[14] The composition of a "healthy diet" varies according to individual characteristics, cultural contexts, local availability of foods and dietary customs. Healthy diets reflect global guidelines and ensure that a person's needs for macronutrients (proteins, fats and carbohydrates including dietary fibres) and essential micronutrients (vitamins and minerals) are met (FAO, IFAD, UNICEF, WFP and WHO, 2020[18]).

[15] Dietary risks as defined by the *Global Burden of Diseases, Injuries, and Risk Factors Study* include diets "low in whole grains, fruit, fibre, legumes, nuts and seeds, omega-3 fatty acids, Polyunsaturated fatty acids (PUFAs), vegetables, milk, and calcium"; and diets "high in sodium, trans fats, red or processed meat, and sugar-sweetened beverages" (GBD 2019 Risk Factors Collaborators, 2020[38]).

[16] Enteric fermentation is a digestive process that occurs in cattle, sheep, goats and other ruminant livestock, whereby methane (CH_4) emissions are produced in the rumen through a process of microbial fermentation.

Developments in Agricultural Policy and Support by Country

This part contains an overview of the developments of support in the OECD area and selected Emerging Economies overall, followed by chapters on agricultural policy developments and support to agriculture in each of the countries covered in this report. Each country chapter includes a brief summary of policy developments and support to agriculture, including in response to the COVID-19 pandemic affecting the agro-food sector, and related assessments and recommendations; a brief outline of historical policy trends; a more detailed description of the main policy developments in 2020-21; and information on the context in which agricultural policies are implemented.

2 Overall trends in agricultural support

OECD countries

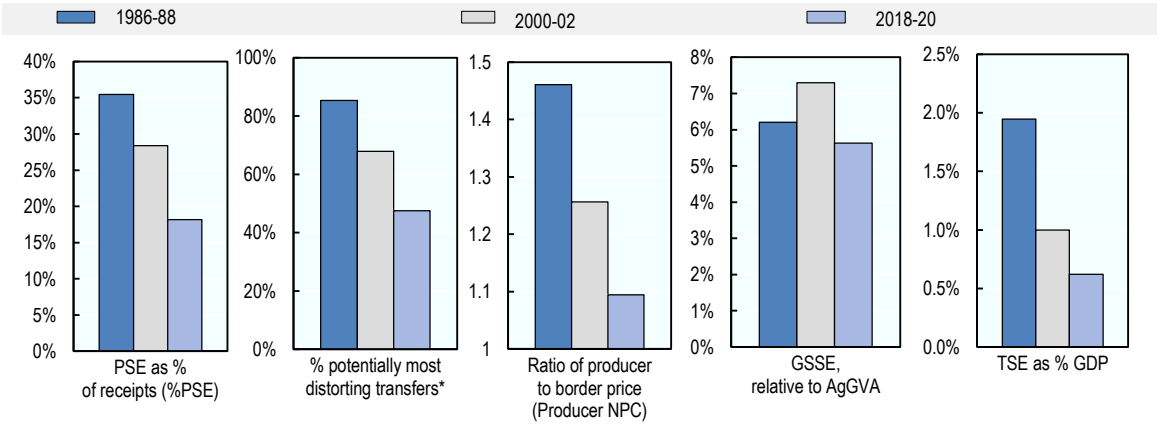
Total support to agriculture (TSE) in OECD countries[1] represented USD 329 billion (EUR 289 billion) per year on average in 2018-20 of which 73%, or USD 240 billion (EUR 211 billion), was provided as support to producers individually (PSE). Producer support represented 18.2% of gross farm receipts (%PSE) in 2018-20 across the OECD area, a decline from around 28% in 2000-02 and more than 35% in 1986-88 (Table 2.1).

The way support is delivered to producers also evolved. In particular, the long-term decline of support based on commodity output (including market price support and output payments) characterises the evolution of support to agriculture in the OECD area. OECD work identifies this as having the strongest potential to distort agricultural production and trade together with payments based on the unconstrained use of variable inputs, which slightly increased across OECD countries compared to the beginning of the millennium.

At the other end of the spectrum in the PSE classification, some countries apply significantly less-distorting forms of support, such as payments based on parameters not linked to current production, or based on non-commodity criteria such as land set-aside, or payments for specific environmental or animal welfare outcomes. Most notably, payments based on historical entitlements (generally crop area or livestock numbers of a given reference period in the past) increased in many OECD countries in the last two decades, representing some 4% of gross farm receipts (GFR) and about 22% of the PSE during 2018-20. Payments based on current crop area and animal numbers remain largely unchanged compared to 2000-02, and represent around 21% of total producer support (Table 2.1).

Expenditures financing general services to the sector (GSSE) increased (in nominal terms) in the OECD area from USD 37 billion per year in 2000-02 to USD 44 billion in 2018-20. However, relative to the size of the sector, expenditures for general services declined from more than 7% of agricultural gross value-added to less than 6% suggesting that these expenditures did not keep pace with sector growth. In 2018-20, most of this went to infrastructure (USD 18 billion), a slight increase compared to 2000-02, and agricultural knowledge and innovation (USD 14 billion), an increase of 70%. Expenditures for inspection and control services more than doubled, while spending for marketing and promotion remained around the same and public stockholding declined substantially over the same period. But all of these represented smaller shares of the GSSE expenditure (Table 2.1). Total support to agriculture as a share of GDP declined significantly over time.

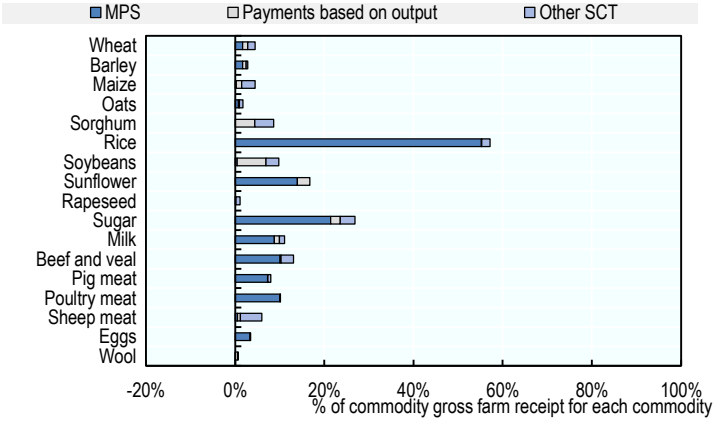
Figure 2.1. OECD: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/rw2ymk

Figure 2.2. OECD: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Table 2.1. OECD: Estimates of support to agriculture (USD)

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**594 108**	**671 296**	**1 175 905**	**1 215 719**	**1 148 956**	**1 163 040**
***of which:** share of MPS commodities (%)*	71.3	70.2	73.7	71.6	74.4	75.2
Total value of consumption (at farm gate)	**556 062**	**659 840**	**1 121 675**	**1 104 208**	**1 121 990**	**1 138 828**
Producer Support Estimate (PSE)	**230 213**	**216 862**	**240 185**	**240 063**	**242 507**	**237 984**
Support based on commodity output	187 273	139 137	102 931	113 492	100 356	94 946
Market Price Support[1]	174 678	124 184	93 942	101 282	96 187	84 359
Positive Market Price Support	178 979	124 776	94 176	101 618	96 537	84 375
Negative Market Price Support	-4 302	-592	-234	-336	-350	-16
Payments based on output	12 596	14 953	8 988	12 210	4 169	10 587
Payments based on input use	19 571	19 513	31 325	29 415	28 865	35 695
Based on variable input use	9 146	8 008	11 886	10 199	9 982	15 477
with input constraints	1 146	341	1 102	811	868	1 627
Based on fixed capital formation	6 882	5 078	10 963	11 463	10 605	10 823
with input constraints	1 638	629	2 517	2 902	2 322	2 327
Based on on-farm services	3 543	6 427	8 476	7 754	8 278	9 395
with input constraints	439	964	1 611	1 575	1 533	1 723
Payments based on current A/An/R/I, production required	19 377	41 382	50 182	43 694	56 813	50 038
Based on Receipts / Income	2 052	3 173	4 255	4 195	4 077	4 493
Based on Area planted / Animal numbers	17 325	38 209	45 926	39 499	52 735	45 545
with input constraints	4 093	16 898	38 538	32 010	45 437	38 166
Payments based on non-current A/An/R/I, production required	533	71	2 196	2 231	2 373	1 985
Payments based on non-current A/An/R/I, production not required	2 080	13 721	48 620	47 485	48 981	49 394
With variable payment rates	181	4 318	5 023	3 021	6 391	5 659
with commodity exceptions	0	4 079	4 880	2 864	6 254	5 521
With fixed payment rates	1 899	9 403	43 597	44 464	42 591	43 735
with commodity exceptions	1 561	6 081	2 565	2 510	2 515	2 669
Payments based on non-commodity criteria	1 078	3 205	4 160	3 052	4 386	5 043
Based on long-term resource retirement	1 076	2 900	2 598	1 549	2 872	3 374
Based on a specific non-commodity output	2	237	1 465	1 424	1 450	1 520
Based on other non-commodity criteria	0	68	98	78	65	150
Miscellaneous payments	300	-166	771	694	733	884
Percentage PSE (%)	**35.4**	**28.4**	**18.2**	**17.7**	**18.7**	**18.1**
Producer NPC (coeff.)	**1.46**	**1.26**	**1.09**	**1.10**	**1.09**	**1.09**
Producer NAC (coeff.)	**1.55**	**1.40**	**1.22**	**1.22**	**1.23**	**1.22**
General Services Support Estimate (GSSE)	**25 568**	**36 555**	**44 366**	**44 360**	**44 264**	**44 474**
Agricultural knowledge and innovation system	4 846	8 009	14 305	14 266	13 986	14 663
Inspection and control	1 076	1 927	4 208	4 416	4 174	4 034
Development and maintenance of infrastructure	10 223	16 393	18 180	18 623	18 365	17 552
Marketing and promotion	2 156	5 572	5 221	4 778	5 155	5 732
Cost of public stockholding	5 872	2 282	610	551	689	591
Miscellaneous	1 395	2 371	1 842	1 727	1 897	1 903
Percentage GSSE (% of TSE)	**9.3**	**13.2**	**13.5**	**13.4**	**13.5**	**13.6**
Consumer Support Estimate (CSE)	**-155 044**	**-117 029**	**-72 295**	**-76 850**	**-77 707**	**-62 327**
Transfers to producers from consumers	-163 987	-121 691	-90 282	-96 875	-93 067	-80 905
Other transfers from consumers	-22 432	-19 518	-27 377	-28 053	-26 878	-27 199
Transfers to consumers from taxpayers	19 956	23 580	44 343	46 979	41 047	45 002
Excess feed cost	11 420	599	1 021	1 099	1 191	775
Percentage CSE (%)	**-28.9**	**-18.4**	**-6.7**	**-7.3**	**-7.2**	**-5.7**
Consumer NPC (coeff.)	**1.50**	**1.27**	**1.12**	**1.13**	**1.12**	**1.10**
Consumer NAC (coeff.)	**1.41**	**1.23**	**1.07**	**1.08**	**1.08**	**1.06**
Total Support Estimate (TSE)	**275 737**	**276 997**	**328 894**	**331 403**	**327 818**	**327 460**
Transfers from consumers	186 419	141 209	117 659	124 928	119 945	108 104
Transfers from taxpayers	111 750	155 306	238 611	234 527	234 751	246 555
Budget revenues	-22 432	-19 518	-27 377	-28 053	-26 878	-27 199
Percentage TSE (% of GDP)	**1.9**	**1.0**	**0.6**	**0.6**	**0.6**	**0.6**
Total Budgetary Support Estimate (TBSE)	**101 060**	**152 813**	**234 951**	**230 121**	**231 632**	**243 101**
Percentage TBSE (% of GDP)	**0.7**	**0.6**	**0.4**	**0.4**	**0.4**	**0.5**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
The OECD total for 1986-88 includes all countries except Chile, Colombia, Israel, Latvia, Lithuania and Slovenia, for which data are not available. The OECD total for 2000-02 includes all countries except Latvia and Lithuania. TSE as a share of GDP for 1986-88 for the OECD is an estimate based on available data.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities: see notes to individual country tables.
Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Emerging economies

Agricultural policies in the 12 emerging economies[2] covered by this report generated transfers to the sector averaging USD 385 billion (EUR 336 billion) per year in 2018-20 of which USD 294 billion (EUR 257 billion) went to individual producers. At the same time, however, policies in a few countries suppressed domestic prices for certain products, generating an implicit tax in the form of negative market price support (MPS) averaging USD 104 billion (EUR 91 billion) per year in the same period.

As a consequence, net TSE represented USD 281 billion (EUR 247 billion) per year, while net PSE averaged USD 190 billion (EUR 167 billion) per year during 2018-20. Aggregate support to producers across emerging economies represented on average 7.4% of gross farm receipts in 2018-20: transfers to producers worth 11.5% of GFR, and an implicit tax worth -4.1% of GFR. This %PSE represents a substantial increase from 3.8% in 2000-02 (Table 2.2).

The share of transfers based on output (accounting for both positive and negative MPS and output-based payments) and unconstrained variable input use in gross producer support still averaged 82% in 2018-20 – a modest decline from the 89% observed at the beginning of the century.

Among remaining forms of producer support, the most important are payments based on other input use (mainly fixed capital formation) and payments to areas planted and animal numbers. Payments based on areas and animal numbers were almost non-existent across emerging economies in 2000-02 but reached close to 15% of aggregate net support to producers in 2018-20. In turn, the relative importance of support for investments, (often related to irrigation) declined over time, now representing less than 10% of the PSE. All other forms of support to producers remain marginal (Table 2.2).

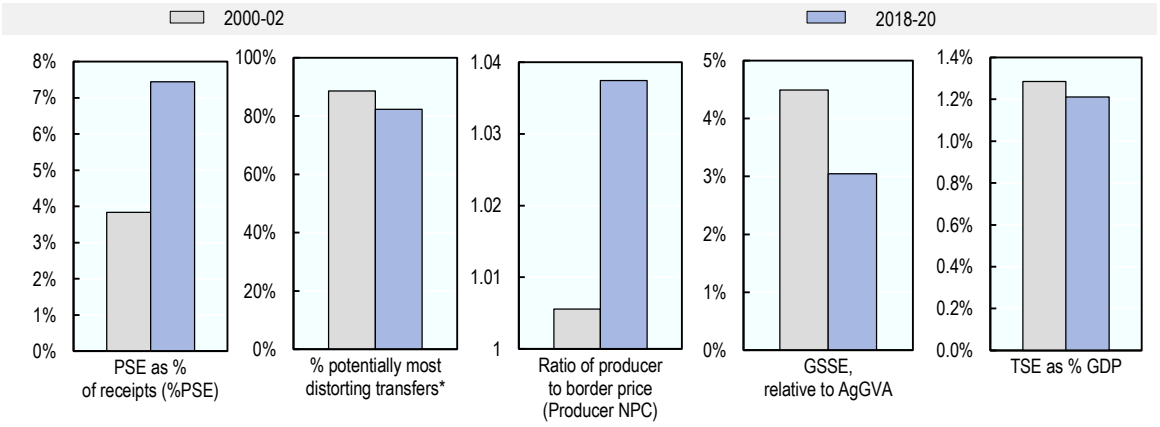
Expenditure on GSSE in emerging economies reached an annual average of USD 57 billion (EUR 50 billion) in 2018-20. Most of this went to infrastructure projects (USD 23 billion), often related to irrigation, and public stockholding (USD 17 billion). The remaining expenditure mainly went to finance agricultural knowledge and innovation (USD 12 billion) (Table 2.2). Relative to agricultural value-added, average expenditures for general services declined somewhat and remain lower than the OECD average. Aggregate total support to agriculture as a share of GDP barely changed over time, and is mainly driven by producer support, at around 70% of the total support.

Notes

[1] The OECD total does not include the non-OECD EU Member States, nor Costa Rica which joined the OECD in May 2021.

[2] The Emerging Economies in this report include Argentina, Brazil, the People's Republic of China (hereafter "China"), India, Indonesia, Kazakhstan, Philippines, Russian Federation, South Africa, Ukraine and Viet Nam, as well as Costa Rica which joined the OECD in May 2021.

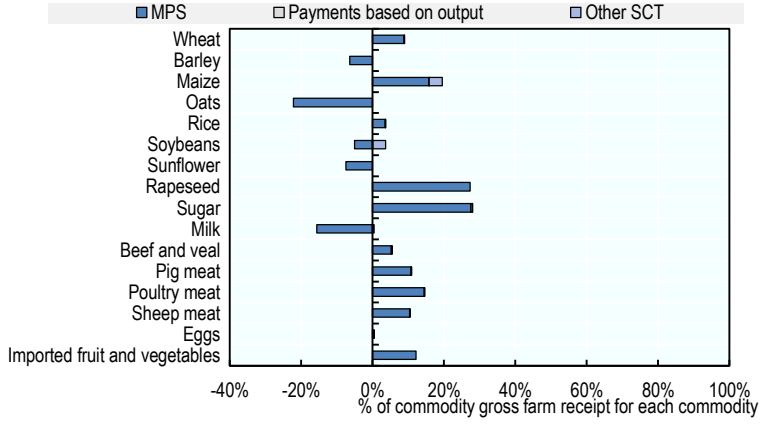
Figure 2.3. Emerging Economies: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/uv90pf

Figure 2.4. Emerging Economies: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/faom9w

Table 2.2. Emerging Economies: Estimates of support to agriculture (USD)

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**524 524**	**2 436 586**	**2 328 723**	**2 406 122**	**2 574 914**
of which: *share of MPS commodities (%)*	75.2	77.7	76.6	77.5	79.1
Total value of consumption (at farm gate)	**522 068**	**2 319 726**	**2 192 039**	**2 299 963**	**2 467 174**
Producer Support Estimate (PSE)	**20 891**	**189 929**	**181 831**	**189 743**	**198 214**
Support based on commodity output	1 616	76 933	75 602	75 910	79 286
Market Price Support[1]	1 200	73 421	71 041	72 847	76 375
Positive Market Price Support	24 826	177 615	169 814	174 288	188 742
Negative Market Price Support	-23 625	-104 194	-98 774	-101 441	-112 367
Payments based on output	416	3 512	4 561	3 063	2 912
Payments based on input use	17 330	64 023	63 601	62 494	65 974
Based on variable input use	11 483	43 261	41 118	42 221	46 443
with input constraints	1	758	835	1 011	429
Based on fixed capital formation	4 466	17 883	19 518	17 434	16 698
with input constraints	2	997	1 292	1 052	648
Based on on-farm services	1 381	2 879	2 965	2 839	2 833
with input constraints	3	0	0	0	0
Payments based on current A/An/R/I, production required	813	27 649	27 339	28 195	27 414
Based on Receipts / Income	813	2 406	2 397	2 455	2 365
Based on Area planted / Animal numbers	0	25 243	24 941	25 740	25 049
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	370	17 769	11 432	20 022	21 853
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	370	17 769	11 432	20 022	21 853
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	459	2 222	2 325	2 169	2 171
Based on long-term resource retirement	459	2 222	2 325	2 169	2 171
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	1	0	0	0	0
Miscellaneous payments	302	1 333	1 532	953	1 515
Percentage PSE (%)	**3.8**	**7.4**	**7.5**	**7.5**	**7.4**
Producer NPC (coeff.)	**1.01**	**1.04**	**1.04**	**1.04**	**1.04**
Producer NAC (coeff.)	**1.04**	**1.08**	**1.08**	**1.08**	**1.08**
General Services Support Estimate (GSSE)	**18 734**	**57 230**	**60 982**	**55 276**	**55 432**
Agricultural knowledge and innovation system	2 988	12 019	12 501	11 951	11 606
Inspection and control	791	4 030	3 531	4 304	4 255
Development and maintenance of infrastructure	6 962	23 271	25 252	21 771	22 790
Marketing and promotion	29	644	620	652	658
Cost of public stockholding	7 861	17 135	18 946	16 442	16 017
Miscellaneous	103	131	132	156	105
Percentage GSSE (% of TSE)	**42.2**	**20.4**	**23.3**	**20.8**	**17.6**
Consumer Support Estimate (CSE)	**-1 254**	**-79 308**	**-78 842**	**-92 468**	**-66 613**
Transfers to producers from consumers	-4 166	-91 616	-87 906	-91 285	-95 656
Other transfers from consumers	-2 892	-30 379	-19 568	-30 734	-40 835
Transfers to consumers from taxpayers	4 735	33 524	19 340	20 134	61 096
Excess feed cost	1 069	9 163	9 291	9 416	8 782
Percentage CSE (%)	**-0.2**	**-3.5**	**-3.6**	**-4.1**	**-2.8**
Consumer NPC (coeff.)	**1.01**	**1.06**	**1.05**	**1.06**	**1.06**
Consumer NAC (coeff.)	**1.00**	**1.04**	**1.04**	**1.04**	**1.03**
Total Support Estimate (TSE)	**44 360**	**280 683**	**262 154**	**265 153**	**314 743**
Transfers from consumers	7 058	121 994	107 473	122 018	136 492
Transfers from taxpayers	40 195	189 068	174 248	173 868	219 086
Budget revenues	-2 892	-30 379	-19 568	-30 734	-40 835
Percentage TSE (% of GDP)	**1.3**	**1.2**	**1.1**	**1.1**	**1.4**
Total Budgetary Support Estimate (TBSE)	**43 160**	**207 262**	**191 113**	**192 306**	**238 368**
Percentage TBSE (% of GDP)	**1.2**	**0.9**	**0.8**	**0.8**	**1.0**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
The Emerging Economies include Argentina, Brazil, China, Costa Rica, India, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities: see notes to individual country tables.
Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

All countries

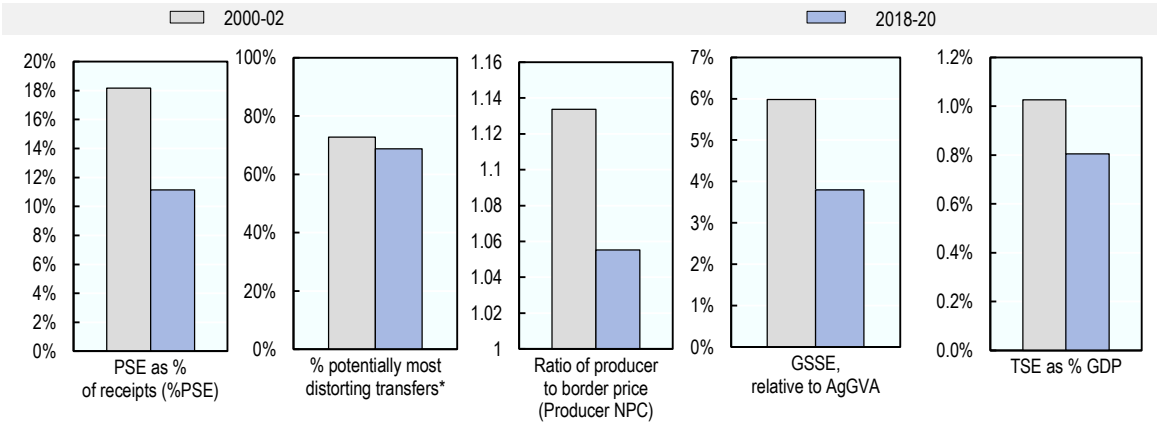
The total support to agriculture provided in all countries covered in this report represented USD 615 billion (EUR 540 billion) per year on average in 2018-20, of which around 71% or USD 436 billion (EUR 383 billion) were provided as support to producers. Gross transfers to the sector are significantly larger than that, given the negative market price support estimated for some emerging economies: in total, USD 719 billion (EUR 631 billion) were transferred to the sector across the 54 countries covered, while at the same time negative MPS in some countries amounted to USD 104 billion (EUR 91 billion). Expressed as a share of gross farm receipts, aggregate support to producers represented 11.2% in 2018-20 on average for all countries covered, a reduction from 18.2% in 2000-02 (Table 2.3).

Changes between 2000-02 and 2018-20 to the structure of support in all countries in the report were relatively moderate. The share of potentially most-distorting transfers (based on output or based on unconstrained use of variable inputs) declined slightly, but these policies continue to represent around 69% of gross producer transfers across all countries (whether positive or negative, in absolute terms). Transfers based on output became less prominent while those based on unconstrained input use increased.

Among the remaining forms of support to producers, the most important are payments based on area planted and animal numbers (18% of all producer support), and those based on historical parameters not requiring production. The importance of these latter payments (which are decoupled from current production and hence much less production- and trade-distorting) increased significantly and now represents 16% of all producer support (Table 2.3).

Across all countries in this report, the expenditures financing **general services** to the sector (GSSE) reached an annual average of USD 102 billion (EUR 90 billion) in 2018-20, almost twice the amount in nominal terms spent at the beginning of the century. Most of this went to infrastructure projects (USD 42 billion), agricultural knowledge and innovation (USD 26 billion), and public stockholding (USD 18 billion) (Table 2.3). In spite of the growth, expenditures for general services declined in relative terms as value added in agriculture almost tripled in nominal terms since 2000-02. **Total support to agriculture** as a share of GDP declined slightly over time, mainly driven by the smaller relative size of the sector within economies.

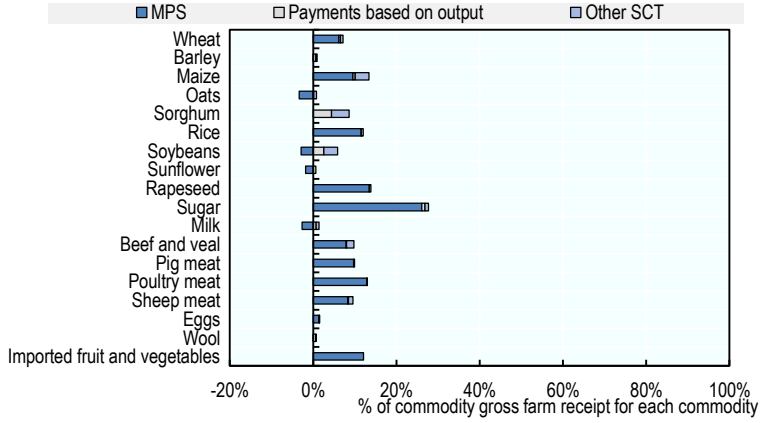
Figure 2.5. All countries: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Figure 2.6. All countries: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/hwitjy

Table 2.3. All countries: Estimates of support to agriculture (USD)

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**1 195 819**	**3 638 643**	**3 572 201**	**3 581 869**	**3 761 858**
***of which:** share of MPS commodities (%)*	72.4	76.4	74.9	76.4	77.8
Total value of consumption (at farm gate)	**1 181 908**	**3 495 771**	**3 355 887**	**3 475 764**	**3 655 662**
Producer Support Estimate (PSE)	**237 753**	**435 565**	**427 680**	**437 727**	**441 287**
Support based on commodity output	140 753	180 512	189 789	176 910	174 838
Market Price Support[1]	125 385	167 956	172 960	169 624	161 285
Positive Market Price Support	149 601	272 438	272 142	271 504	273 668
Negative Market Price Support	-24 217	-104 482	-99 182	-101 880	-112 384
Payments based on output	15 369	12 556	16 829	7 286	13 553
Payments based on input use	36 844	95 950	93 628	91 967	102 254
Based on variable input use	19 491	55 312	51 477	52 353	62 107
with input constraints	342	1 861	1 647	1 880	2 057
Based on fixed capital formation	9 545	29 194	31 379	28 425	27 778
with input constraints	630	3 514	4 194	3 374	2 974
Based on on-farm services	7 808	11 444	10 772	11 190	12 370
with input constraints	967	1 611	1 575	1 533	1 723
Payments based on current A/An/R/I, production required	42 194	79 505	72 787	86 667	79 062
Based on Receipts / Income	3 986	6 734	6 607	6 548	7 046
Based on Area planted / Animal numbers	38 209	72 772	66 180	80 119	72 016
with input constraints	16 898	39 658	33 179	46 551	39 245
Payments based on non-current A/An/R/I, production required	71	2 197	2 235	2 373	1 985
Payments based on non-current A/An/R/I, production not required	14 091	68 864	61 592	71 519	73 482
With variable payment rates	4 318	5 023	3 021	6 391	5 659
with commodity exceptions	4 079	4 880	2 864	6 254	5 521
With fixed payment rates	9 773	63 841	58 571	65 128	67 823
with commodity exceptions	6 081	2 565	2 510	2 515	2 669
Payments based on non-commodity criteria	3 664	6 421	5 415	6 595	7 253
Based on long-term resource retirement	3 358	4 820	3 875	5 041	5 545
Based on a specific non-commodity output	237	1 502	1 462	1 489	1 555
Based on other non-commodity criteria	69	99	78	65	153
Miscellaneous payments	136	2 115	2 235	1 697	2 412
Percentage PSE (%)	**18.2**	**11.2**	**11.2**	**11.4**	**10.9**
Producer NPC (coeff.)	**1.13**	**1.06**	**1.06**	**1.06**	**1.05**
Producer NAC (coeff.)	**1.22**	**1.13**	**1.13**	**1.13**	**1.12**
General Services Support Estimate (GSSE)	**55 289**	**101 670**	**105 413**	**99 616**	**99 983**
Agricultural knowledge and innovation system	10 996	26 362	26 805	25 978	26 304
Inspection and control	2 718	8 238	7 947	8 477	8 289
Development and maintenance of infrastructure	23 354	41 501	43 918	40 178	40 408
Marketing and promotion	5 602	5 845	5 387	5 799	6 349
Cost of public stockholding	10 144	17 751	19 497	17 131	16 624
Miscellaneous	2 475	1 973	1 859	2 053	2 008
Percentage GSSE (% of TSE)	**17.2**	**16.5**	**17.6**	**16.6**	**15.4**
Consumer Support Estimate (CSE)	**-118 283**	**-152 228**	**-156 394**	**-170 858**	**-129 433**
Transfers to producers from consumers	-125 857	-182 574	-185 556	-185 099	-177 068
Other transfers from consumers	-22 410	-57 761	-47 623	-57 622	-68 038
Transfers to consumers from taxpayers	28 315	77 881	66 334	61 192	106 117
Excess feed cost	1 669	10 226	10 450	10 671	9 557
Percentage CSE (%)	**-10.3**	**-4.5**	**-4.8**	**-5.0**	**-3.6**
Consumer NPC (coeff.)	**1.14**	**1.07**	**1.07**	**1.08**	**1.07**
Consumer NAC (coeff.)	**1.11**	**1.05**	**1.05**	**1.05**	**1.04**
Total Support Estimate (TSE)	**321 358**	**615 116**	**599 427**	**598 535**	**647 386**
Transfers from consumers	148 267	240 335	233 179	242 721	245 107
Transfers from taxpayers	195 501	432 542	413 871	413 436	470 318
Budget revenues	-22 410	-57 761	-47 623	-57 622	-68 038
Percentage TSE (% of GDP)	**1.0**	**0.8**	**0.8**	**0.8**	**0.9**
Total Budgetary Support Estimate (TBSE)	**195 973**	**447 160**	**426 467**	**428 911**	**486 101**
Percentage TBSE (% of GDP)	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
The All countries total includes all OECD countries, non-OECD EU Member States, and the Emerging Economies: Argentina, Brazil, China, Costa Rica, India, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam. The All countries total for 2000-02 includes data for all countries except Latvia and Lithuania, for which data are not available.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities: see notes to individual country tables.
Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

3 Argentina

Support to agriculture

Argentine export taxes depress domestic prices received by producers, leading to negative support to the agricultural sector. The limited payments producers receive focus on input support, provided mainly in the form of credit at preferential rates.

Support to producers has been negative since the beginning of the 2000s, with fluctuations due to changes in export tax rates, also influenced by unstable macroeconomic conditions such as the depreciation of the peso since 2018. The most extreme negative value was -51.1% of gross farm receipts in 2008, rising to -10.3% in 2017, but more negative since the beginning of the 2018 recession, at -23.4% in 2018-20. Negative market price support is the main component of the Producer Support Estimate (PSE) and, as a result, 98% of policy transfers were most-distorting in 2018-20. The ratio of producer to border price (NPC) was as low as 0.80 in 2018-20, making producers' prices on average 20% below world market prices. Negative market price support is dominated by soybeans, the main export product, with the highest export tax rate and the most negative Specific Commodity Transfers (STC), comprising 50% of commodity gross farm receipts. Some grains and several livestock products also have significantly negative SCT, while price support and SCT are positive for pig meat and eggs.

The support to general services (GSSE) relative to agricultural value-added increased from 0.8% in 2000-02 to 1.6% in 2018-20. Most of this was spent on agricultural innovation systems. Agricultural production and exports in Argentina grew dynamically in the last two decades due to an innovative private sector and to public services, particularly for knowledge, research and extension, and sanitary inspection.

Most of Argentina's budgetary support to the sector goes to these GSSE. Total budgetary support to farmers and the sector overall (TBSE) was 0.1% of GDP, well below the absolute value of negative market price support, making the total support estimate to agriculture (TSE) also negative: -1.1% of GDP in 2000-02 and -2.3% in 2018-20.

Recent policy changes

Since December 2019, agricultural policies in Argentina have shifted to more active export restrictions, in particular reintroducing taxes that were reduced or eliminated between 2015 and 2018. In March 2020, export taxes for soybean and soybean products increased from 30% to 33%, though from October to December 2020, the tax temporarily reverted to 30%. In December 2020, export tax rates were set at 0% for non-pampas products such as olives, honey, fruits, tea, yerba mate and eggs. To ensure feed inputs for the domestic food supply, maize exports were banned between December 2020 and January 2021. After negotiation with the private sector, in which the maize value chain guaranteed domestic supply at lower prices, the government lifted the export restrictions.

The Compensation and Stimulus Programme was created to compensate small soybean producers for revenue losses with export tax refunds. Also, the federal revenues agency (AFIP) allowed companies in

the Register of Micro, Small and Medium Enterprises to postpone export duty payments for 60 days. This measure was extended until the end of 2020.

In response to the COVID-19 pandemic, the Ministry of Agriculture, Livestock and Fisheries gave a bonus to beneficiaries of the Food Cards that provide food assistance to vulnerable populations. The government also launched the "Programme of critical assistance to family and indigenous farmers" to provide support to smallholder producers affected by the COVID-19 pandemic.

Government and chambers of commerce collaborated on defining good practices and protocols for food-related enterprises in order to avoid disruptions in the food chain and international trade. Argentina's main exporting ports along the Paraná River suffered disruptions during 2020. In March, ships were unable to dock in Rosario, the main port for soybean meal and oil exports, as procedures to clear crews for contagious diseases were suspended by the COVID-19 pandemic. Traffic resumed after a few days, following a government decision exempting export-related workers from pandemic restrictions.

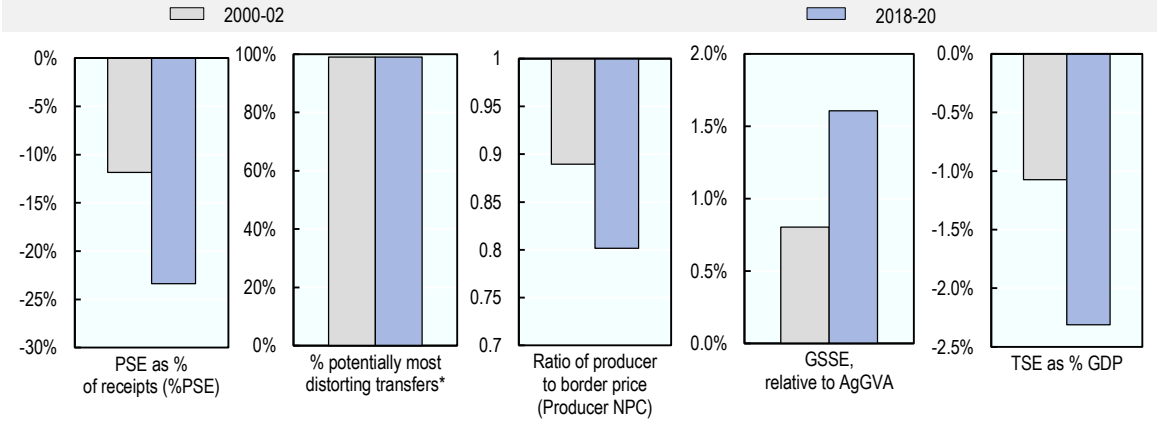
Assessment and recommendations

- Taxes and other restrictions on exports create distortions and uncertainty. In response to the macroeconomic turmoil in September 2018, a new tax was established on all exports and, since December 2019, export restrictions target specific agricultural commodities, with increased tax rates for some products and a temporary export ban on maize. The use of export restrictions should be phased out as part of a long-term plan to integrate the sector into an economy-wide tax system and enhance policy certainty with alternative sources of fiscal revenue. In the current environment, it will be crucial to reduce policy uncertainty and find the balance between the long-term objective to reduce export taxes and short-term needs to raise fiscal revenues. Historically, Argentine policies are unpredictable and biased against agriculture. Agricultural policy could be better anchored in broad legislation, such as a sector-specific framework and an economy-wide tax reform, moving towards more neutral, stable, predictable and targeted policies.
- The stimulus for small soybean producers seeks to compensate for revenue losses due to export taxes, by providing direct payments and postponing those export duties. Gradually reducing and eliminating export taxes as part of a long-term strategy would be a more transparent approach and provide certainty to the sector.
- "Argentina against hunger" provides monthly financial support through an electronic card, proven as a useful tool in providing additional food assistance to vulnerable populations in the context of the COVID-19 pandemic. The approach to support consumers through such social policies is more effective and efficient than trade measures that depress domestic prices of primary food commodities that represent only a small share of food expenditures. However, these food assistance programmes need to target the population in need in order to tackle food poverty, and require effective monitoring of their implementation.
- The COVID-19 crisis highlighted the importance of keeping markets working, combining guidelines and protocols to govern the agro-food sector with monitoring and rapid action to keep ports and critical market and trade infrastructures operative. Looking to the post-COVID-19 era, the contribution of all public policy (including taxes, payments, market regulations and investment in infrastructure) to the resilience and responsiveness of the food system deserves systematic evaluation.
- Improving the environmental performance of agriculture will require improved monitoring and information systems for better policy design. In order to deliver research, extension and other public goods required for agricultural innovation, Argentina needs to develop systematic monitoring of efforts and results in agricultural R&D and innovation, and define and implement strategic priorities. Innovation policy should focus on providing public goods in areas where the private sector has

difficulties to deliver, such as those related to sustainability and less-developed value chains, or for regional economies outside the pampas region.

- The Special Tobacco Fund (FET), with a budget similar to that of the National Institute for Agricultural Technology (INTA), should be reformed. Output payments to tobacco producers should be phased out, with the resources used to diversify poor tobacco-producing areas through investment in human and physical capital. The reform should include monitoring and evaluation of all initiatives implemented by the provinces.
- In December 2020 Argentina submitted its second Nationally Determined Contributions (NDC) under the Paris Agreement on Climate Change, committing to further reductions of total greenhouse gas (GHG) emissions of 25.7% compared to the previous NDC submitted in 2016. The new submission is welcome, including actions in the agriculture and livestock sector such as sustainable and resilient practices, prevention and climatic risk transfer, and research and capacity building. The NDC implementation plans under development should be applicable, concrete and verifiable.

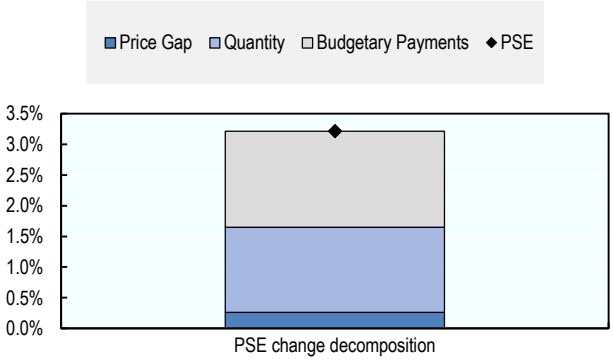
Figure 3.1. Argentina: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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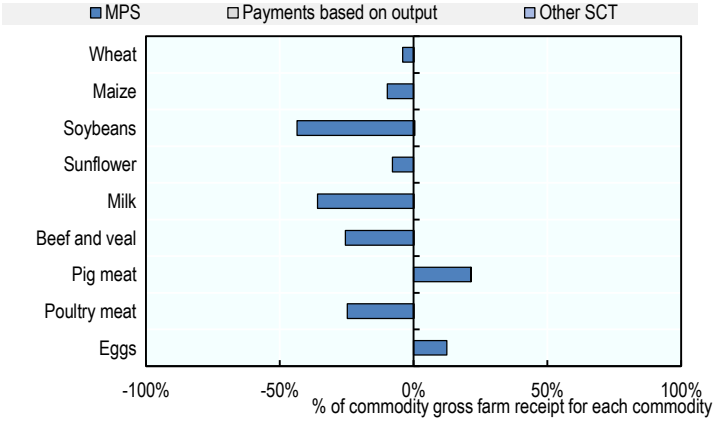
Figure 3.2. Argentina: Drivers of the change in PSE, 2019 to 2020



Note: The producer price change and the border price change are not calculated when the negative price gap occurs at the commodity level for the current or previous year.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Figure 3.3. Argentina: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Table 3.1. Argentina: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**17 022**	**43 742**	**48 261**	**41 266**	**41 698**
of which: *share of MPS commodities (%)*	85.7	84.4	84.2	83.6	85.4
Total value of consumption (at farm gate)	**7 998**	**29 741**	**33 811**	**26 863**	**28 549**
Producer Support Estimate (PSE)	**-1 035**	**-10 719**	**-12 332**	**-11 937**	**-7 889**
Support based on commodity output	-1 069	-10 860	-12 556	-12 049	-7 975
Market Price Support[1]	-1 131	-10 968	-12 631	-12 128	-8 147
Positive Market Price Support	150	240	245	257	219
Negative Market Price Support	-1 280	-11 209	-12 875	-12 385	-8 365
Payments based on output	62	109	75	79	171
Payments based on input use	34	137	218	108	84
Based on variable input use	2	7	10	2	9
with input constraints	0	0	0	0	0
Based on fixed capital formation	23	99	152	89	57
with input constraints	0	0	0	0	0
Based on on-farm services	8	30	55	18	19
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	4	6	3	2
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	0	4	6	3	2
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**-11.9**	**-23.4**	**-25.4**	**-28.8**	**-18.8**
Producer NPC (coeff.)	**0.89**	**0.80**	**0.79**	**0.77**	**0.84**
Producer NAC (coeff.)	**0.89**	**0.81**	**0.80**	**0.78**	**0.84**
General Services Support Estimate (GSSE)	**116**	**307**	**374**	**293**	**254**
Agricultural knowledge and innovation system	66	175	210	168	148
Inspection and control	33	92	114	89	73
Development and maintenance of infrastructure	17	38	48	35	32
Marketing and promotion	0	1	2	1	1
Cost of public stockholding	0	0	0	0	0
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**..**	**..**	**..**	**..**	**..**
Consumer Support Estimate (CSE)	**456**	**7 813**	**9 161**	**8 399**	**5 879**
Transfers to producers from consumers	483	8 243	9 674	8 957	6 096
Other transfers from consumers	-6	-2	-4	-2	0
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	-21	-427	-509	-556	-217
Percentage CSE (%)	**12.6**	**25.3**	**27.1**	**31.3**	**20.6**
Consumer NPC (coeff.)	**0.88**	**0.79**	**0.78**	**0.75**	**0.82**
Consumer NAC (coeff.)	**0.89**	**0.80**	**0.79**	**0.76**	**0.83**
Total Support Estimate (TSE)	**-919**	**-10 413**	**-11 958**	**-11 644**	**-7 635**
Transfers from consumers	-477	-8 240	-9 670	-8 955	-6 096
Transfers from taxpayers	-436	-2 170	-2 284	-2 687	-1 539
Budget revenues	-6	-2	-4	-2	0
Percentage TSE (% of GDP)	**-1.1**	**-2.3**	**-2.3**	**-2.6**	**-2.1**
Total Budgetary Support Estimate (TBSE)	**212**	**556**	**672**	**484**	**512**
Percentage TBSE (% of GDP)	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
GDP deflator (2000-02=100)	**100**	**4 488**	**2 928**	**4 411**	**6 125**
Exchange rate (national currency per USD)	**1.70**	**48.99**	**28.11**	**48.23**	**70.64**

.. Not available

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Argentina are: wheat, maize, soybean, sunflower, fruit and vegetables, milk, beef and veal, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

For many decades, Argentine agricultural policy alternated between free trade and import substitution under different economic policy frameworks (OECD, 2019[1]). Argentina liberalised trade in the late 1970s and explored ways to increase trade with its neighbours and others from the second half of the 1980s. The Argentine economy became more integrated into the international system with the creation of MERCOSUR[1] in 1991 and the 1994 WTO Agreement.

After the financial crisis in 2001, Argentina increased tariffs, established price controls and re-introduced export taxes on agricultural products such as soybeans in order to raise revenue and reduce basic food prices. Further export restrictions in the form of quotas for wheat, corn, milk, and beef were imposed in 2008 introducing uncertainty in transactions. Between 2007 and 2011, a consumer price subsidy was put in place. The agency ONCCA provided payments to processors selling wheat, maize, soybeans and sunflower products on the local market.

In 2015, the government reduced export taxes on soybeans and soybean oil, and eliminated those on all other agricultural and livestock products. It also eliminated all export quotas and free-floated the exchange rate of the Argentine peso to other currencies. However, after the 2018-19 peso depreciation, followed by economic recession, export taxes were re-established, applying to all exports rather than targeting agricultural ones.

The change of government in December 2019 resulted in an agricultural policy shift. Specific export taxes that had been eliminated or reduced in December 2015 were re-instated for most products in early 2020, while exchange-rate controls since the beginning of 2020 resulted in a widening gap between the official and the market exchange rate.

While agricultural trade policies and their effect on farm prices change back and forth, long lasting agricultural institutions created since the 1950s remain relevant to the sector's development. For instance, the National Institute of Agricultural Technology (INTA), created in the mid-1950s, continues to provide general services to research and extension. The long-established animal and plant health institutes were merged into SENASA in 1996. In the private sphere, innovative service providers to farmers were created, such as AACREA in 1960 and AAPRESID in 1989 (Table 3.2).

Table 3.2. Argentina: Agricultural policy trends

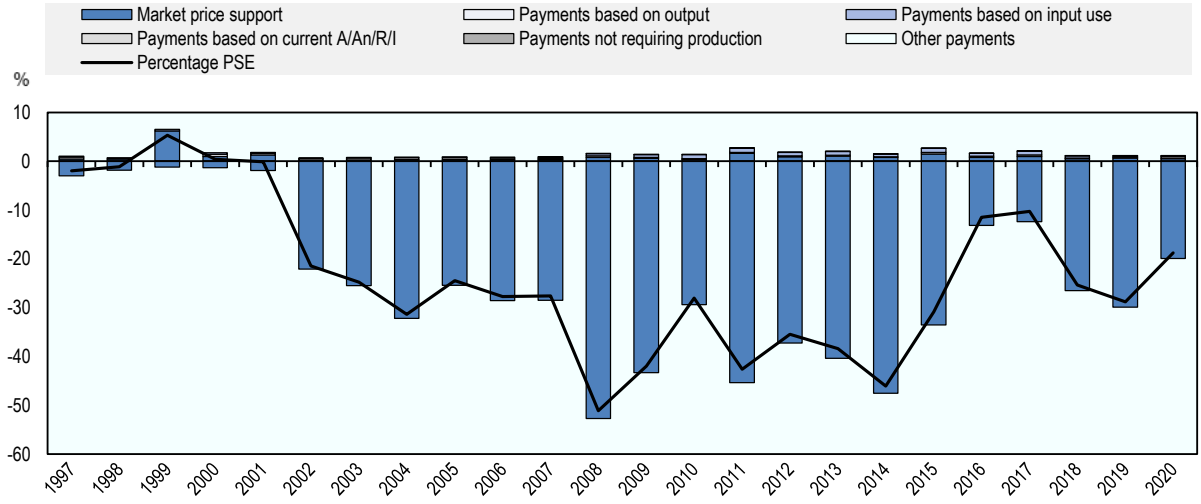
Period	Framework	Changes in agricultural policies
Prior to 1990	Alternate free trade and import substitution economy	Price interventions on main agricultural products, mandatory public stockholding, export taxes on agricultural trade, tariffs on imports of agricultural inputs such as fertiliser, low levels of investment in private agricultural R&D and infrastructure in general Several attempts to open to trade Creation of agricultural R&D and extension services institute INTA (1956); private institutions such as AACREA (1960) and AAPRESID (1989) created to provide services to farmers
1991-2001	Gradual shifts to open the economy	Dismantling stockholding and price-setting public institutions, reduction of import and export tariffs, free trade agreements (Mercosur and WTO) Price stabilisation, reduction of barriers to trade, privatisation and deregulation of markets Dissolution of National Commercial Boards (1991) Creation of animal and plant health and food safety SENASA (1996) Creation of the seed regulatory institution INASE (1991)
2002-2015	Return to a closed economy	Implementation of export taxes, high import tariffs, value chains subject to regulations as export quotas and price controls at the retail level The National Office of Agricultural Commercial Control (ONCCA) dismantled (2011)

Period	Framework	Changes in agricultural policies
2015-2017	Gradual shifts to open up the economy	Elimination of export taxes for all agricultural commodities, except reduced taxes on soybean exports Elimination and reforms to the Register of Export Operations ROEs (2015) Federal Agricultural Council (CFA) reformed (2017)
2018-2020	Reintroduction of export taxes	Export taxes established for all exports including agriculture in response to the economic crisis of 2018 Reintroduction of specific taxes on agricultural products and exchange rate controls since 2019

Prior to the economic crisis of 2001, producer support fluctuated around zero. With the reintroduction of export taxes and other trade restrictions after the 2001-02 financial crisis, the PSE turned negative due to substantial negative market price support, and in the absence of any significant budgetary support to farmers. Negative producer support peaked with price spikes in world markets in 2008, reaching -51.6% of gross farm receipts. The reduction in export taxes in 2015 resulted in reductions of the negative support. While market price support continued to be negative, budgetary support to farmers remained limited and mainly in the form of subsidies for tobacco (Figure 3.4). Around 60% of total expenditures on agriculture in the last ten years financed general services to the sector. From 2007 to 2010, Argentina provided subsidies to food processors (primary consumers), to compensate for high prices of agricultural products.

Figure 3.4. Argentina: Level and PSE composition by support categories, 1997 to 2020

As a percentage of gross farm receipts



Notes: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

In contrast to most countries covered by this report, producers of Argentina's main agricultural products are implicitly taxed through negative price support. Export taxes are by far the most important public intervention in agricultural markets in Argentina. Additional measures include quantitative export restrictions on maize, wheat, beef meat, and milk. These had and continue to have major impact by depressing domestic prices below international references and creating negative transfers to producers.

In addition to the Ministry of Agriculture, Livestock and Fisheries, which implements specific programmes and defines quantitative restrictions on exports, other government agencies implement policy providing support to agriculture. The Ministry of Finance designs and implements export taxes, the major source of policy-driven transfers away from the agricultural sector. The government adjusts export tax rates by decree.

To a limited extent, Argentina provides input subsidies, mostly in the form of implicit interest rate subsidies through preferential credit provided by FINAGRO. These credits finance investment and working capital in the production a range of productions. A new fund, FONDAGRO created in 2017, also finances investment in the sector at preferential interest rates, but its scope is limited. There are almost no other forms of budgetary support to Argentine producers. Small amounts of direct payments are provided as disaster assistance in response to extreme weather events, mainly droughts. There are no national direct payments for agri-environmental services, and few at provincial level. The Agricultural Provincial Services Programme (PROSAP), financed with loans by the Inter-American Development Bank (IADB) and managed by the Ministry of Agriculture, Livestock and Fisheries, invests mainly in large-scale agricultural irrigation infrastructure.

The Argentinian legal framework on intellectual property rights on seeds dates from 1973 and differs from those in other major exporting countries. There is no constraint on “own use” of seeds in Argentina. This is particularly relevant for self-pollinating crops such as soybeans, wheat, cotton and rice, where seeds used by farmers are not produced by hybridisation, and farmers do not pay royalties for those. The National Institute for Seeds (INASE) sets conditions for farmers to benefit from this exemption and monitors its implementation. There is also a private extended royalty system under which farmers pay for certain varieties of seeds.

The Special Tobacco Fund (Fondo Especial del Tabaco) provides a supplementary payment to market prices and other support to tobacco producers. Created in 1972, FET provides additional revenue to tobacco producers in the northern provinces of Jujuy, Salta, Misiones, Tucuman, Corrientes, Chaco and Catamarca. The fund is mainly financed by a tax of 7% on tobacco retail prices (excluding VAT) and directly managed by the Ministry of Agriculture, Livestock and Fisheries. The federal government transfers 80% of collected funds to tobacco producing provinces proportional to their share of production. After the signature of the WTO agreement in 1994, Argentina committed to reduce this support as part of its Aggregate Measurement of Support (AMS) commitment. FET payments to tobacco producers shrank to USD 75 million, with the rest of the funds spent on technical assistance, to invest in local infrastructure, and to provide social and health assistance.

Most expenditure finances general services to the sector such as the agricultural knowledge and innovation system, or inspection control services. Research and development and extension services are mainly provided by INTA, while animal and plant health and input control services are provided mainly by SENASA.

For instance, SENASA Resolution 67/2019 approved the National Plan for the Control and Eradication of Bovine Brucellosis, mandatory throughout the national territory, except in the Province of Tierra del Fuego, Antarctica and South Atlantic Islands.[2] For dairy production, the Good Practices Programme for Farming in primary dairy production was created in 2019.[3] In 2019, Argentina signed the Rotterdam Declaration, which implies commitment to a comprehensive approach to the sustainability of dairy systems, considering social, economic, health and environmental dimensions.[4]

SENASA defines phytosanitary regulations applied to the registration of plant-based products.[5] Since 2018, a new national regulation (Law No. 27279) for the management of pesticide containers created enforcement authorities in 20 provinces.

Agri-environmental regulations are mostly decided at provincial level. Córdoba province has a Law of Good Agricultural Practices setting standards for sustainable agricultural production. This was the first regulation

at a provincial level and is part of a Good Agricultural Practices Program launched by the Province in 2017.[6] Compliance with the programme gives farmers access to lump-sum payments, with an annual budget of ARS 180 million (USD 2.9 million) in 2020. The province of Entre Ríos enacted a Law on Soil Conservation in December 2018. The new standard declares mandatory soil conservation for any area with soil degradation. Farmers are subject to mandatory conservation and management practices up to 15% of their production area. Compliance permits farmers temporary and partial exemptions from provincial rural property taxes.[7]

The agriculture and livestock sector contributes up to 26% of total GHG emissions in Argentina. Argentina's goal is to reduce these by 39% in 2030 with respect to projected emissions for that year. The National Plan for Agriculture and Climate Change is the public policy designed to comply with the objectives of the United Nations Framework Convention on Climate Change under the Paris Agreement. The plan includes adaptation measures for the sector based on risk management, and three GHG mitigation measures.[8] An inventory of greenhouse gases from the agriculture, livestock and forestry industry[9] was completed to perform evaluation and monitoring of GHG emissions by sector.

The Biofuel Law 26.093 approved in 2006 established compulsory fuel blend mandates since 2010, starting at 5% and increasing to 10% for diesel and 12% for gasoline. The law is scheduled to end in May 2021. In October 2020, the Senate approved its extension to 2025. This extension will be discussed by the Deputies Chamber in 2021.

Since 2016, Argentina is party to the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) for the conservation and sustainable use of all plant genetic resources for food and agriculture, following guidelines of the Convention on Biological Diversity. The National Advisory Committee on Genetic Resources for Food and Agriculture (CONARGEN) co-ordinates public agencies on biodiversity issues related to the sector. The Application Authority of the ITPGRFA is in the Ministry of Agriculture, Livestock and Fisheries, whereas the Political Focal Point is in the Ministry of Foreign Relations, International Trade and Cult. The Instituto Nacional de Tecnología Agropecuaria (INTA) is developing projects supported by the Benefit Sharing Fund of the ITPGRFA and the Global Crop Diversity Trust.

The National Forest Management Plan with Integrated Livestock (MBGI) is a joint plan created in 2015 by the Ministry of Environment and Sustainable Development, the Ministry of Agriculture and the National Institute for Agricultural Technology (INTA). The MBGI develops technical guidelines for native forest management and livestock management in the framework of the Native Forest Law.[10] The National Forestry Strategy 2030 (ForestAR 2030) has been implemented since 2019.[11] This programme aims to protect native forests and promote forest plantations, and the entire wood value chain in order to achieve the objectives in the Paris Agreement and the 2030 Agenda.[12] It foresees the creation of Manuals of Good Practices and guidelines for strategic assessment of forest plantations, as well as of the Argentine Forest Certification System CERFOAR.

Domestic policy developments in 2020-21

Since January 2020, a new social programme "Argentina against hunger (AUH)" provides financial support for children, pregnant women and disabled people. Support is channelled through an electronic food card (ALIMENTAR Card) to be used in any food product store. The food card is received by AUH beneficiaries with children under 6 years old and pregnant women that receive the universal pregnancy allowance (AUE). The programme reached 1.5 million adult beneficiaries and 2.8 million children in 2020. The average monthly expenditure for this programme in 2020 was USD 80 million. Beneficiaries receive between USD 50 and USD 100 per month, depending on the number of children in the family.

In October 2020, the new "Compensation and Stimulus Programme" for small soybean producers was created under the administration of the MoA (decree 786/2020). The scheme will compensate soybean

producers with total sales under ARS 20 million (USD 325 000) in 2019. Under this programme, farmers receive "export tax refunds" depending on their cultivated area from 1 hectare to a maximum of 400 hectares. Farmers in the Pampean region receive between ARS 441 and ARS 1 543 (USD 7.2 and USD 25.1) per tonne, and outside the Pampean region between ARS 661 and ARS 2 205 (USD 10.7 and USD 35.8) per tonne, for a total ARS 12 billion (USD 195 million) in 2020, benefiting 41 293 producers and 10 million hectares. The first payment was made in November 2020 for sales made between February and September 2020.

Argentina implements the bioethanol and biodiesel mandates by setting production quotas and the official prices that biofuel producers can charge fuel companies to fill the mandate. In October 2020, the Ministry of Economy in Argentina increased the price of maize-based ethanol used in fuel blending and sugarcane bioethanol by 9.7% to ARS 32.7 per litre (USD 0.53 per litre) (Resolution 4/2020). At the same time, the Secretariat of Energy increased the domestic market price of biodiesel by 10% to ARS 48 533 per tonne (USD 788 per tonne) (Resolution 5/2020).

In August 2020, the Ministry of Agriculture, Livestock and Fisheries created the National Direction of Agro-ecology (DNA) aimed at the design and implementation of policies, programmes and projects that promote intensive and extensive primary production based on agro-ecological principles.

In December 2020 Argentina submitted its second Nationally Determined Contributions (NDCs) under the Paris Agreement on Climate Change, committing to further reductions of total GHG emissions, not exceeding the net emission of 359 million tonnes of CO_2 equivalent (MtCOe) in 2030. This is the equivalent of a total decrease in emissions of 19% by 2030, compared to the historical peak reached in 2007, and a reduction of 25.7% compared to the previous NDC submitted in 2016. The second NDC includes economy wide mitigation and adaptation efforts, which include action in the agriculture and livestock sector such as sustainable and resilient practices, prevention and climatic risk transferring, and research and capacity building. Sectorial plans for the implementation of the NDC are being defined under the National Cabinet of Climate Change.

The new Programme for the promotion of Local Work, Holding and Supply (PROTAAL) seeks to generate new jobs, strengthen rural livelihoods, and increase production of family farmers[13] in communities of less than 50 000 inhabitants (Resolution 163/2020 the Ministry of Agriculture, Livestock and Fisheries). The programme promotes the formation of associations of family farmers providing benefits for the unemployed, under-employed and small producers.

The cultivation of a drought-resistant GM wheat variety (HB4) was authorised by the Ministry of Agriculture, Livestock and Fisheries in Argentina (Resolution 41/2020). However, its marketing has not yet been authorised, largely subject to pending Brazil's assessment and import approval, as the country accounts for 40% of Argentina's wheat exports.

In 2020, the MoA launched a National Plan for Access to Water (Plan Nacional de Acceso al Agua) with a particular focus on small producers. The Plan is implemented through the Secretariat of Family, Peasant and Indigenous Agriculture (SAFCI), the General Directorate of Sectorial and Special Programs and Projects (DIPROSE) and the National Institute of Agricultural Technology (INTA).

Domestic policy responses to the COVID-19 pandemic

Social distancing measures escalated after mid-March 2020 following the Decree 260/2020 declaring a public health emergency and followed by Decree 297/2020 of mandatory quarantine that was extended in successive stages until 6 November 2020. The decrees enabled the Health Ministry to adopt the measures needed to fight the outbreak, authorised the reallocation of funds and the adoption of measures to prevent shortages of key sanitary products. The quarantine included mandatory self-isolation measures, except for essential services such as health, pharmacies and the food industry and commerce. The production,

transportation and trading of food and agricultural inputs such as fertilisers were in the list of essential sectors not subject to the limitations by lockdown measures.

The Ministry of Agriculture launched the "Programme of critical assistance to family and indigenous farmers" (Programa de Asistencia Crítica y Directa para la Agricultura Familiar, Campesina e Indígena, Resolution 138/20), with a total budget of USD 420 000. The initiative will support smallholder producers affected by the COVID-19 pandemic with direct financial support.

Some measures were also taken in specific fruit sectors. A programme was put in place to assist producers of pears and apples in main producing provinces, delaying social security payments and extending the timeframe of the existing emergency programmes (Decree 615/220). The Law 27.507 of emergency in the citric sector was also extended for an additional year and expanded to additional provinces.

The government and chambers of commerce worked together on a harmonised set of protocols to be used in all food related enterprises. Good practices protocols per branch of activity were designed for agriculture, food industries, fisheries, family farming, cattle farming, poultry production, and fruit and vegetable production among others.[14]

The National Institute for Agricultural Technology (INTA) made available four laboratories in different parts of the country (Castelar in Buenos Aires; Marco Juarez in Cordoba; Concepcion del Uruguay in Entre Rios and Balcarce in Buenos Aires) to perform PCR tests for the detection of COVID-19. The laboratories were adapted under the biosafety protocols and the staff was trained for this task.

Policy interventions focused on restoring households' incomes and supporting firms, especially small and medium businesses, and with some income maintenance support measures for poor households and for people receiving the minimum pension. At the beginning of the COVID-19 outbreak the government announced the following specific measures to strengthen Argentina's social programmes:

- A rise in the unemployment insurance benefit.
- A bonus for beneficiaries of AUH (universal child allowance) and for retirees that earn the minimum pension.
- An emergency subsidy (Ingreso Familiar de Emergencia - IFE) of ARS 10 000 (USD 125) in April 2020 for those who are unemployed, for informal workers and for independent workers with the lowest incomes.
- A bonus for beneficiaries of the Food Card (Tarjeta Alimentaria).
- Price ceilings for some groceries, cleaning products, medicines and medical inputs.

The government also announced different measures to relieve companies of non-essential industries that are hit by the pandemic, and to protect the disposable income of their workers. In March 2020, the government decided to partially subsidise wage payments, and postpone or significantly reduce payroll taxes.[15] The relief package is expected to cost 3% of GDP (ARS 850 billion – USD 12 billion).

Trade policy developments in 2020-21

Following the Law 27.541 (Article 52) that authorised the government to modify the export tax of soya and other agricultural products to a maximum of 33% and 15%, respectively, in March 2020, Argentina (Decree 230/2020) modified certain export tax rates (Table 3.3). Export taxes for soybeans and soybean products increased from 30% to 33%, while they were reduced for maize and wheat flour, sunflower and peanuts. In turn, export taxes for a range of products were kept constant: maize, wheat, milk, beef and paddy rice. Export taxes on other products from outside the Pampean region such as wine, pears, apples, grapes, cotton and lemon were also kept constant at 5%.

Table 3.3. Argentinian export tax rates for selected products

	2019	2020 (Decree 230/2020)
Soybeans and derived products	30%	33%
Sunflower (grain and oil)	12%	7%
Maize and wheat	12%	12%
Maize Flours	9%	5%
Wheat Flour	9%	7%
Peanuts	12%	5%
Milk products	5%	5%
Beef	9%	9%
Paddy Rice	6%	6%

Source: Ministry of Agriculture, Livestock and Fisheries, and Decree 230/2020.

From October to December 2020, a temporary reduction in export taxes for soybeans and soybean products from 33% to 30% was implemented through Decree 789/2020 to incentivise farmers and exporters to sell. After 31 December 2020, the export tax for soybeans returned to 33% but for soybean products (oil and flour) was increased only to 31%. In December 2020, Decree 1060/20 fixed export tax rates at 0% for an important number of non-Pampean products such as olives, honey, fruits, tea, yerba mate and eggs. On 30 December 2020, the Ministry of Agriculture announced a ban on maize exports until 28 February 2021 as part of the government's policy to ensure feed inputs for the domestic food supply. In January 2021, after negotiations with private representatives of the maize value chain, it was agreed to allow exports and guarantee domestic supply at lower domestic prices but without imposing explicit bans or quantitative export restrictions.

In June 2019, the European Union and Mercosur reached a free trade agreement involving EU Member States and the members of Mercosur (Argentina, Brazil, Paraguay and Uruguay). The agreement includes a "Trade and Sustainable Development" chapter obliging to "implement measures to combat illegal logging and related trade" without detailing what these measures should comprise. During 2020, the agreement was under legal revision and public debate, and continues its process to be approved by the European Union Parliament and the Parliaments of the European Union Member States and Mercosur countries.

Drought has led to historically low water levels in the Paraná River, a key transportation route for grains and oilseeds from the Argentine main port in Rosario. The low levels hamper river trade, and from 10 to 12 May 2020, ships from Rosario had to reduce their freight by 22% to 39 million tonnes after an obstruction of the navigation channel for several days. On 16 May, Brazil agreed to release water from the Itaipú dam to alleviate Parana River's water level. Strikes at grain ports in protest against the deadlock in wage re-negotiations affected the shipment and unloading of grain in San Lorenzo and Rosario in November 2020.

Trade policy responses to the COVID-19 pandemic

The Southern Agricultural Council (joining Argentina, Brazil, Bolivia, Chile, Paraguay and Uruguay) made a joint declaration on 24 March guaranteeing the secure transit of trucks across their borders.

In June 2020, the Federal Revenue Agency (Administración Federal de Ingresos Públicos-AFIP) issued the Resolution 4728/2020 that allows the postponement of the payment of export duties for 60 days for companies registered in the Register of Micro, Small and Medium Enterprises (MiPyMEs Law 24,467). The measure was later extended until the end of December 2020. A similar exemption was applied to the export of leather products (Decree 549/2020).

On 16 March 2020, ships were not able to dock along the Paraná River in Rosario, the main port for soybean meal and oil exports in Argentina as procedures to clear the crew from contagious diseases was suspended due to the COVID-19 pandemic. On 19 March 2020, Timbues, another main port town announced the closure of ports and mills until 2 April in order to prevent the spread of the COVID-19. Only a few days later port terminals in Argentina were reopened to cargo following a government decree exempting export-related workers from preventive isolation. During the period of closure, shipments are reported to have been unaffected thanks to the reserves kept by companies at key terminals.

Contextual information

Argentina is an upper middle income country with an efficient agricultural sector that makes a growing contribution to the GDP, from 4.7% of the GDP in 2000 to 6.1% in 2019. In contrast, agriculture's share of employment is decreasing and well below 1%, with a high degree of mechanisation of the production in the Pampas region. The country is one of the world's largest agricultural exporters, and agro-food exports have been growing significantly in the last decades, representing 42% of total exports in 2000, and 56% in 2019. In contrast, agro-food imports represent only 7% of total imports.

Argentina has abundant agricultural land representing almost 5% of the total agricultural area of all countries covered in this report, although a large share constitutes pasture land. The share of livestock in the total value of production was 39% in 2019.

Table 3.4. Argentina: Contextual indicators

	Argentina		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	428	1 031	1.1%	0.9%
Population (million)	37	45	0.9%	0.9%
Land area (thousand km²)	2 737	2 737	3.3%	3.2%
Agricultural area (AA) (thousand ha)	128 510	148 768	4.2%	4.9%
			All countries[1]	
Population density (inhabitants/km²)	14	16	53	63
GDP per capita (USD in PPPs)	11 619	22 947	9 265	21 975
Trade as % of GDP	9	13	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	4.7	6.1	2.9	3.5
Agriculture share in employment (%)	0.7	0.1	-	-
Agro-food exports (% of total exports)	41.5	55.6	6.2	7.3
Agro-food imports (% of total imports)	5.4	6.7	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	59	61	-	-
Livestock in total agricultural production (%)	41	39	-	-
Share of arable land in AA (%)	22	26	32	34

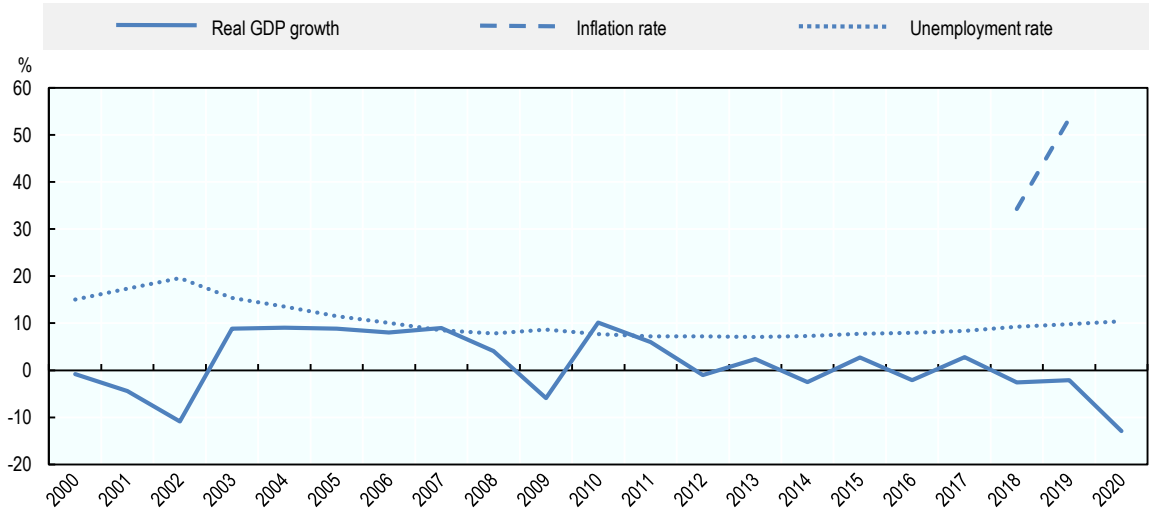
Notes: *or closest available year. 1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

The Argentine economy began to stall when the peso came under pressure in April 2018. The value of the peso vis-à-vis the USD was reduced by 40% in 2018, and by 75% in the period 2018-2020, plunging the economy into recession and inducing high annual inflation rates above 40%. Subject to exchange rate

controls, the electronic exchange market rate has diverged from the official rate. Adversely affected by COVID-19, the Argentine GDP declined by 13% in 2020

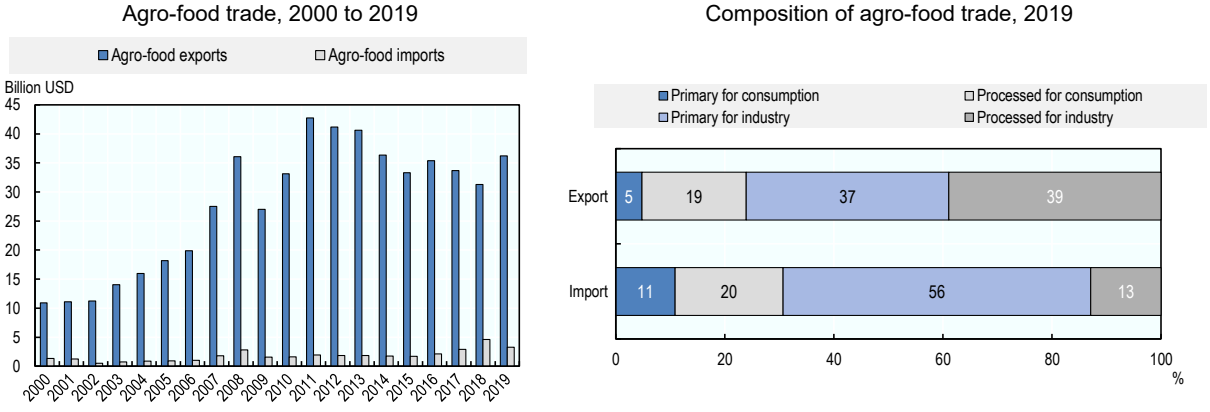
The agro-food trade surplus exceeded USD 30 billion in 2019. Most of agro-food exports (74%) are primary or processed products used as inputs in downstream industries abroad, whereas the much smaller bundle of agro-food imports is mostly composed of primary products for the industry.

Figure 3.5. Argentina: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 3.6. Argentina: Agro-food trade

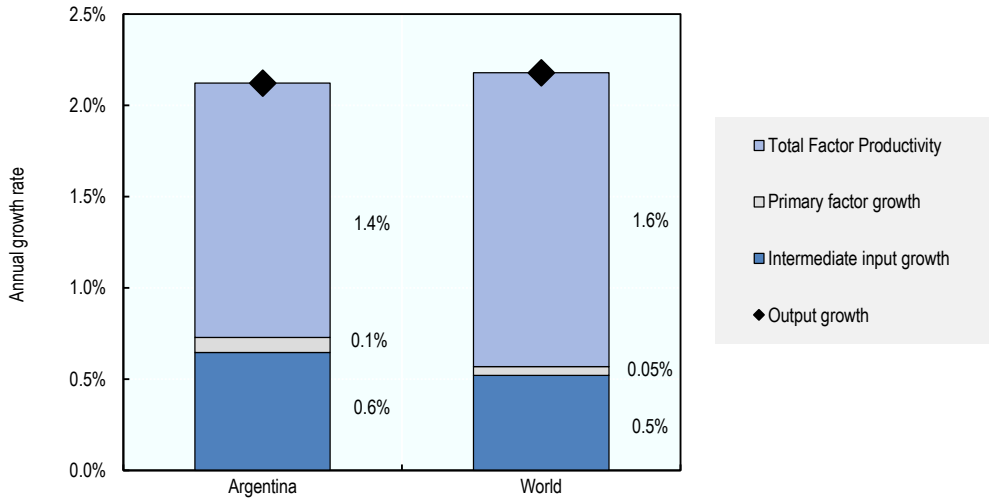


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database

Argentine agricultural production has grown at an annual rate of 2% between 2007 and 2016, similar to the world average. Within this total growth, 0.6% was due to an increase use of intermediate inputs, while the bulk of production growth (1.4%) was due to Total Factor Productivity (TFP) growth, that is, innovations and technical improvements in the way resources are used in production. The contribution of TFP to production growth is slightly below the world average.

Agricultural nutrient balances in Argentina are below the OECD average. The shares of agriculture in energy use and in greenhouse gas (GHG) emissions are, at 6.1% and 30.6% respectively, well above the OECD average, related to the importance of the sector in GDP and the large number of ruminants.

Figure 3.7. Argentina: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 3.5. Argentina: Productivity and environmental indicators

	Argentina		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	1.7%	1.4%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	2.1	6.9	33.2	28.9
Phosphorus balance, kg/ha	1.7	2.0	3.4	2.6
Agriculture share of total energy use (%)	5.8	6.1	1.7	2.0
Agriculture share of GHG emissions (%)	40.5	30.6	8.4	9.5
Share of irrigated land in AA (%)	..	1.6	-	-
Share of agriculture in water abstractions (%)	71.4	73.9	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

Reference

OECD (2019), *Agricultural Policies in Argentina*, OECD Food and Agricultural Reviews, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264311695-en. [1]

Notes

[1] Mercosur is a free trade agreement among South American countries including large agricultural exporters like Argentina, Brazil, Paraguay and Uruguay.

[2] http://www.senasa.gob.ar/normativas/resolucion-67-2019-senasa-servicio-nacional-de-sanidad-y-calidad-agroalimentaria.

[3] https://www.boletinoficial.gob.ar/detalleAviso/primera/215569/20190905.

[4] https://www.boletinoficial.gob.ar/detalleAviso/primera/220195/20191030.

[5] http://www.senasa.gob.ar/normativas/resolucion-350-1999-senasa-servicio-nacional-de-sanidad-y-calidad-agroalimentaria.

[6] https://bpa.cba.gov.ar/.

[7] https://www.entrerios.gov.ar/boletin/calendario/Boletin/2019/Enero/08-01-19.pdf.

[8] https://www.argentina.gob.ar/agricultura/cambio-climatico.

[9] https://datos.agroindustria.gob.ar/dataset/emisiones-de-gases-de-efecto-invernadero-provenientes-del-agro.

[10] http://servicios.infoleg.gob.ar/infolegInternet/anexos/135000-139999/136125/norma.htm.

[11] https://www.argentina.gob.ar/forestar2030.

[12] https://www.agroindustria.gob.ar/sitio/areas/sycf/.

[13] A farm is defined as a family farm if some of assets belong to the farmer and the farmer's household provides most of the labour.

[14] https://www.argentina.gob.ar/agricultura/covid-19.

[15] https://www.argentina.gob.ar/noticias/los-ministros-de-economia-y-de-desarrollo-productivo-anunciaron-un-paquete-de-medidas-para.

4 Australia

Support to agriculture

Australia's support to agricultural producers is among the lowest in the OECD area, estimated around 2% of gross farm receipts for 2018-20, with total support to agriculture (TSE) representing around 0.2% of GDP. Over time, the composition of the TSE moved away from producer support (PSE), and the share of general services support (GSSE) in total support increased from less than 10% in the late 1980s to 55% in 2018-20.

Market price support to producers ended in 2000 and domestic prices for Australia's main agricultural outputs are at parity with world prices since then. Around 48% of support provided to producers in 2018-20 was input subsidies. Much of these went to on-farm investments, including in response to adverse events. The bulk of remaining producer support (about 30% of the PSE) went towards income-smoothing programmes that address cashflow fluctuations, such as the Farm Management Deposits and income tax averaging arrangements. Notwithstanding and in addition to these programmes, disaster payments occurred in the recent period.

Approximately one-third of total public expenditure for agriculture is support for research, development and extension services, and Australia has an extensive agricultural knowledge and innovation system. Public expenditure on biosecurity inspection and control services, and to develop and upgrade infrastructure (mostly hydrological) represents the bulk of the remaining expenditure on general services.

Recent policy changes

Recent policy developments relate to adverse events: droughts, wildfires and the COVID-19 pandemic. Drought response programmes introduced in 2020 were funded through the Future Drought Fund. Programmes strengthened on-farm capacity and public investment in research and development, and improved access to climate information systems. The programmes channel public funds to region-based innovation generation and adoption, and to farms to develop strategic management skills and support the development of Farm Business Plans, among other activities. Innovation generation and adoption are also at the centre of the Agricultural Innovation Agenda. The agenda offers a regulatory environment enabling greater private sector participation in the innovation system.

The National Bushfire Recovery Fund formalised wildfire-recovery programmes that, while they place greater emphasis on the forestry sector, also support farm clean up and emergency response activities. The fund provides low-interest loans to affected farmers for working capital or larger investments. It also supports the Rural Financial Counselling Service providers in bushfire-affected regions, and industry-specific support to apple growers and wine grape producers.

Trade developments mainly relate to progress in trade agreements and facilitating access to export markets in the COVID-19 context. Trade agreements with Hong Kong, China; Peru; and Indonesia entered into force in 2020, in addition to the Pacific Agreement on Closer Economic Relations Plus (PACER Plus). The Regional Comprehensive Economic Partnership (RCEP) agreement between the Association of South

East Asian Nations (ASEAN), Australia, the People's Republic of China (hereafter "China"), Japan, Korea and New Zealand was signed on 15 November 2020. These include food and agriculture.

Australia is in separate FTA negotiations with the European Union and the United Kingdom. Negotiations have been on-going for an extended period with India, and with the Gulf Cooperation Council (GCC) and the Pacific Alliance Free Trade Agreement. Australia is also in the Environmental Goods Negotiations (undertaken in conjunction with 45 other WTO member countries) and the Trade in Services Agreement (TiSA) also undertaken with a sub-group of WTO members (DFAT, 2021[1]).

Several schemes aim to facilitate access to export markets through simplified regulations, digital tools, export market diversification and logistics support. The Busting Congestion for Agricultural Exporters package aims to simplify export regulations, limit export costs and accelerate exporters' use of digital services. It includes sector-specific support to seafood and live-animal exporters to transition towards data- and technology-enabled ways of meeting regulatory standards, improve the export regulatory environment of the meat industry and simplify plant exports.

The Agri-Business Expansion Initiative funds the Australian Trade and Investment Commission (Austrade) and the Australian Department of Agriculture, Water and the Environment (DAWE) to support farming, forestry and fishing exporters to expand and diversify export markets. The initiative also expands the Agricultural Trade and Market Access grant programme (ATMAC) through partnerships with industry associations. The International Freight Assistance Mechanism (IFAM) was established in April 2020 to help keep international supply chains open during COVID-19. Support is available to domestic connections for producers and growers in regional and rural areas that rely on airfreight.

Together with the enhanced use of digital technology, simplified regulations aimed to accelerate export processes under COVID-19 conditions. Industry-specific support was also introduced to ease the transition in industries exporting live animals and seafood, meat and plants.

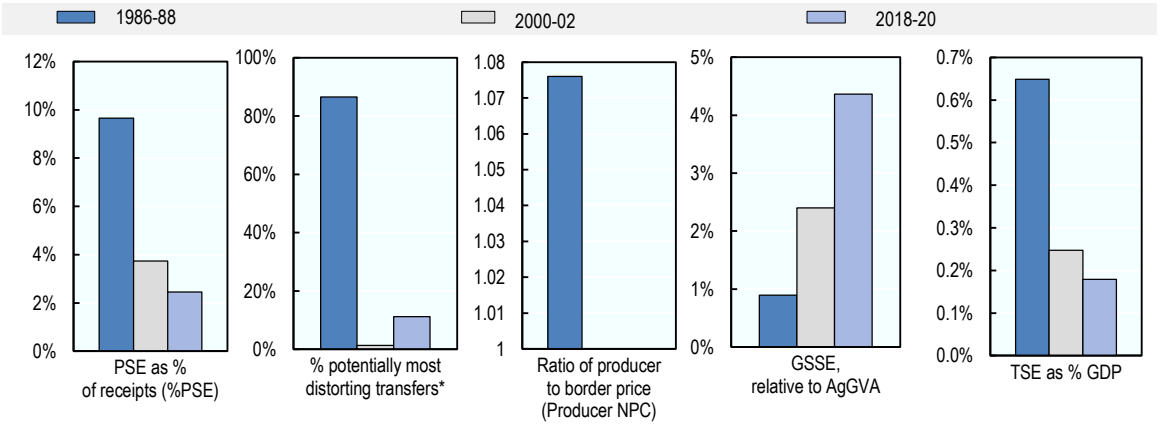
Assessment and recommendations

- Australia provides low levels of support to its agricultural sector. In recent years, public expenditure on services that support the sector as a whole exceeded support to individual farmers.
- Farm support comes through subsidised inputs and loans, and advisory and biosecurity services, together with financial risk management tools. Decline in farm income as a result of natural hazards is compensated at times through ad hoc grants, as was the recent case with challenging farming conditions caused by continued drought, wildfires and the COVID-19 pandemic. Concessions on credit, water rates, fodder transport subsidies and additional ad hoc payments were used. These policies contrast with past approaches that aimed to strengthen farm resilience to drought as a normal farming condition, and may encourage risk-taking by producers and disincentivise the sector's adaptation and transformation to future risks.
- Research and development are a major component of general services provided to the sector, while extension and education services receive smaller funding. Recent programmes increased funding to advisory services networks. The Future Drought Fund and Agricultural Innovation Agenda both encompass innovation generation and adoption. Knowledge transfer services should receive continued consideration, as they facilitate farmers' innovation take-up, which increases productivity and sustainability, and can build on-farm capacity to manage risks.
- Ensuring farm economic viability in the face of resource constraints – particularly with respect to water – remains the greatest challenge to Australia's agricultural sector. Reforms initiated water pricing mechanisms that help improve the alignment of incentives for water use with scarcity conditions in the Murray-Darling Basin (MDB). Investments support water use efficiency at both the farm level and in wider water management basins. Policymakers should continue to evaluate

existing policies and future projects to develop new sources of water outside of the MDB to ensure that they take longer-term climatic projections into account and do not incentivise behaviour that may worsen conditions for the sector's future.

- Despite wide acknowledgement that the changing climate affects Australia's farmers, the sector's role in contributing to climate change through emissions remains overlooked in terms of policy response. Information on the sector's emissions should be improved by the release of a new version of the FullCAM modelling tool. Improved evidence offers an opportunity to develop a more systematic and sector-wide approach in anticipation of future climate policies that may impact the sector to a greater extent than in the past. The FullCAM model is also to be used for calculations under the Emissions Reduction Fund (ERF).

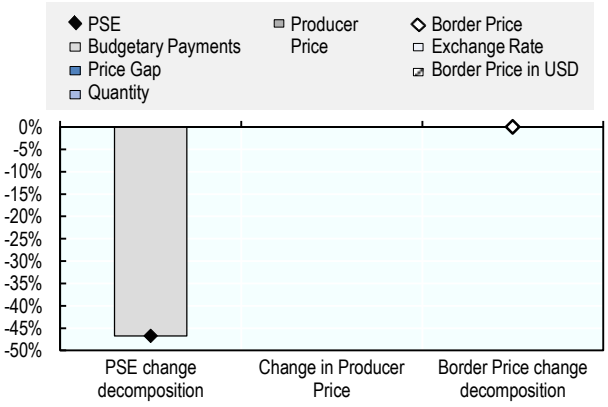
Figure 4.1. Australia: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/5opw1m

Figure 4.2. Australia: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/do5gqt

Table 4.1. Australia: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**14 358**	**19 605**	**44 208**	**45 527**	**42 316**	**44 783**
of which: *share of MPS commodities (%)*	82.4	74.3	73.0	73.2	72.5	73.4
Total value of consumption (at farm gate)	**5 072**	**7 514**	**20 629**	**22 700**	**22 320**	**16 867**
Producer Support Estimate (PSE)	**1 411**	**761**	**1 113**	**1 122**	**1 451**	**764**
Support based on commodity output	1 000	0	0	0	0	0
Market Price Support[1]	1 000	0	0	0	0	0
Positive Market Price Support	1 002	0	0	0	0	0
Negative Market Price Support	-2	0	0	0	0	0
Payments based on output	0	0	0	0	0	0
Payments based on input use	230	309	530	475	802	312
Based on variable input use	217	14	138	77	312	25
with input constraints	0	4	15	22	10	12
Based on fixed capital formation	4	145	271	218	330	265
with input constraints	0	0	13	30	6	4
Based on on-farm services	9	150	121	180	160	23
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	11	220	220	332	107
Based on Receipts / Income	0	11	220	220	332	107
Based on Area planted / Animal numbers	0	0	0	0	0	0
with input constraints	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	181	442	345	422	309	303
With variable payment rates	181	343	342	418	306	303
with commodity exceptions	0	110	207	276	174	172
With fixed payment rates	0	99	2	4	3	0
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	0	18	5	7	42
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	1	1	0
Based on other non-commodity criteria	0	0	18	4	7	42
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**9.7**	**3.7**	**2.5**	**2.4**	**3.3**	**1.7**
Producer NPC (coeff.)	**1.08**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Producer NAC (coeff.)	**1.11**	**1.04**	**1.03**	**1.02**	**1.03**	**1.02**
General Services Support Estimate (GSSE)	**98**	**370**	**1 376**	**1 452**	**1 001**	**1 674**
Agricultural knowledge and innovation system	95	252	729	795	692	700
Inspection and control	3	39	97	103	96	92
Development and maintenance of infrastructure	0	75	362	517	139	431
Marketing and promotion	0	4	176	30	61	436
Cost of public stockholding	0	0	0	0	0	0
Miscellaneous	0	0	11	7	12	15
Percentage GSSE (% of TSE)	**6.5**	**36.4**	**55.3**	**56.4**	**40.8**	**68.7**
Consumer Support Estimate (CSE)	**-513**	**-116**	**0**	**0**	**0**	**0**
Transfers to producers from consumers	-513	0	0	0	0	0
Other transfers from consumers	0	0	0	0	0	0
Transfers to consumers from taxpayers	0	-116	0	0	0	0
Excess feed cost	0	0	0	0	0	0
Percentage CSE (%)	**-10.1**	**-1.5**	**0.0**	**0.0**	**0.0**	**0.0**
Consumer NPC (coeff.)	**1.11**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Consumer NAC (coeff.)	**1.11**	**1.02**	**1.00**	**1.00**	**1.00**	**1.00**
Total Support Estimate (TSE)	**1 509**	**1 015**	**2 488**	**2 574**	**2 452**	**2 439**
Transfers from consumers	513	0	0	0	0	0
Transfers from taxpayers	996	1 015	2 488	2 574	2 452	2 439
Budget revenues	0	0	0	0	0	0
Percentage TSE (% of GDP)	**0.6**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
Total Budgetary Support Estimate (TBSE)	**509**	**1 015**	**2 488**	**2 574**	**2 452**	**2 439**
Percentage TBSE (% of GDP)	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
GDP deflator (1986-88=100)	**100**	**149**	**245**	**239**	**247**	**247**
Exchange rate (national currency per USD)	**1.40**	**1.83**	**1.41**	**1.34**	**1.44**	**1.45**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Australia are: wheat, barley, oats, sorghum, rice, soybean, rapeseed, sunflower, sugar, cotton, milk, beef and veal, sheep meat, wool, pig meat, poultry and eggs.
Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Before the 1980s, Australian agriculture was supported by a range of measures designed to maintain and stabilise farm income, and to provide farmers with market power to offset the perceived disadvantages of remoteness. In 1980, Australia had 65 statutory marketing boards that used border protection through tariffs and import controls to divide domestic and international markets, and set higher prices in domestic markets (Table 4.2).

Price stabilisation schemes assisted export industries such as wheat, manufactured dairy products, sugar and dried vine fruit. Other policy measures included fertiliser subsidies, income tax incentives, rural credit for and subsidies to agricultural research and extension, and public investment in land and water development and rural infrastructure.

Agricultural policy evolved significantly from the mid-1980s. Competition policy reforms in the 1980s and 1990s led to removing policies that distort agricultural production and trade. The National Drought Policy introduced in 1992 formalised the transfer of drought risk management to farmers and repurposed government support towards resilience-strengthening activities. Trade practices and anti-dumping legislation ensured competitive markets across the whole economy, reducing the need for sector-specific measures. Price stabilisation policies were relaxed, price and output controls removed and centralised marketing schemes gradually dismantled (Gray, Oss-Emer and Sheng, 2014[2]). Tariffs were reduced. Floating exchange rates and trade liberalisation reduced price volatility in agricultural commodities.

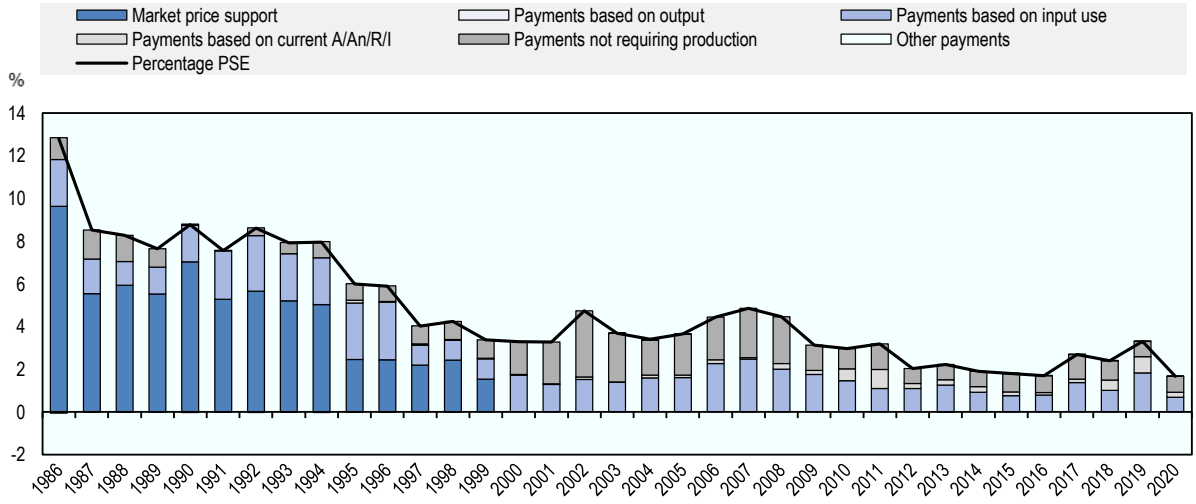
Table 4.2. Australia: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1980s	Closed economy (interventionist agriculture policy)	High tariffs Production quotas Price controls Tariff protection and import controls carried out by 65 statutory commodity marketing boards
1980-Present	Reforms and trade liberalisation	Floating exchange rates Removal of agricultural price and output controls Gradual dismantling of Statutory marketing authorities Reduction of agricultural tariffs of both outputs and inputs Sanitary and phytosanitary (SPS) measures continue

In Australia, total support to the sector is composed of general services and budgetary payments to producers; market price support disappeared since the late 1990s (Figure 4.1). PSE or support to producers was reduced to one of the lowest in OECD. It is mostly delivered through input use support and payments not requiring production.

Figure 4.3. Australia: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Australia's agricultural sector is market oriented, with domestic and international prices generally aligned. Support to agriculture comprises a mix of direct budgetary outlays, concessional loans and tax concessions. Direct support is provided to upgrade on-farm infrastructure that aims to improve natural resource use. Several programmes support the development and uptake of farming practices to enhance sustainability,[1] including through innovation take-up and pilot testing of certification schemes.[2]

Concessional loan schemes incentivise investments in weather and market risks preparedness. Income stabilisation tools such as the Farm Management Deposits scheme and income tax averaging arrangements further strengthen farm preparedness. These are supplemented with natural disaster payments and farm household income support during periods of hardship. Public funding is planned through the Disaster Recovery Funding Arrangements that came into force in 2018. The Drought Response, Resilience and Preparedness Plan was released in November 2019 and initially allocated AUD 3.5 billion (USD 2 billion). The Plan's FarmHub supports farmer access to weather information and improved weather information collection and dissemination. (Department of Agriculture, 2019[3]). Central and regional funding support large scale water infrastructure investments. Programmes also support farmers and land managers in **pests and weeds control** during drought.

Since 2018, the Regional Investment Corporation (RIC) administers farm business loans and support to States and Territories for water infrastructure projects. Changes to the portfolio of concessional loans are described in Domestic policy developments.

Given the low level of direct government support to farmers, research and development (R&D) programmes are a major component of Australian support to agriculture. A smaller portion of public expenditure goes to development and maintenance of large infrastructures and inspection services, including pest and disease control activities. Industry and governments cost-share the eradication of

outbreaks, while trade-related costs of biosecurity and food safety inspection services are covered by industry.

Rural research and development corporations (RDC) are the Australian Government's primary vehicle to support rural innovation. RDCs are a partnership between the government and industry created to share funding and strategic direction-setting for primary industry R&D, investment in R&D and subsequent adoption of R&D outputs. A levy system collects contributions from farmers to finance RDCs, and the Australian Government provides matching funding for the levies, up to legislated caps.

Improving market transparency is also part of the government's assistance to the food sector. One example is the mandatory dairy **code of conduct** under the authority of the Australian Competition and Consumer Commission, which came into force in January 2020 (ACCC).[3]

The Australian Climate Change policy directed towards agriculture seeks to address both adaptation and mitigation while, at the same time, developing responses that maintain and enhance productivity, profitability and food security. The policy was reviewed in 2017 and implementation of review outcomes began in 2019.

Australia's agricultural sector contributes as part of the land-based sectors to the country's response to the 2016 Paris Agreement on Climate Change. This includes a commitment to reduce the sector's greenhouse gas (GHG) emissions by between 26% and 28% in 2030 compared to 2005 levels, as defined in the Australian Nationally Determined Contribution (NDC).

Australia's Direct Action Plan supports whole-of-economy emissions cuts through government purchase of emission reductions by the Emission Reduction Fund (ERF). The ERF is a voluntary scheme, open to all sectors, to undertake emission reductions and carbon sequestration (capture and storage) projects that meet strict integrity requirements, including in relation to additionality. For agriculture, the Direct Action Plan builds on the Carbon Credits (Carbon Farming Initiative) Rule 2015, now integrated in the ERF. Under the scheme, landowners and farmers can earn alternative and additional income through sales of generated Australian Carbon Credit Units to the government or third parties. The scheme is amended periodically,[4] offering space for improving issues identified. These include the ability of the scheme to deliver additional carbon abatement relative to what may have occurred anyway (Burke, 2016[4]; Freebairn, 2016[5]), and for the funded projects to deliver on their intended reductions.

Australia's agriculture is trade oriented with fifteen comprehensive regional or bilateral free trade agreements in force.[5] Policies support access to export markets, including helping small exporters overcome market access barriers and costs associated with exports registration. While imports of agriculture and food products, on average, face lower tariff rates than non-agricultural goods,[6] a number of SPS measures are in place to manage pest and disease risks that could harm the sector. These SPS arrangements mean that a number of import restrictions are in place for imports of agricultural products from certain regions.

Domestic policy developments in 2020-21

Recent policy developments were mostly related to adverse events; droughts, wildfires and the COVID-19 pandemic that affected Australia's economy and farm sector. Building on the current menu of policy tools, support was deployed at farm and sector levels.

The eight programme headings under the AUD 5 billion (USD 3.4 billion) Future Drought Fund were announced in July 2020. The largest envelopes are for the Drought Resilience Research and Adoption Program (AUD 86 million or USD 59 million over four years) in the form of grants provided to eight region-based Adoption and Innovation Hubs; and for the Farm Business Resilience Program (AUD 20 million or USD 14 million) for farmer training to develop strategic management skills and support the development of a Farm Business Plan. Other headings support Regional Drought Resilience Planning with a focus on

cross territorial collaboration and stakeholder participation; a digital Climate Service for Agriculture platform targeted to farmers' drought and climate decision making needs; and Natural Resource Management programmes available to regional resource management bodies for landscape related actions that improve drought resilience, and to farmers and farmer groups to build resilience through management practices. Government support under the programme also goes to the development of an online Drought Resilience Self-Assessment Tool for farmers. The tool will be developed with end-users and is expected to help farmers assess their exposure to drought and other climate risks, based on economic, social and environmental indicators.

In response to the continued effects of droughts, the government widened and reinforced the range of existing programmes and introduced new measures at the farm and sectoral levels. **Drought response** measures include loans, water infrastructure support, advisory services, as well as research and development and improved access to specialised weather information. The government increased by AUD 2 billion (USD 1.4 billion) the budget for concessional loans available to farm businesses and managed through the Regional Investment Corporation (RIC), and made available two-year interest free terms to eligible applications up to 30 September 2021. RIC's farm business drought loans support farm businesses to recover, manage through or prepare for droughts. Their eligibilty was widened to cover more areas. In addition, small businesses that directly provide primary production related goods and services to farm businesses in specific geographic areas have access to the preferential conditions of the AgBiz Drought loan (OECD, 2020[6]). The Rural Financial Counselling Service (RFCS) was attributed AUD 62 million (USD 43 million) for the period from July 2021 to June 2024.

On-farm support is provided for **water infrastructure** as well as pest and weed control. The on-farm Emergency Water Infrastructure Rebate Scheme foreseen under the Drought Response, Resilience and Preparedness Plan was reinforced to reach AUD 100 million (USD 60 million). The scheme supports the purchase and installation of on-farm water infrastructure for permanent plantings and livestock farmers.

Response to the 2019-20 wildfires is delivered through the AUD 2.1 billion (USD 1.4 billion) National Bushfire Recovery Fund, announced in January 2020. **Low interest loans** are available since January 2020 to affected farmers for up to AUD 500 000 (USD 344 000), with varying amounts and duration for working capital or larger investments.[7] A two-year interest free repayment deferral period applies to these loans. Agriculture related measures under the fund consist of clean-up and emergency response activities. **Sectoral subsidies** are provided to apple growers to assist them to re-establish their apple orchards and to wine grape producers whose losses are not covered by the Disaster Recovery Funding Arrangement. The fund also supports the Rural Financial Counselling Service providers in bushfire-affected regions.

A new concessional loan product was introduced through the RIC in January 2021. The AgriStarter loan supports sector entry as well as farm succession arrangements with loans of up to AUD 2 million (UD 1.4 million) from the overall AUD 75 million (USD 52 million) budget.

The National Agricultural Innovation Agenda was announced in September 2020 and its implementation is planned to begin in 2021. The agenda considers innovation generation and adoption, and foreshadows the regulatory environment enabling greater private sector participation in the innovation system.

Funds attributed to the **Emissions Reduction Fund** were increased to AUD 4.6 billion (USD 3 billion) with an additional AUD 2 billion (USD 1.4 billion) made available to farmers from the Climate Solutions Fund,[8] for projects relating to land and water quality improvements and adaptation to drought.

Trade policy developments in 2020-21

Australia's trade policy seeks further market opening through multilateral, bilateral and regional trade agreements (DFAT, 2021[1]). Recent developments were mainly related to progress in trade agreements and facilitating access to export markets in the COVID-19 context.

Four free trade agreements came into force in 2020 and one was signed that is not yet in force. The Australia-Hong Kong, China Free Trade Agreement entered into force on 17 January 2020. At this date, custom duties were eliminated for all goods including food and agriculture, while special provisions apply to imports into Australia. On 11 February 2020, the Peru-Australia Free Trade Agreement (PAFTA) entered into force. At this date, most duties on food and agricultural goods were eliminated and the elimination of remaining duties is scheduled during the subsequent four-year period. The Indonesia-Australia Comprehensive Economic Partnership Agreement (IA-CEPA) entered into force on 5 July 2020.

The Pacific Agreement on Closer Economic Relations Plus (PACER Plus) entered into force on 13 December 2020[9]. Beyond its free trade dimension covering sanitary and phytosanitary (SPS) measures, rules of origin, customs, trade in goods and services and investment; PACER Plus provides for AUD 19 million (USD 13 million) to support Pacific Island parties with the implementation of the trade agreement and benefit from regional and global trade more generally (DFAT, 2021[1]). It will also help support the region's economic recovery from the COVID-19 pandemic.

The Regional Comprehensive Economic Partnership (RCEP) agreement between Australia, the Association of South East Asian Nations (ASEAN) member states and China, Japan, Korea and New Zealand was signed on 15 November 2020. The agreement includes agriculture and will enter into force 60 days after six ASEAN members and three non-ASEAN members have ratified the agreement.

Australia is currently engaged in FTA negotiations with the European Union (launched in 2018), and with the United Kingdom (launched in 2020). Negotiations have been on-going for an extended period with India, with the Gulf Cooperation Council (GCC), and the Pacific Alliance Free Trade Agreement. Australia also engages in the plurilateral Environmental Goods Negotiations (undertaken in conjunction with 45 other WTO member countries) and the Trade in Services Agreement (TiSA) also undertaken with a sub-group of WTO members (DFAT, 2021[1]).

Standards that apply to exports of livestock, the Australian Standards for the Export of Livestock (ASEL), are reviewed every three years to ensure that the standards remain fit for purpose and reflect the latest science. The latest version of the ASEL (ASEL 3.1) was published in March 2021.

The enactment of the Biosecurity Amendment (Traveller Declarations and Other Measures) Act 2020 increases penalties and extends the biosecurity-related visa cancellation grounds from 1 January 2021 to travellers who fail to declare high risk goods identified in a pre-established list including live animals, meat and meat products, seeds and live plants.

Trade policy responses to the COVID-19 pandemic

The Busting Congestion for Agricultural Exporters package was announced in 2020 with AUD 328 million (USD 226 million) over four years. It aims to simplify export regulations, limit export costs and accelerate exporters' use of digital services. It includes sector specific support to help seafood and live animal exporters transition toward data and technology enabled ways to meet regulatory standards, to improve the export regulatory environment of the meat industry and to simplify plant exports.

Government support to access export markets was reinforced subsequently with several programmes. The Agri-Business Expansion Initiative was announced in December 2020, more than half of the AUD 73 million (USD 50 million) under this initiative is attributed to Austrade to support farming, forestry and fishing exporters to expand and diversify their export markets in 2021. The initiative also expands the Agricultural Trade and Market Access grant programme (ATMAC) through an additional AUD 18.4 million (USD 13 million) in funding over two years. The revised programme enables government to develop strategic partnerships with industry to support the agriculture, fisheries and forestry sectors' efforts to improve and diversify access to overseas markets by mobilising research, training, and capital works that support market diversification among other actions. The **International Freight Assistance Mechanism** (IFAM) was established in April 2020 to help keep international supply chains open during COVID-19. Its

initial budget was increased in July and October 2020 and March 2021 to total AUD 782 million (USD 538 million). The funding also supports domestic connections for producers and growers in regional and rural areas that rely on airfreight to get their products to existing markets. The Package Assisting Small Exporters (PASE) helps small exporters to overcome market access barriers and costs associated with exports registration, it is in place four years up to 2022 with a total budget of AUD 5 million (USD 3 million).

Contextual information

Australia is the world's 14th largest economy (in 2019) and the sixth largest country by land area, accounting for 12% of all agricultural land in the countries included in this report but only 0.5% of the population. The country's GDP per capita is more than twice the average of the countries covered in this report (Table 4.3). Agriculture represents a small share in the economy, but contributes significantly to total exports. Australia is an important producer and exporter of agricultural products, making the country a key supplier to world markets for agricultural products.[10]

Table 4.3. Australia: Contextual indicators

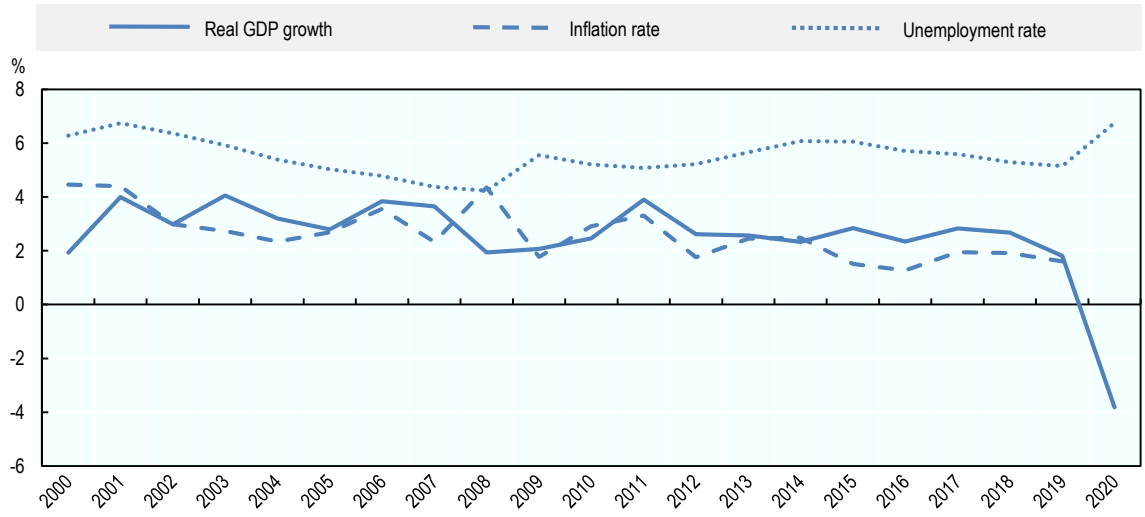
	Australia		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	538	1 420	1.3%	1.2%
Population (million)	19	25	0.4%	0.5%
Land area (thousand km²)	7 682	7 692	9.2%	9.1%
Agricultural area (AA) (thousand ha)	455 469	358 895	14.9%	11.8%
			All countries[1]	
Population density (inhabitants/km²)	2	3	53	63
GDP per capita (USD in PPPs)	28 249	55 962	9 265	21 975
Trade as % of GDP	17	18	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	3.8	2.0	2.9	3.5
Agriculture share in employment (%)	4.8	2.6	-	-
Agro-food exports (% of total exports)	23.1	12.4	6.2	7.3
Agro-food imports (% of total imports)	4.3	6.9	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	55	45	-	-
Livestock in total agricultural production (%)	45	55	-	-
Share of arable land in AA (%)	5	9	32	34

Notes: *or closest available year. 1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Years of consistent positive economic growth came to a halt in 2020 when the economy shrunk by 4% and unemployment rose by 30% to 7% as a consequence of the COVID-19 pandemic and related restrictions (Figure 4.4).

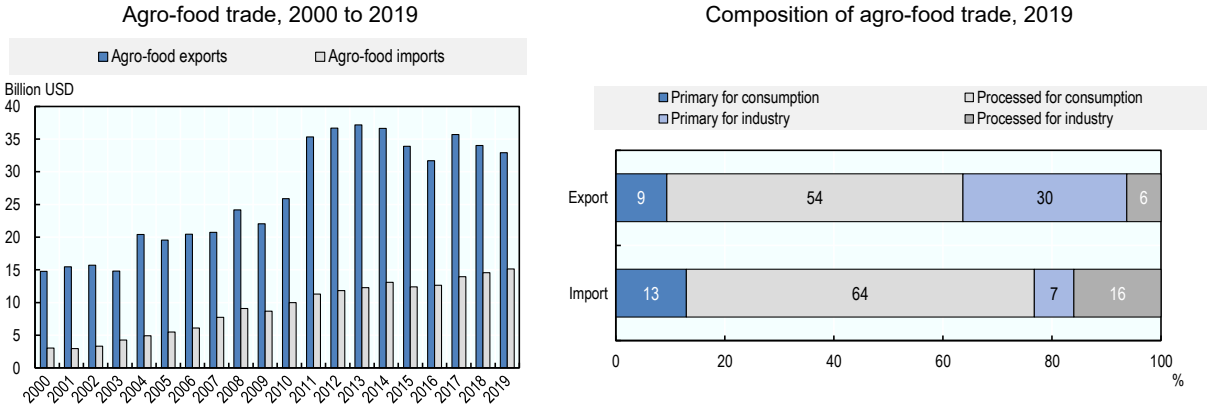
Australia's agro-food sector is well integrated into world markets; imports are sizeable as are exports and the country is a consistent and significant net exporter. Processed goods for final consumption and further processing make up 60% of the country's agro-food exports. Approximately three-quarters of Australia's agro-food imports go to domestic final consumption and the remaining share (23%) is destined for the processing industry (Figure 4.5).

Figure 4.4. Australia: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

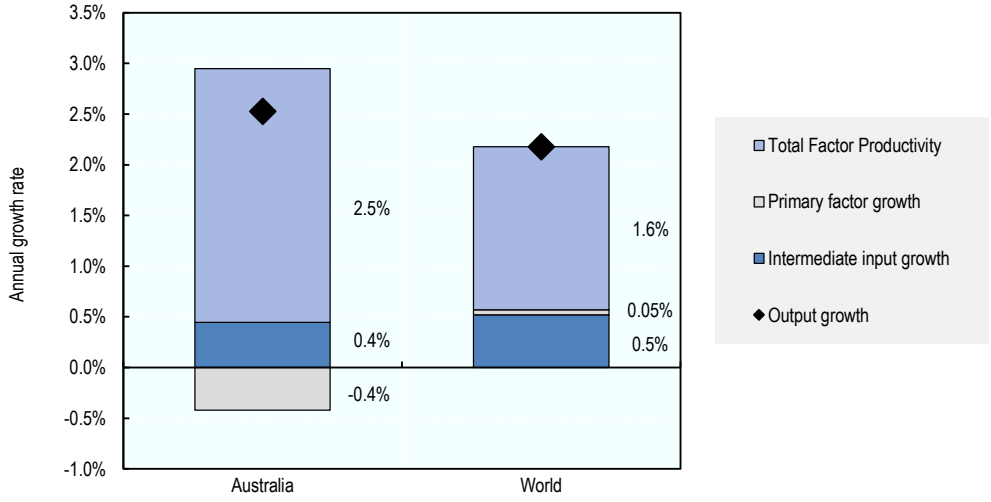
Figure 4.5. Australia: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Over the 2007-16 period, total factor productivity (TFP) growth in Australia (2.5% per year) outpaced the world average, driven by continued structural adjustment and the uptake of innovative technologies and practices in the sector (Figure 4.6). Average TFP growth slowed compared to 1991-2000 partly due to challenging climate conditions (Table 4.4). Water availability and competition with other sectors is a particularly limiting factor, which may be exacerbated by climate change.

Figure 4.6. Australia: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 4.4. Australia: Productivity and environmental indicators

	Australia		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	3.3%	2.5%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	20.7	19.8	33.2	28.9
Phosphorus balance, kg/ha	1.3	0.8	3.4	2.6
Agriculture share of total energy use (%)	2.3	3.2	1.7	2.0
Agriculture share of GHG emissions (%)	16.9	13.5	8.4	9.5
Share of irrigated land in AA (%)	0.5	0.6	-	-
Share of agriculture in water abstractions (%)[1]	67.7	70	46.0	43.4
Water stress indicator	5.4	4.2	9.3	8.5

Notes: *or closest available year.
1. Data are not comparable between time periods, 2019 data from (Australian Bureau of Meteorology, 2020[7]).
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Crawford School of Public Policy, T. (ed.) (2016), "Undermined by Adverse Selection: Australia's Direct Action Abatement Subsidies", *CCEP Working Paper* No. 1605, http://dx.doi.org/10.2139/ssrn.2783542. [4]

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DFAT (2021), *Australia's free trade agreements (FTAs)*, https://www.dfat.gov.au/trade/agreements/Pages/trade-agreements (accessed on 30 March 2021). [1]

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Notes

[1] The Smart Farms Program (Agriculture) and Regional Land Partnerships under the second phase of the National Landcare Program 2019-23 http://www.nrm.gov.au/national-landcare-program.

[2] The Agriculture Stewardship Package https://www.agriculture.gov.au/about/reporting/budget/sustaining-future-australian-farming.

[3] https://www.legislation.gov.au/Details/F2019L01610.

[4] Last updated in April 2019 https://www.legislation.gov.au/Series/F2015L00156.

[5] These include with New Zealand (ANZCERTA 1983), Singapore (SAFTA 2003), Thailand (TAFTA 2005), the United States (AUSFTA 2005), Chile (AClFTA 2009), the ASEAN-Australia-New Zealand Free Trade Area (AANZFTA 2010), Malaysia (MAFTA 2013), Republic of Korea (KAFTA 2014), Japan (JAEPA 2015), the People's Republic of China (ChAFTA 2015), the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP 2018), Australia-Hong Kong (A-HKFTA 2020), Peru-Australia (PAFTA 2020), Indonesia-Australia Comprehensive Economic Partnership Agreement (IA-CEPA 2020) and the Pacific Agreement on Closer Economic Relations (PACER Plus 2020).

[6] https://www.wto.org/english/res_e/statis_e/daily_update_e/tariff_profiles/NZ_E.pdf.

[7] https://www.raa.nsw.gov.au/disaster-assistance/special-disaster-loan-bushfires

[8] https://www.environment.gov.au/climate-change/climate-solutions-package.

[9] The eight participating countries include Australia, Cook Islands, Kiribati, New Zealand, Niue, Samoa, Solomon Islands and Tonga.

[10] Based on UN Comtrade data, Australia ranked 6th world exporter of agro-food products in the 2017-19 period.

5 Brazil

Support to agriculture

Brazil's relatively low levels of support and protection to its agricultural sector reflect its position as a competitive exporter. Producer support as a share of gross farm receipts (PSE) fell from 7.6% to 1.5% between 2000-02 and 2018-20. In the last five years, PSE fell both in nominal terms and as a percentage of gross farm receipts. There is very little market price support (MPS) and domestic prices almost fully align with international markets with a ratio (NPC) of 1.00. Most support to producers is through input payments, in particular concessional credit, and to lesser extent crop insurance. Concessional credit is available for farm marketing and working capital, but also for investment fixed capital. The products with the highest rates of specific commodity transfer (SCT) were wheat, rice and cotton, all below 10% of commodity gross farm receipts.

Since 2008, all support based on input use – mainly to credit and insurance – is conditional on environmental criteria and farming practices. As a result, the share of potentially most-distorting support fell to 21% of cumulated gross producer transfers in 2018-20 compared to 66% in 2000-02.

Support to general services (GSSE), more than 90% of which supports research, development and innovation, grew to represent 39% of the Total Support Estimate (TSE) in 2018-20. However, expenditure on GSSE fell from 3.6% of agricultural gross value-added in 2000-02 to 2.5% in 2018-20, indicating that the rise in expenditures did not keep pace with the sector's growth. As a percentage of GDP, the TSE declined from 0.7% in 2000-02 to 0.3% in 2018-20.

Recent policy changes

Several measures implemented during 2020 confirmed Brazil's commitment to rural credit as its main agricultural policy tool. New legislation known as the Agro Law has created financial mechanisms to attract funds for rural credit. Pronaf[1] reduced the preferential annual interest rates for rural credit by 1-2 percentage points, down to 2.75% for some credit lines for small producers. In response to the COVID-19 situation, Brazil improved preferential conditions on some credit lines and postponed credit reimbursement.

The expansion of rural insurance subsidies continued in 2020, while new initiatives were taken to monitor and improve the insurance system. A new project uses video conferences for surveys to monitor agricultural insurance implementation. A digital platform is underway to disclose information and facilitate the development of applications. And a new training programme was implemented to improve the capacity of insurance indemnity experts. Meanwhile research is underway to improve the National Agricultural Zoning Programme for Climate Risk (ZARC 4.0) by modernising the methods and information on most suitable planting periods.

The COVID-19 stimulus package of the Ministry of the Economy included several social measures for vulnerable households. The Ministry of Agriculture expanded its programmes of purchase from small

producers with simultaneous donations to vulnerable populations (PAA) and allowed the continuation of distribution of foodstuffs to students through the National School Feeding Programme (PNAE).

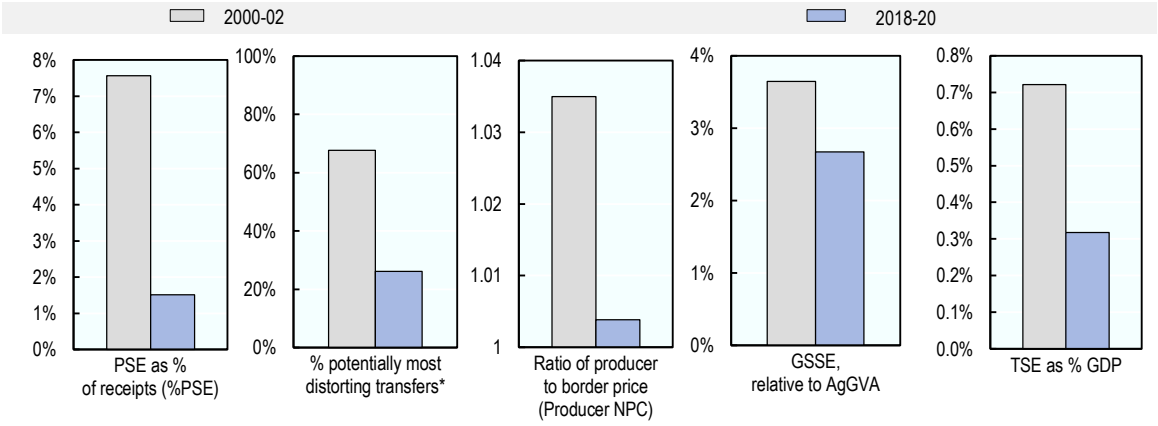
A main priority of the government was to guarantee the flow of food supply to the Brazilian population during the pandemic, declaring the whole food and agriculture value chains as essential activities during the pandemic. A monitoring system is in place to follow the risks of restriction of the flows in the food value chain.

Assessment and recommendations

- Agricultural credit at preferential interest rates represents a significant share of agricultural support in Brazil. The National Rural Credit System (NRCS), based on compulsory quotas of bank deposits dedicated to rural credit, does not explicitly target well-defined objectives. Reform of the concessional credit system could consider further downsizing concessional loans for working capital to commercial farms. Simplified regulations and procedures for commercial credit could facilitate access by rural borrowers. Some credit programmes like Inovagro, Moderinfra and Moderagro are targeted to innovation. Agricultural credit support could further improve targeting to specific outcomes, such as on-farm investments that explicitly enhance innovative and advanced farm management, and environmental practices. The Low Carbon Agricultural Programme (ABC) is one of the main programmes designed to modernise sustainable production systems and mitigate emissions through Low Carbon Emission Agriculture; it points in the right direction, but represents a small share of supported rural credit.
- Insurance subsidy programmes require continuous monitoring and evaluation. It is essential to continue strengthening their information base while ensuring efficient use of public funds, monitoring their impacts and ensuring they do not crowd out market solutions.
- Insurance and credit support are conditional on environmental criteria and zoning rules that encourage environmental improvements. The impact of environmental conditionality set by the Environmental Rural Registry (CAR), the Agricultural Risk Zoning (ZARC) and the Forestry Code needs to be assessed with respect to specific outcomes, such as targets related to deforestation and GHG emissions. This assessment should be the basis for improving policy design for environmental conditionality and specific programs such as ABC credit and initiatives against deforestation. Brazil has no agricultural sector-specific mitigation targets in its Nationally Determined Contributions (NDC), but well-designed policies for agriculture, forestry and land use can contribute to implementing strategies for climate change mitigation and adaptation.
- Access to export markets is crucial for Brazilian agriculture. The agreement between Mercosur and the European Union should open new opportunities for Brazilian exports. In this respect, efforts should continue to improve animal health and traceability, while good environmental performance may also facilitate the conclusion of trade agreements and market access.
- Almost 40% of total support to the agricultural sector in 2018-20 goes to general services, particularly the knowledge and innovation system. The agricultural innovation system succeeds in maintaining relatively high productivity growth in the commercial sector. It is important to maintain Brazil's significant research capacity, notably through the Brazilian Agricultural Research Corporation (EMBRAPA), and increase the diffusion of innovations to a wider range of smaller farmers.
- Brazil responded to the COVID-19 pandemic with a stimulus package, an expansion of social programmes, including Bolsa Familia to ensure access to food, and monitoring of food value chains by developing protocols to facilitate their continued smooth functioning. Expansion and flexibility in the implementation of credit and insurance programmes have been the main agricultural policy

responses, and an ex-post evaluation of their impact on those in need could help build a policy environment that enhances resilience.

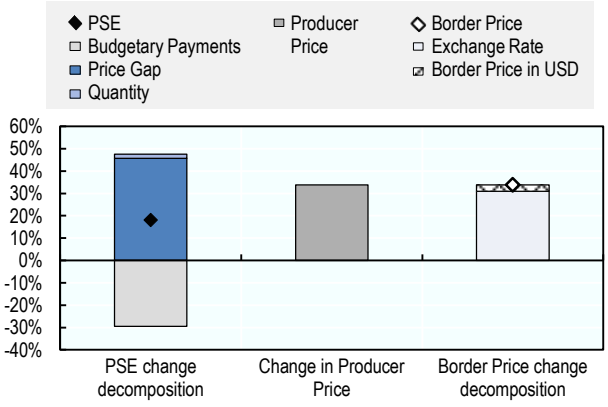
Figure 5.1. Brazil: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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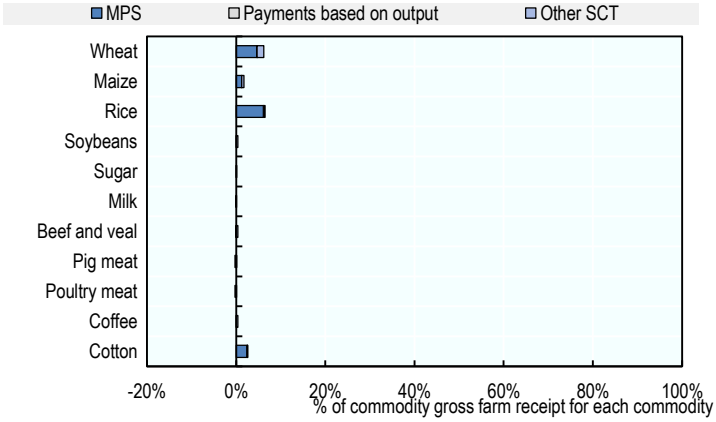
Figure 5.2. Brazil: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/af2iyu

Figure 5.3. Brazil: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/7ey6la

Table 5.1. Brazil: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**35 538**	**148 431**	**147 639**	**147 878**	**149 777**
***of which:** share of MPS commodities (%)*	77.5	87.2	87.1	86.0	88.5
Total value of consumption (at farm gate)	**34 573**	**88 477**	**86 962**	**88 999**	**89 471**
Producer Support Estimate (PSE)	**2 869**	**2 311**	**2 650**	**2 249**	**2 033**
Support based on commodity output	1 013	462	459	63	864
Market Price Support[1]	973	455	448	56	863
Positive Market Price Support	1 179	509	448	56	1 023
Negative Market Price Support	-206	-54	0	0	-161
Payments based on output	40	6	11	7	2
Payments based on input use	1 856	1 768	2 159	2 067	1 078
Based on variable input use	825	745	823	995	416
with input constraints	0	745	823	995	416
Based on fixed capital formation	955	995	1 289	1 050	646
with input constraints	0	995	1 289	1 050	646
Based on on-farm services	76	28	46	21	16
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	81	32	119	91
Based on Receipts / Income	0	81	32	119	91
Based on Area planted / Animal numbers	0	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**7.6**	**1.5**	**1.8**	**1.5**	**1.3**
Producer NPC (coeff.)	**1.04**	**1.00**	**1.00**	**1.00**	**1.01**
Producer NAC (coeff.)	**1.08**	**1.02**	**1.02**	**1.02**	**1.01**
General Services Support Estimate (GSSE)	**1 242**	**2 078**	**2 221**	**2 189**	**1 824**
Agricultural knowledge and innovation system	663	1 914	2 012	2 028	1 700
Inspection and control	51	17	20	17	13
Development and maintenance of infrastructure	471	80	104	77	59
Marketing and promotion	5	4	7	4	3
Cost of public stockholding	53	63	77	63	49
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**29.8**	**38.8**	**36.7**	**40.2**	**39.4**
Consumer Support Estimate (CSE)	**-1 184**	**572**	**913**	**875**	**-72**
Transfers to producers from consumers	-1 176	-375	-188	-56	-883
Other transfers from consumers	-284	-95	-74	-73	-137
Transfers to consumers from taxpayers	31	982	1 175	1 004	768
Excess feed cost	245	60	0	0	179
Percentage CSE (%)	**-3.4**	**0.6**	**1.1**	**1.0**	**-0.1**
Consumer NPC (coeff.)	**1.04**	**1.01**	**1.00**	**1.00**	**1.01**
Consumer NAC (coeff.)	**1.03**	**0.99**	**0.99**	**0.99**	**1.00**
Total Support Estimate (TSE)	**4 143**	**5 371**	**6 045**	**5 441**	**4 625**
Transfers from consumers	1 460	470	262	129	1 020
Transfers from taxpayers	2 967	4 995	5 857	5 385	3 743
Budget revenues	-284	-95	-74	-73	-137
Percentage TSE (% of GDP)	**0.7**	**0.3**	**0.3**	**0.3**	**0.3**
Total Budgetary Support Estimate (TBSE)	**3 169**	**4 915**	**5 597**	**5 385**	**3 763**
Percentage TBSE (% of GDP)	**0.6**	**0.3**	**0.3**	**0.3**	**0.3**
GDP deflator (2000-02=100)	**100**	**364**	**349**	**364**	**378**
Exchange rate (national currency per USD)	**2.37**	**4.25**	**3.65**	**3.94**	**5.15**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Brazil are: wheat, maize, rice, soybean, sugar, milk, beef and veal, pig meat, poultry, cotton, coffee.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Brazil has a history of government intervention in the agricultural sector. Price interventions were introduced in the 1940s amid food security concerns (OECD, 2015[1]; OECD, 2005[2]). From the 1950s, Brazil adopted an import-substitution industrialisation strategy, which involved wide-ranging controls over supply and prices in the agro-food sector. Prices were both supported for producers and subsidised to consumers.

The National Agency for Food Supplies SUNAB regulated distribution of basic foodstuffs and set prices and profit margins for all levels of the food chain, including low prices for consumers. This agency also controlled agro-food imports and exports. At the producer level, a general price support system existed for rice, maize, soybeans, beans, cassava, and cotton. Another government agency, the Company for Production Financing CFP, carried out direct purchases of these commodities at minimum guaranteed prices. Marketing boards were created for wheat, sugar and coffee. They set overall production volumes, administered marketing quotas, and controlled prices and trade.

These policies continued until the late 1980s, when the government began to reform Brazil's economy. The economy began restructuring in the 1990s: trade was liberalised, state owned enterprises privatised, domestic markets deregulated and a customs union established with other South American countries (Mercosur). Agricultural policies were no exception to this move towards openness and less state intervention. State enterprises related to agriculture were dismantled or their functions reduced. Agricultural import tariffs were substantially reduced. Export licensing for primary agricultural products was removed. Brazilian producers faced fewer controls and obtained freer access to world commodity and input markets.

Since the mid-2000s, policy emphasised support to smallholders, and minimum prices for staples produced in the poorest regions of the country were established. Government enhanced purchases of staple foods to be distributed to poor populations, and mandatory sugar cane ethanol fuel-blending continued to be imposed at ratios set by the state. All of these measures remain in place (Table 5.2).

Table 5.2. Brazil: Agricultural policy trends

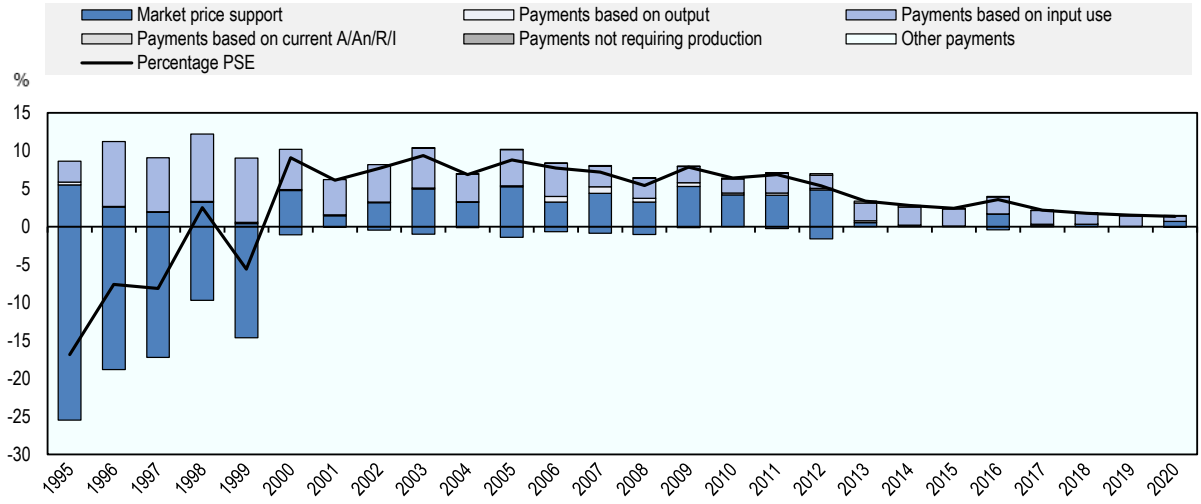
Period	Broader framework	Changes in agricultural policies
Prior to 1990s	Import Substitution Industrialisation model Closed economy	Fixed exchange rates High agricultural tariffs Production and marketing control of agricultural products (CFP state company) Minimum agricultural prices for producers (CFP state company) Subsidised prices of agricultural products for consumers (SUNAB state company)
1990-2005	Reforms to trade liberalisation	Floating exchange rates Removal of agricultural price and output controls Reduction of agricultural tariffs of both outputs and inputs Dismantling of marketing boards for wheat, sugar and coffee Dismantling of SUNAB and CFP WTO agreement and Mercosur signed Minimum prices of basic products kept but reduced Subsidised credits (working capital and marketing loans) enhanced as the financial crisis hit farmers Liberalisation of the wheat, coffee and sugar sectors Consumption of sugar cane ethanol stimulated through obligatory blending of ethanol with gasoline

Period	Broader framework	Changes in agricultural policies
2005-2015	Continuing reforms	Creation of the Ministry of Agrarian Development (smallholders) Subsidised agricultural credit and insurance subsidies as main agricultural policy, supported by the Law of agribusiness bonds 11076/2004. Minimum prices of basic products set for smallholders through government purchases of staple foods Sugar cane ethanol ratio policy continues to apply Government purchases of staples kept in order to provide food to poor populations
2015-present	Institutional changes	Dismantling of the Ministry of Agrarian Development (Smallholders) in 2016 Relatively low support, with subsidised credit continuing as key agricultural policy tool New competences of the Ministry of of Agriculture, Livestock and Supply includes small-scale family farming, agrarian reform, aquaculture, fisheries and forests

Brazil's support to agricultural producers included market price support and input subsidies in the 2000s, up to 10% of gross farm receipts. Market price support has gradually disappeared. In recent years, total support in Brazil is mostly in the form of budgetary support, in particular for producers' inputs and for the provision of general services. Consumer support is also an important part of support since the 2000s, particularly for vulnerable and poor populations. Brazil provides a relatively low aggregate level of support and protection to agriculture, reflecting its position as a competitive exporter and price maker for a range of commodities. Market price support is almost inexistent, and producer support is dominated by subsidised credit and insurance subsidies (Figure 5.4).

Figure 5.4. Brazil: Level and PSE composition by support categories, 1995 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Brazil's main instruments of agricultural policy are: rural credit, implemented and developed since the 1960s; risk management programmes, including subsidised insurance programmes introduced in 2005; some administered prices and marketing interventions; and disaster payments. Other policy instruments include agricultural land zoning, with environmental compliance, and promotion of biofuels. The annual

Agricultural and Livestock Plan (PAP) administered by the Ministry of Agriculture, Livestock and Food Supply (MAPA) defines the key parameters of agricultural policy. Since 2019, small-scale family agriculture previously managed by the Special Secretariat for Family Agriculture and Agrarian Development (MDA) directly under the Presidency, also falls under MAPA.

Despite the reduction of price support to very low levels, this form of support retains regionally set **minimum guaranteed prices**, which cover a broad range of crops and a few livestock products such as cow and goat milk, and honey. These are set by the National Monetary Council (CMN) considering domestic and international prices, and the evolution of production costs in different locations. To secure these minimum guaranteed prices, the government implements several price support mechanisms on the domestic market, including direct government purchases (AGF programme), premiums to commercial buyers who pay minimum fixed prices to producers, and public and private options contracts backed by a private risk premium option. In addition, producers receive reduced-interest marketing loans, which enable them to withhold the sale of a product in anticipation of a higher market price. The National Food Supply Agency (CONAB) operates these programmes on behalf of MAPA. Several programmes offer deficiency payments calculated as the difference between the market price and the minimum (reference) price (e.g. the Rural Equity Prize programme called PEPRO, and the Product Reward Prize programme known as PEP).

Agricultural credit is the major policy instrument supporting both commercial, medium and small-scale family farms. It is designed and implemented in co-operation between the Central Bank, the Treasury (Ministry of the Economy) and the Ministry of Agriculture. Most rural credit is earmarked under the National Rural Credit System (SNCR) and provided at preferential interest rates with differentiated conditions for small farmers (PRONAF) and medium size farmers (PRONAMP) compared to commercial farms. The main sources of preferential rural credit are Compulsory Resources or lending quotas, equivalent to 27.5% of sight deposits in commercial banks and 59% of Rural Saving deposits, Constitutional Funds and loans from the National Bank for Economic and Social Development (BNDES). Additional sources of preferential rural credit are the Coffee Fund (FUNCAFÉ) and the Agribusiness Credit Notes called LCAs (Letras de Crédito do Agronegócio). These are fixed-income securities backed by credit transactions linked to agribusiness, of which 35% have to be allocated to rural credit at interest rates not fixed by government policy. Major agricultural **debt rescheduling** occurred during the late 1990s and early 2000s for both commercial and family producers. Since then, support is provided through debt rescheduling arrangements that are set to end by 2022.

Brazil has other specific credit lines and programmes to promote **sustainable agricultural practices**, mainly the Low Carbon Agricultural Programme. These include credit for the recovery of fragile areas and pastureland, the implementation of organic agriculture and livestock production systems, the implementation and improvement of no-till farming systems, plantings on unproductive and degraded soils, forest planting, improved production systems and the preservation of natural resources.

Four main agricultural **insurance** programmes provide support either in the form of insurance premium subsidies or by compensating farmers for production losses due to natural disasters. Two target commercial farmers: the rural insurance premium programme (PSR) grants insurance premium subsidies to commercial producers who establish contracts with insurance companies listed by the government; and the general agriculture insurance programme (PROAGRO) for farmers contracting credit offers partial compensation for bank debts on working capital loans indemnifying losses of own resources invested in production. Most resources from this programme are allocated to the southern region for grain crops, mainly soybeans. Small-scale family farms can benefit from two other programmes: the PROAGRO-Mais or family agriculture insurance (SEAF); and the crop guarantee programme in the north-east of the country (Garantía Safra, GS).

All rural credit is conditional on **compliance with environmental criteria** defined for the Environmental Rural Registry (CAR). Working capital credit is conditional on **agricultural zoning** of climatic risks

(Agricultural Risk Zoning ZARC), which links agricultural support to farming practices and activities adapted for the environmental sustainability of each geographical zone. Compliance with zoning is required to access concessional rural credit, subsidised insurance programmes and PROAGRO. Since 2008, access to subsidised credit for agricultural production in the Amazon biome requires compliance with environmental regulations, in particular land use regulations set out in the Forestry Code. Rural environmental registration of geo-referenced information on rural property, including property perimeters, location of Permanent Preservation Areas, Legal Reserves, Restricted Use Areas, and areas of agricultural production is compulsory across the country since 2012. Access to rural credit also requires compliance with the Environmental Rural Registry (CAR), a mandatory digital registration.

Biofuels production is supported since the launch of the National Alcohol Programme (Pró-Álcool) and the Plan of Production of Vegetable Oils for Energy Purposes (Pró-Óleo) in 1975. The main tool is compulsory blending of gasoline and ethanol (mainly from sugar cane). The National Programme for the Production and Use of Biodiesel (PNPB) from oilseeds was launched in 2004 to improve environmental performance and energy independence. In 2017, the national policy initiative RenovaBio launched to foster the implementation of GHG emission reduction commitments under the Paris Agreement on Climate Change by increasing the supply of alternatives to fossil fuels.

Domestic policy developments in 2020-21

In July 2020, the MAPA released the Agricultural and Livestock plan 2020/21 (PSA). The plan defines the maximum resources for rural credit (BRL 236.3 billion or USD 53 billion) with an increase of 6.1% compared to the 2019/20 plan. The resources for investment credit represent 24% of the total, the rest being dedicated to working capital and commercialisation, with shares similar to 2019. Credit for small producers represents 14% (PRONAF) and for medium producers an additional 14% (PRONAMP), while 72% of the resources are dedicated to other producers not qualified for the former two. The continuity of rural investment is also supported by the new Law 13.986 of 7 April 2020 (known as the “Agro” Law). This law creates new mechanisms to attract funds for rural credit:

- strengthening the diversification of agricultural credit resources
- creating a solidarity fund to guarantee agricultural financing
- opening the possibility for farmers to submit, partially or entirely, their rural property as credit guarantee
- extending the benefit of the agricultural credit interest rate subsidy to all financial agents, beyond federal public banks and co-operative banks

The inflation rate in Brazil continued to fall from 10.7% in 2015 to 3.3% in 2019 and 2.7% in 2020, and the decrease in the reference interest rate SELIC was even larger from 14.2% to 4.5% and 2% in the same period. In this context, preferential interest rates were reduced by 1-2 percentage points in most rural credit programmes (Table 5.3); to 2.75% or 4% for small producers (PRONAF), 5% for medium-size producers (PROMAMP) and 6% for the rest.

Table 5.3. Interest rates for rural credit in Brazil

Annual percentage rates

	2019-20	2020-21
Working Capital		
Pronaf (small producers)	3.0 to 4.6	2.75 to 4.0
Pronamp (medium producers)	6.0	5.0
Other producers	8.0	6.0
Investment		
Moderfrota	8.5	7.5
ABC (Low carbon)	5.25 to 7.0	4.5 to 6.0

Source: Plano Agricola e Pecuario 2020-2021.

The available resources for the GHG Emission Reduction Program (ABC) has increased by 19.5% reaching BRL 2.5 billion (USD 561 million) in 2020-21. These funds are now allowed to finance the replenishment of the legal environmental reserve of permanent protection areas (ABC Ambiental), benefiting from the lowest interest rate in business agriculture (4.5%). The rest of credit under the ABC programme is subject to a 6% interest rate.

The amount of rural insurance subsidies in 2020 doubled to BRL 881 million (USD 197 million) compared to the previous year, and BRL 1 061 million (USD 238 million) is foreseen in the Annual Budget Law Project (PLOA) for 2021. This will allow to support the contracting of 233 000 rural insurance policies for 127 000 producers, in addition to providing coverage of 16 million hectares and a total insurance value of BRL 55 billion (USD 12.3 billon). BRL 50 million (USD 11.2 million) was reserved for the more isolated north and northeast regions.

A new project to monitor agricultural insurance was implemented in 2020 and is set to continue up to 2022. A system of video conferences helps to evaluate the services provided by insurance companies and to propose improvement in the insurance system in co-operation with farmers' organisations. A digital platform is to be developed to disclose this information and facilitate access and the development of applications and systems integration. A new training programme in 2020-21 aims to improve the capacities of 760 insurance experts to enhance the technical methods of estimating damages.

Decree no. 9.841, of 18 June 2019, institutionalised the National Agricultural Zoning Program Climate Risk (ZARC) and in 2020, "ZARC 4.0" will be implemented in order to integrate various technical risk data agro-climatic, management, soils and producing indications of risk of drops in productivity. An agreement between the Ministry of Agriculture and EMBRAPA with the Central Bank will allow financing research on the ZARC, with the objective of expanding the cultures and production systems with zoning in the country and modernising the methods and information on more suitable planting periods. The objective is to minimise the risks related to adverse climatic phenomena. In 2020, 11 crops and production systems were reviewed by the ZARC.

Amid expectations of short supplies and recovering diesel consumption, the National Petroleum Agency in Brazil reduced the volume of biodiesel blended with diesel sold at the pump from 12% to 10%. The measures applied between September and October 2020.

The National Agency of Sanitary Surveillance (ANVISA) published new regulations on nutrition labelling of packaged food products. This regulation requires signalling high levels of sugar, saturated fat, and sodium, which are to be included on the front panel of food and beverage products. However, the new legislation will go into effect two years after its publication.

Domestic policy responses to the COVID-19 pandemic

The Ministry of Economy has led a stimulus package of BRL 1 169 trillion (USD 233.8 billion), including support for workers and most vulnerable population, aids to states and municipalities, credit measures, keeping employment in companies and fighting the pandemic disease. Congress approved the legislative decree of public calamity up to 31 December 2020, which provides fiscal flexibility to the government. A constitutional amendment allowed to have a "War Budget" (PEC) permitting the expansion of public expenditure. A waiver of custom duties on health products needed for the pandemic was approved to avoid shortages, and administrative procedures were simplified.

Together with the Ministry of Economy, MAPA facilitated the postponement and renegotiation of rural credit debts, expanded the timeline of the harvest plan and guaranteed liquidity for a large part of rural producers. Rural credit lines with more preferential conditions (including simplified administrative procedures) were provided for commercial farmers and small producers (under PRONAF). These measures will be maintained for as long as the effects of the crisis affect the agricultural sector. Despite the crisis generated by the COVID-19 pandemic, the value of the credit and insurance increased in 2020 in line with previous trends, and the total insured area reached a historical maximum in 2020.

The payment of the Guarantee-Safra benefit insurance programme in the north and northeast regions, normally paid in five instalments, in 2020 was made in a single instalment (Ministerial Ordinance 15/2020 of 14 April).

The main objective of MAPA's response to the COVID-19 pandemic was to guarantee the flow of food supply to the Brazilian population and to the rest of the world. In March 2020, the whole food and agriculture value chains, from agricultural inputs to consumers' products and services, were declared as essential activities during the pandemic. The risks of disruptions of the production flow, from the supply of inputs to the production of agroindustry have been closely monitored. To contain the effects of the pandemic in essential food activities and to preserve the health of people who are directly involved, Brazil has developed protocols for the operation of food production and marketing environments within the precepts of the World Health Organization and the Ministry of Health of Brazil.

Several measures addressed the impact of the pandemic on the most vulnerable population, including farm households. In particular, these include: a temporary transfer of monthly allowance to unemployed and informal workers, accounting, respectively for 11% and 41% of the labour force; the reinforcement of cash transfer under the Family Aid Program (Bolsa Família), including over 1 million beneficiaries; the postponement of real estate financing reimbursing payments for three months, benefiting 800 000 families; and other measures related to employment, energy supply, and income tax.

The Purchase with Simultaneous Donation modality (PAA) received an additional budget of BRL 370 million (USD 71.8 million) from MAPA to purchase food produced by small farmers and their co-operatives for the subsequent donation to the population vulnerable to nutritional risk (Provisional Measure 957/2020 of 27 April 2020) (Government of Brazil, 2020[3]). The PAA Milk modality received an additional budget of BRL 130 million (USD 25.2 million). The Law 13.987 of 7 April 2020 allowed to continue the distribution of foodstuffs purchased with resources from the National School Feeding Programme (PNAE) to parents or guardians of public school students during the period of suspension of classes.

Trade policy developments in 2020-21

In order to contain food price inflation, in October the Executive Management Committee of the Chamber of Foreign Trade in Brazil announced the temporary suspension of non-Mercosur import tariffs on soybeans, soymeal and soy oil until 15 January 2021, and on maize until 31 March 2021 (AMIS, 2020[4]). Import tariffs were previously 8% for maize and soybean, 6% for soymeal and 10% for soy oil. On 18 November 2020, the Brazilian National Energy Policy Council published a resolution to allow the use of imported oilseeds in the production of biodiesel. Brazil also announced in September 2020 that it will

suspend import duties on a quota of 400 000 tonnes of paddy and milled (or semi-milled) rice from outside the Mercosur area until the end of the year.

Since September 2020, Brazil reinstated a 20% tariff on US Ethanol imports, following the expiration of a one-year exemption from import duties for up to 750 million tonnes. However, duty-free imports will be allowed through a tariff rate quota (TRQ) system.

The United States and Brazil agreed to update Protocols on Trade Rules and Transparency to further facilitate bilateral trade flows. In particular, the use of electronic documents and approval systems is enhanced and phytosanitary certificates and customs declarations can now be submitted and accepted by traders electronically.

In June 2019, the European Union and Mercosur reached a free trade agreement involving EU Member States and the members of Mercosur (Argentina, Brazil, Paraguay and Uruguay). The agreement includes a "Trade and Sustainable Development" chapter obliging to "implement measures to combat illegal logging and related trade" without detailing what these measures should comprise. During 2020, the agreement was under legal revision and public debate, and continues its process to be approved by the Parliaments of the European Union, its Member States and Mercosur countries.

Trade policy responses to the COVID-19 pandemic

Brazil agribusiness exports were not negatively affected by the pandemic crisis and increased 5.7% in the period January-October, from USD 81.2 billion in 2019 to USD 85.8 billion in 2020. The main destination for this export continues to be China whose imports account for 41% of Brazil agricultural exports.

Contextual information

Brazil is the largest country in Latin America in area and population, and one of the ten biggest economies of the world. It has abundant land and water resources and is a major agricultural producer and exporter. The share of agriculture in Brazil's GDP has fallen from 5.5 % in 2000 to 5.3% in 2019, while the share in employment has halved during this period to 9.2%. These shares remain higher than in most other countries covered in this report. Agro-food exports have grown, representing 36% of total exports. Brazil accounts for 4.1% of the population of countries covered in this report, and for 7.8% of all agricultural land. Arable land accounts for 24% of Brazilian agricultural land.

Brazil is among the world's leaders in the production of soybeans, poultry, beef, cotton, corn, and orange juice, being the third biggest exporter of agro-food products after the European Union and the United States. Two-thirds of the total value of agricultural production are crop products, and one-third livestock products. The main product in Brazilian exports is soybeans (grain, meal, and oil), which represent almost 50% of the agro-food exports.

Table 5.4. Brazil: Contextual indicators

	Brazil		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	1,584	4 137	4.0%	3.6%
Population (million)	175	211	4.1%	4.1%
Land area (thousand km²)	8 358	8 358	10.0%	9.9%
Agricultural area (AA) (thousand ha)	228 324	236 879	7.5%	7.8%
			All countries[1]	
Population density (inhabitants/km²)	21	25	53	63
GDP per capita (USD in PPPs)	9 061	15 259	9 265	21 975
Trade as % of GDP	8	11	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	5.5	5.3	2.9	3.5
Agriculture share in employment (%)	16.5	9.2	-	-
Agro-food exports (% of total exports)	23.4	36.1	6.2	7.3
Agro-food imports (% of total imports)	7.1	5.8	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	67	64	-	-
Livestock in total agricultural production (%)	33	37	-	-
Share of arable land in AA (%)	20	24	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

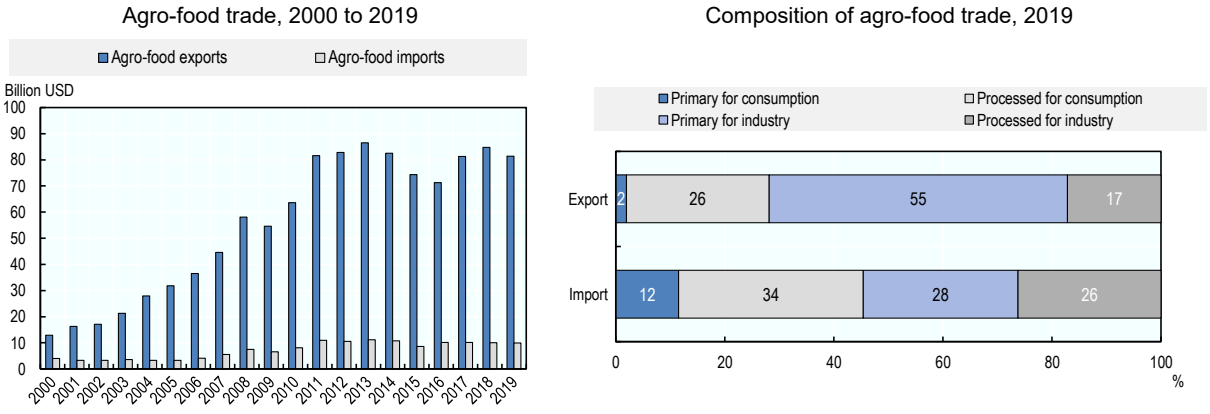
Brazilian GDP has been growing at moderate rates just below 2% between 2017 and 2019, but the economy shrunk by 6% in 2020 during the COVID 19 crisis. Inflation has stabilised at around 3.5%, but unemployment is high with rates above 10%. Agro-food exports in Brazil are above USD 80 billion per year since 2017, generating an annual agro-food trade surplus of more than USD 70 billion. While 55% of Brazilian agro-food exports are primary products for industry (including soybeans), more than 60% of the country's imports are processed products.

Figure 5.5. Brazil: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 5.6. Brazil: Agro-food trade

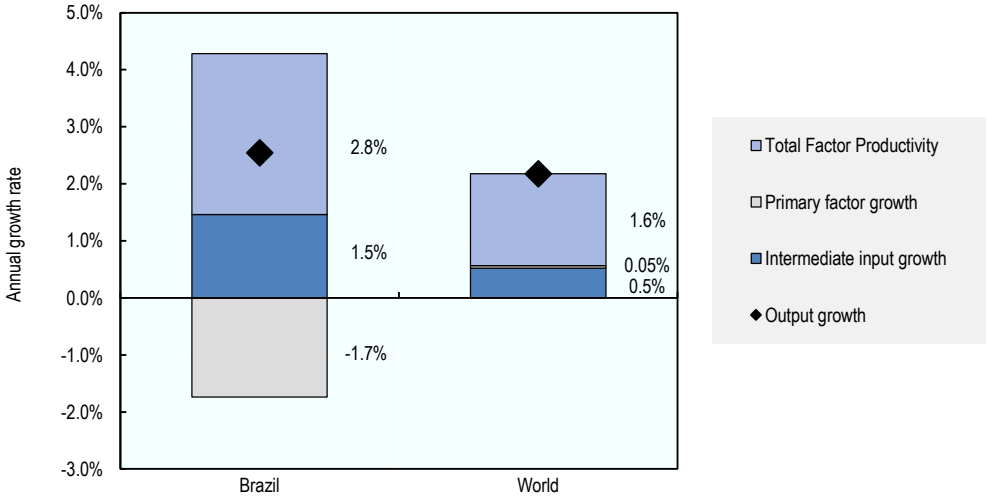


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Between 2007 and 2016, Brazilian agricultural production increased at an annual rate of 2.8%, slightly above the world's output growth. Increases in production were driven by a growth in Total Factor Productivity (TFP) of 2.8% per year, well above the global average, but also by an increased use of intermediary inputs. In parallel, the use of primary factors in agricultural production declined.

Agriculture accounted for 42% of GHG emissions in 2019, which is below the level observed in 2000 but still well above the OECD average. The use of energy by the agricultural sector has increased up to 5.6% of total use in 2019, also above OECD average. The larger share of the agricultural sector in the Brazilian economy and the importance of pasture-based livestock contribute to these outcomes. Even if the share of agriculture in water abstractions remained high at 60%, but water stress is low. Nutrient surpluses in Brazil have increased since 2000, and the phosphorous balance is six times the OECD average.

Figure 5.7. Brazil: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 5.5. Brazil: Productivity and environmental indicators

	Brazil		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	1.9%	2.8%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	26.8	28.2	33.2	28.9
Phosphorus balance, kg/ha	11.7	16.1	3.4	2.6
Agriculture share of total energy use (%)	4.8	5.6	1.7	2.0
Agriculture share of GHG emissions (%)	45.2	41.8	8.4	9.5
Share of irrigated land in AA (%)	1.3	2.1	-	-
Share of agriculture in water abstractions (%)	57.0	60.0	46.0	43.4
Water stress indicator	0.5	0.7	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

References

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Note

[1] Pronaf is the main credit programme for small farmers in Brazil.

6 Canada

Support to agriculture

Canada significantly reduced support to agriculture since the late 1980s. Producer support as a share of gross farm receipts was halved between 1986-88 and 2000-02, in large part because market price support (MPS) to the grains industry was discontinued in 1995. Producer support was halved again between 2000-02 and 2018-20, and now accounts for about 9% of gross farm receipts – about half of the OECD average.

Despite past reductions, MPS dominates support to producers – even though it is limited to the dairy, poultry and egg sectors, which remain under supply management – with custom tariffs, production quotas and price-setting putting domestic prices above world prices. Milk in particular receives high single commodity transfers at 34% of its commodity gross farm receipts. On average, prices received by farmers in 2018-20 were 5% higher than world markets, while prices for commodities not under supply management aligned with world levels.

Payments based on unconstrained use of variable inputs, notably fuel, also are potentially most-distorting. Together with MPS, these represented 60% of cumulated gross producer transfers in 2018-20, or 5% of gross farm receipts. Other budgetary support to individual producers focused on risk management.

Support to general services (GSSE) declined relative to the size of the sector, indicating that rising expenditures have not kept pace with the sector's growth. These amounted to 5.1% of agricultural value-added during 2018-20, down from 7.6% at the beginning of the century. In terms of composition, the top two priorities for Canada are consistently expenditures on agricultural knowledge and innovation, and inspection and control systems, each accounting for about 40% of GSSE expenditures in recent years. However, while agricultural knowledge and innovation held a relatively stable share of the GSSE since the late 1980s, the share of expenditures devoted to inspection and control systems increased by 17 percentage points over the same period.

Overall, the cost of total support to the agricultural sector fell. The total support estimate represented 0.3% of Canada's GDP in 2018-20, down from 1.6% in 1986-88 and 0.7% in 2000-02, well below the OECD average. Of this total support, 72% went to individual farmers in the past three years, with almost all the remainder to general services.

Recent policy changes

The government of Canada released its A Healthy Environment and a Healthy Economy plan on 11 December 2020. Within this framework, the government plans to support the agricultural sector by the following actions: (1) invest to support the development of transformative clean technologies and the adoption of commercially available clean technology over seven years; (2) set a national target for emissions from fertilisers reduced to 30% below 2020 levels; and (3) boost climate-smart agriculture under the current Canadian Agricultural Partnership.

New requirements related to licensing, preventive controls and traceability under the Safe Food for Canadians Regulations applied to relevant food manufacturing businesses on 15 July 2020. However, due to the COVID-19 pandemic, the Canadian Food Inspection Agency did not prioritise compliance related to these new requirements.

The Canada-United States-Mexico Agreement entered into force on 1 July 2020, replacing the North American Free Trade Agreement (NAFTA). The agreement continues tariff-free access for most agricultural commodities, expands market access for some additional commodities, and provides new rules for governing agricultural biotechnology, and sanitary and phytosanitary measures. Canada and the United Kingdom signed the Canada–UK Trade Continuity Agreement on 9 December 2020 to ensure trade continuity between the parties after the Brexit transition period.

Much of Canada's policy efforts in 2020 focused on the impacts of the COVID-19 crisis on agricultural production, the food chain and consumers. In the international arena, Canada advocated for open and predictable trade in agriculture and agro-food[1] products.[2] Domestically, Canada's federal and provincial governments implemented multiple measures to support the sector in various areas:

- To alleviate financial pressure on farmers and food producers, both federal and provincial governments adjusted and enhanced targeted programmes, including loan deferrals for eligible farmers through Farm Credit Canada and under the Advance Payments Program, and changes to a number of the Business Risk Management programme parameters and deadlines.
- To address the insufficient supply of labour in the agro-food sector, the government of Canada designated workers in the food supply chain as essential; allowed temporary foreign workers to travel to Canada, with the expectation that workers and employers comply with public health and safety requirements (including 14-day mandatory quarantine upon arrival during which wages are paid); and reduced the administrative burden for employers. Furthermore, the government of Canada created the Temporary Foreign Worker Program and the Mandatory Isolation Support for Temporary Foreign Workers Program, and provided additional funds for the AAFC's Youth Employment and Skills Program.
- To boost agro-food businesses' capacity to adapt and recover after the crisis, the federal government invested in the Emergency Processing Fund to help companies implement changes to safeguard the health and safety of workers and to improve, automate and modernise their facilities.
- To support critical food inspection, funding went to the Canadian Food Inspection Agency (CFIA). CFIA temporarily suspended certain low-risk inspection activities to reassign existing employees to higher priority activities.
- To provide food assistance to vulnerable populations, the government of Canada funded food banks and other national food rescue organisations through the Emergency Food Security Fund and launched the Surplus Food Rescue Program.

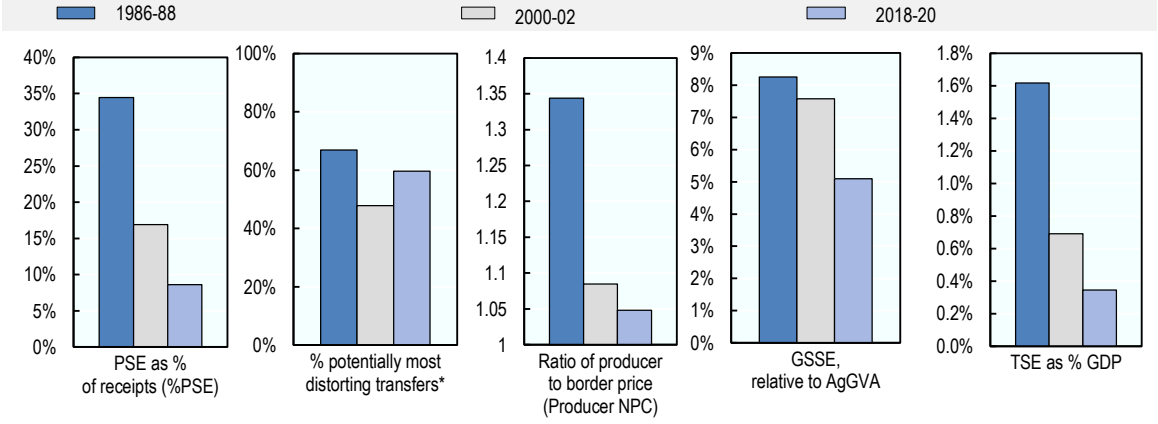
Assessment and recommendations

- The Canadian Agricultural Partnership Framework Agreement for 2018-23 continues to emphasise general services support to the sector through programmes that target industry-led research and development, adoption of innovation, and inspection and control systems. This policy focus should remain, aiming to improve the sector's long-term competitiveness and sustainability.
- Although producer support relative to gross farm receipts was well below the OECD average in recent years, potentially most-distorting transfers remain the main component of transfers to producers – particularly market price transfers to the dairy sector. For most commodities, domestic market prices fully align with world prices, but the dairy, poultry and egg sectors continue to be

protected from international competition and receive market price support, which distorts production and trade. As a step towards phasing out supply management for these commodities, the available quotas should increase, and price support for the dairy, poultry and egg sectors should be reduced. This would encourage greater market responsiveness, stimulate innovation (to increase efficiency and diversify towards higher value products), and reduce quota rents.

- The Canadian agro-food system performed reasonably well during the COVID-19 pandemic. However, the crisis brought to light vulnerabilities, such as issues around labour supply and food insecurity, which should be addressed in a coherent way (Arrell Food Institute and Canadian Agri-Food Institute, 2021[1]). The crisis presents an opportunity to build on this experience to achieve a more resilient and sustainable food system.
- The 2018-23 agricultural policy framework provides farmers with an array of risk management tools. The Canadian approach to risk management evolved over time, aiming to reduce reliance on ad hoc policy responses and shifting towards a more proactive policy framework. Nonetheless, holistic evaluation of the performance of the risk management policy toolkit and additional resilience-building programmes could enable adoption on a larger scale of the most successful programmes, stimulate the development of market-based tools, and encourage farmers to find better ways of managing risks at farm level. Furthermore, long-term resilience of the sector could benefit from exploring linkages and trade-offs between business risk management programmes and environmental outcomes (OECD, 2020[2]).
- The Healthy Environment and a Healthy Economy plan is a promising step in reducing negative environmental externalities from agriculture and boosting the sector's sustainability. However, monitoring and impact assessment will be crucial to achieve the policy's ambitions.

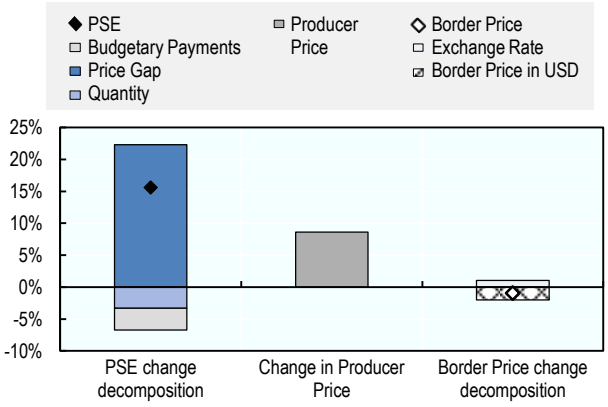
Figure 6.1. Canada: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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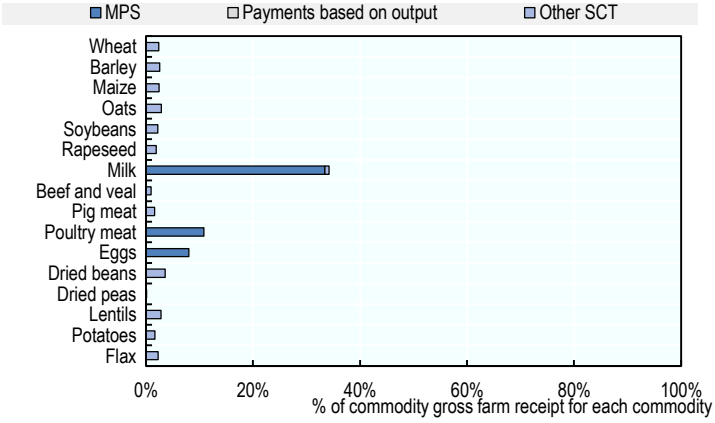
Figure 6.2. Canada: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/zp5exg

Figure 6.3. Canada: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/o4spjq

Table 6.1. Canada: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**14 083**	**20 696**	**47 040**	**46 416**	**46 409**	**48 295**
of which: *share of MPS commodities (%)*	85.6	82.0	81.4	83.2	81.0	80.1
Total value of consumption (at farm gate)	**11 833**	**15 015**	**31 426**	**29 867**	**30 446**	**33 965**
Producer Support Estimate (PSE)	**5 855**	**3 891**	**4 224**	**3 629**	**4 219**	**4 825**
Support based on commodity output	3 214	1 622	2 148	1 804	1 934	2 707
Market Price Support[1]	2 851	1 602	2 148	1 804	1 934	2 707
Positive Market Price Support	2 997	1 602	2 183	1 908	1 934	2 707
Negative Market Price Support	-146	0	-35	-104	0	0
Payments based on output	364	20	0	0	0	0
Payments based on input use	1 091	368	478	434	493	508
Based on variable input use	622	242	344	299	342	392
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	448	108	127	125	141	114
with input constraints	0	0	0	0	0	0
Based on on-farm services	20	18	7	9	10	2
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	1 336	1 307	1 457	1 318	1 492	1 560
Based on Receipts / Income	467	586	615	622	608	615
Based on Area planted / Animal numbers	869	721	841	695	884	945
with input constraints	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	9	23	0	4
Payments based on non-current A/An/R/I, production not required	0	553	85	0	255	0
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	553	85	0	255	0
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	8	0	0	0	0	0
Based on long-term resource retirement	8	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	206	41	47	51	44	47
Percentage PSE (%)	**34.4**	**16.9**	**8.6**	**7.5**	**8.7**	**9.6**
Producer NPC (coeff.)	**1.34**	**1.08**	**1.05**	**1.04**	**1.04**	**1.06**
Producer NAC (coeff.)	**1.53**	**1.20**	**1.09**	**1.08**	**1.09**	**1.11**
General Services Support Estimate (GSSE)	**1 153**	**1 260**	**1 594**	**1 697**	**1 622**	**1 462**
Agricultural knowledge and innovation system	483	536	623	635	605	629
Inspection and control	283	348	671	752	714	545
Development and maintenance of infrastructure	268	182	139	131	138	149
Marketing and promotion	85	179	132	154	129	113
Cost of public stockholding	0	0	0	0	0	0
Miscellaneous	34	15	29	25	36	26
Percentage GSSE (% of TSE)	**16.3**	**24.5**	**27.2**	**31.7**	**27.7**	**23.0**
Consumer Support Estimate (CSE)	**-2 533**	**-1 712**	**-2 349**	**-1 997**	**-1 958**	**-3 093**
Transfers to producers from consumers	-2 766	-1 596	-2 146	-1 800	-1 931	-2 707
Other transfers from consumers	-31	-117	-240	-222	-51	-448
Transfers to consumers from taxpayers	31	0	37	24	24	62
Excess feed cost	234	0	0	0	0	0
Percentage CSE (%)	**-21.5**	**-11.4**	**-7.5**	**-6.7**	**-6.4**	**-9.1**
Consumer NPC (coeff.)	**1.31**	**1.13**	**1.08**	**1.07**	**1.07**	**1.10**
Consumer NAC (coeff.)	**1.27**	**1.13**	**1.08**	**1.07**	**1.07**	**1.10**
Total Support Estimate (TSE)	**7 039**	**5 151**	**5 855**	**5 350**	**5 865**	**6 349**
Transfers from consumers	2 798	1 713	2 386	2 021	1 982	3 155
Transfers from taxpayers	4 273	3 555	3 709	3 551	3 934	3 642
Budget revenues	-31	-117	-240	-222	-51	-448
Percentage TSE (% of GDP)	**1.6**	**0.7**	**0.3**	**0.3**	**0.3**	**0.4**
Total Budgetary Support Estimate (TBSE)	**4 188**	**3 549**	**3 706**	**3 546**	**3 931**	**3 642**
Percentage TBSE (% of GDP)	**1.0**	**0.5**	**0.2**	**0.2**	**0.2**	**0.2**
GDP deflator (1986-88=100)	**100**	**138**	**194**	**192**	**196**	**195**
Exchange rate (national currency per USD)	**1.32**	**1.53**	**1.32**	**1.30**	**1.33**	**1.34**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Canada are: wheat, maize, barley, oats, soybean, rapeseed, flax, potatoes, lentils, dried beans, dried peas, milk, beef and veal, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Prior to the mid-1980s, Canada **heavily supported the agricultural sector** through measures such as import tariffs, export and production subsidies, and price and production controls. The dominant features of agricultural policy were supply management measures in the dairy and poultry sectors, collective marketing in grains and oilseeds (notably by the Canadian Wheat Board, or CWB), and income stabilisation programmes (Barichello, 1995[3]). Support varied between eastern and western provinces, largely due to Canada's decentralised political system, and the independence of provincial governments in policies such as marketing legislation (Anderson, 2009[4]).

In the mid-1980s, Canada began agricultural policy reform, particularly in the grain sector. In 1990, the Western Grains Stabilization Program, which was intended to stabilise net margins for major grains and oilseeds from Western Canada, was terminated (Anderson, 2009[4]). The Farm Income Protection Act of 1991 changed Canada's approach to supporting crop producers by moving from policies aimed at particular commodities towards programmes supporting farm incomes generally. This established two safety-net programmes: (1) the Gross Revenue Insurance Plan (GRIP, 1991-1996/2002) to protect against reductions in revenues and yields; and (2) the Net Income Stabilization Account (NISA, 1991-2009) to subsidise savings accounts for individual producers (Anderson, 2009[4]; Klein and Storey, 1998[5]). Furthermore, compliance with the General Agreement on Tariffs and Trade and free trade agreements of the early 1990s (NAFTA) accelerated the reform process, eliminating most commodity-based policies except those targeting supply-managed commodities (Antón, Kimura and Martini, 2011[6]). In 1995, transport subsidies to feed grains were abolished (Anderson, 2009[4]), ending the period of high market price support to these commodities (Figure 6.4).

The Agricultural Income Disaster Assistance (AIDA) programme introduced in 1998 was the first to comply with criteria for **income insurance and safety-net programmes** under the World Trade Organization Agreement on Agriculture. AIDA was established to serve as a core income stabilisation policy, reducing the need for ad hoc programmes. The "disaster" component was integrated into subsequent programmes: the Canadian Farm Income Program (CFIP, 2001-03); the Canadian Agricultural Income Stabilization (CAIS, 2004-08); and AgriStability (Anderson, 2009[4]; Statistics Canada, 2021[7]; Antón, Kimura and Martini, 2011[6]). Since 2003, agricultural policy objectives and approaches are set out in longer-term **Agricultural Policy Frameworks** developed through co-operation by federal, provincial and territorial (FPT) governments. The first Framework covered five areas: (1) business risk management, (2) food safety and quality, (3) environment, (4) science and innovation, and (5) renewal (extension services) (Agriculture and Agri-Food Canada, 2005[8]). Initially, the federal government delivered programmes directly. However, the Growing Forward framework (2008-13) transferred programme implementation to the provinces and territories, allowing for more flexibility and better adaptability to local needs (OECD, 2015[9]). During this time, the AgriStability and AgriInvest programmes replaced CAIS and NISA, respectively, continuing to provide farmers with income stabilisation products and subsidised saving accounts. The Growing Forward 2 framework (2013-18) strengthened the role of these programmes and incorporated additional initiatives, such as AgriInsurance (previously referred to as the Crop Insurance) and the AgriRecovery disaster programme framework (Anderson, 2009[4]; Statistics Canada, 2021[7]; Antón, Kimura and Martini, 2011[6]). Risk management programmes continue under the current Canadian Agricultural Partnership (2018-23) (see next section).

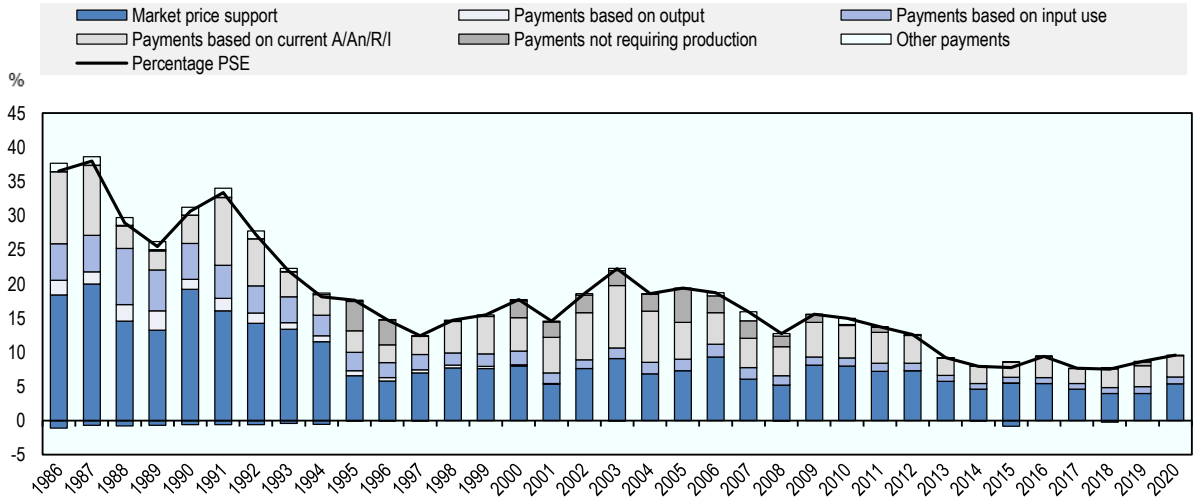
Table 6.2. Canada: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1985	Import barriers for import-competing products and support for traded products; domestic market control	Agricultural tariffs for import-competing products Import quotas/tariff-rate quotas Export subsidies for agricultural products Transportation subsidies for agricultural products Supply management for grains, dairy and poultry products Price controls for agricultural products using marketing boards such as the collective marketing of wheat and barley (CWB)
1985-2000	Gradual reforms and trade liberalisation Increasing emphasis on income and revenue support	Reduction of agricultural tariffs and quotas Diminishing reliance on marketing boards, supply management, price controls General Agreement on Tariffs and Trade, free trade agreements Dismantling of Western Grains Stabilization Program Gradual dismantling of payments coupled to production Introduction of farmer subsidies (income stabilisation) Introduction of insurance subsidies
2000-present	Income stabilisation emphasis implemented through federal, provincial and territorial (FPT) co-operation	Continued supply management of dairy, poultry and eggs sectors: price-setting mechanisms and tariffs Privatisation of the CWB Agricultural policy frameworks developed through the cooperation of FPT governments Subsidies for farm income stabilisation Subsidies for farm savings Insurance subsidies

Support to agricultural producers in Canada decreased over the last three decades, with government support declining from over 35% of farmers' revenues in the mid-1980s to around 8% in recent years (Figure 6.4). This resulted from the discontinuation of market price support to grains and oilseeds in the mid-1990s, and the reduction or phase-out of several programmes offering payments based on output (e.g. support to dairy farmers under the Agriculture Stabilization Act) and input use (e.g. Property Tax Exemption) between the late 1980s and the early 2000s. Market price support to supply-managed commodities, particularly to the dairy sector, remains the largest share of transfers to producers. Payments based on current production, including multiple risk management programmes (e.g. AgriStability), are the second largest contributor, while other categories of payments play a relatively minor role in Canadian farm revenues.

Figure 6.4. Canada: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I: Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Canada's agricultural support policies differentiate between supply-managed sectors (dairy, poultry and eggs) protected and oriented towards the domestic market, and other commodity sectors, which operate within an open market environment and are export-oriented.

A **supply management system** provides market price support to the dairy, poultry and eggs sectors through customs tariffs (import control) and production quotas (production control), tradable within provinces, combined with domestic price-setting according to production costs (pricing mechanism). Successive agriculture policy frameworks regard this system as a risk management instrument (Parliament of Canada, 2017[10]; Parliament of Canada, 2012[11]).

The **Canadian Agricultural Partnership (CAP) 2018-23** frames general policies and programmes established to support Canada's agriculture and agro-food sector (AAFC, 2018[12]). Under the Constitution of Canada, the general agricultural policy framework is governed by joint FPT agreements. The principle of shared responsibility provides provinces and territories flexibility to design and deliver programmes that respond to regional needs while remaining aligned with national priorities. Provinces and territories can also develop and fund agriculture programmes outside of this framework.

The current policy framework comprises a suite of **business risk management (BRM) programmes** to help farmers manage market volatility and disaster risks, and **strategic initiatives** to increase competitiveness, productivity and profitability in the sector, increase its environmental sustainability, expand domestic and international markets, and improve the anticipation and mitigation of and response to risks.

The suite of **BRM programmes**, built on the backbone of those delivered during the previous multilateral policy framework agreement, support producers in managing risks that threaten the viability of their farm or are beyond their capacity to control. It also attempts to balance *ex ante* and *ex post* measures while

limiting ad hoc forms of assistance. Under the CAP 2018-23, FPT governments jointly provide approximately CAD 1.5 billion (USD 1.1 billion) per year to finance five BRM programmes:

- *AgriStability*, an income stabilisation programme to support producers in years of significant whole-farm margin declines.
- *AgriInvest*, a savings tool matching contributions to producers who make annual deposits to an AgriInvest account, to help them manage moderate income declines, make investments in farming operations to mitigate risk or improve market income.
- *AgriInsurance*, a cost-shared insurance programme to reduce the financial impact of production or asset losses due to natural hazards.
- *AgriRecovery*, a disaster relief framework to help producers with the cost of activities necessary to recover from natural disasters.
- *AgriRisk,* a programme to support the development of new risk management tools by the private sector.

Strategic initiatives aim to foster the long-term prosperity of Canada's agriculture and agro-food sector under the CAP 2018-23 by providing an investment of CAD 3 billion (USD 2.3 billion), including CAD 1 billion (USD 0.8 billion) in federal programmes and activities and CAD 2 billion (USD 1.5 billion) in cost-shared programmes and activities.

Federally funded strategic initiatives comprise large, national programmes to support the sector in areas of federal jurisdiction and focus on three pillars:

- *Growing trade and expanding markets* through the *AgriMarketing* programme, which supports industry-led market development activities by helping the sector identify and seize domestic and international opportunities; and the *AgriCompetitiveness* programme, which helps the sector adapt to changing commercial and regulatory environments, share best practices, and provide mentorship opportunities.
- *Fostering innovative and sustainable growth in the sector* through the *AgriScience* programme, which supports innovation driven by industry research priorities, including pre-commercialisation activities and investments in cutting-edge research to benefit the agricultural and agro-food sector; and the *AgriInnovate* programme, which supports projects that accelerate the demonstration, commercialisation or adoption of innovative products, technologies, processes or services that increase the sector's competitiveness and sustainability.
- *Supporting diversity and a dynamic, evolving sector* through the *AgriAssurance* programme, which aims to foster public trust by helping industry develop and adopt systems, standards and tools to measure food safety and traceability; and the *AgriDiversity* programme, which aims to increase the capacity of youth, women, Indigenous Peoples and persons with disabilities to better participate in the agricultural sector. It supports skills, leadership, and entrepreneurial development; and facilitates knowledge sharing and best management practices.

Cost-shared strategic initiatives are funded 60% by the federal government and 40% by the provincial/territorial governments, and delivered by the latter to ensure that programmes meet their needs. These initiatives focus on six priority areas:

- *Science, research and innovation* to help farmers, food processors and agro-businesses adopt innovative products and practices in order to improve resiliency and productivity through research, innovation and knowledge transfer.
- *Markets and trade* to facilitate the maintenance and expansion of domestic and international markets, and help farmers and food processors improve their competitiveness through skills development and improved export capacity, underpinned by a strong and efficient regulatory system.

- *Value-added agriculture and agro-food processing* to foster continued growth by supporting targeted actions aiming to increase productivity and competitiveness.
- *Public trust* to build a firm foundation for the sector through improved assurance systems in food safety and plant and animal health, stronger traceability and effective regulation.
- *Risk management* to enable proactive and effective risk mitigation and adaptation, and strengthen the resilience of the sector by ensuring comprehensive, responsive and accessible programmes.
- *Environmental sustainability and climate change* to build the sector's capacity to protect natural resources, mitigate agricultural greenhouse gas emissions and adapt to the anticipated impacts of climate change by enhancing sustainable growth.

Provincial/territorial governments design and administer most farm-level environmental programmes. For instance, the Environmental Farm Plans (EFP) programmes and the Environmental Stewardship Incentive programmes, financed jointly by FPT governments, strive to advance environmentally sustainable agriculture. The EFP consists of an assessment of on-farm environmental risks and the development of an action plan to mitigate them. The Environmental Stewardship Incentive programmes provide financial assistance to farms with an EFP to adopt specific beneficial practices, such as nutrient management, manure storage and soil erosion controls (OECD, 2015[9]). They are implemented on the basis of specific regional partnership programmes, such as the 2018 Canada-Ontario Lake Erie action plan to reduce phosphorus pollution (Gruère and Le Boëdec, 2019[13]). The government of Quebec has its own agro-environmental programme, the Prime-Vert, and consulting services that aim to increase and facilitate the adoption of agri-environmental practices by agricultural producers.

The 2018-23 CAP programmes are to help the Canadian agriculture and agro-food sectors contribute to the Pan-Canadian Framework (PCF) on Clean Growth and Climate Change. The PCF was adopted following Canada's ratification of the Paris Agreement in 2016, with the goal to reduce greenhouse gas (GHG) emissions across all sectors in Canada, including agriculture. It identifies three agriculture-related actions: (1) increasing stored carbon in agricultural soils to partially offset emissions from the sector; (2) generating bioenergy and bio-based products to displace emissions in other economic sectors; and (3) advancing innovation in GHG-efficient management practices to reduce agricultural emissions and emission intensity.

In 2019, the government of Canada established the first **Food Policy for Canada** aiming to create a co-ordinated and food-systems-based approach to taking action on food-related opportunities and challenges. The initial funding of CAD 134.4 million (USD 101.3 million) was allocated for short-term actions in 2019-24 in the areas of: (1) helping Canadian communities access healthy food; (2) making Canadian food the top choice at home and abroad; (3) supporting food security in northern and indigenous communities; and (4) reducing food waste.

Domestic policy developments in 2020-21

On **agri-environment**, in the 2020 Fall Economic Statement, the government of Canada proposed to provide Agriculture and Agri-Food Canada (AAFC) with CAD 98.4 million (USD 73.2 million) over ten years, starting in the 2021-22 fiscal year, and CAD 1.6 million (USD 1.2 million) in remaining amortisation, to establish a new *Natural Climate Solutions for Agriculture Fund.* The fund would also leverage CAD 85 million (USD 63.2 million) through existing programmes and would support the agricultural sector's actions on climate change by accelerating the adoption of carbon sequestering beneficial management practices, such as cover crops or shelterbelts, through development, testing, peer-to-peer learning and solution sharing with farmers. The expenditure from the fund is to be guided by a new *Canadian Agri-Environmental Strategy* to be developed in collaboration with provinces and territories, industry representatives, and non-governmental organisations to support the sector's actions on climate change and other environmental priorities towards 2030 and 2050. This strategy is expected to revolve

around core themes such as greenhouse gas emissions reductions; soil health and carbon sequestration; biodiversity; adaptation, resilience and disaster mitigation; water and clean technology.

On 11 December 2020, the government of Canada released its *A Healthy Environment and a Healthy Economy* plan. The plan builds on the Pan-Canadian Framework on Clean Growth and Climate Change from 2016 and contains a mix of new and strengthened federal policies, programmes and investments to cut pollution and build a stronger and cleaner economy, including initiatives supporting climate-smart agriculture in Canada. Within this frame, the government plans to take the following actions: (1) invest CAD 165.7 million (USD 123.3 million) over seven years to support the agricultural sector in developing transformative clean technologies and help farmers adopt commercially available clean technology; (2) set a national target for emissions from fertilisers reduced to 30% below 2020 levels, and work with fertiliser manufacturers, farmers, provinces and territories to develop an approach to meet the target; and (3) work with provinces and territories to boost climate-smart agriculture under the current CAP. The government also proposed to invest CAD 1.5 billion (USD 1.1 billion) in a *Low-carbon and Zero-emissions Fuels Fund* to increase the production and use of low-carbon fuels. This initiative will help farmers diversify by producing feedstocks for biofuels.

On 18 December 2020, the government of Canada published the proposed regulations for the *Clean Fuel Standard* (CFS). The proposed regulations would reduce the lifecycle carbon intensity[3] of liquid fossil fuels used in Canada, as well as support the domestic production of cleaner fuels such as lower carbon intensity biofuels. A credit market would be established with each credit representing a lifecycle emission reduction of one tonne of carbon dioxide equivalent ($tCO_2eq.$). The CFS regulations would contribute to the goal of reducing GHG emissions by more than 20 million tonnes per year by 2030. They would also create economic opportunities for voluntary parties like biofuel and other lower-carbon fuel producers to create and sell their credits, which in turn would generate favourable conditions for feedstock providers, such as farmers, supporting lower-carbon fuel production. The final version of the regulations is expected in late 2021, with the CFS reduction requirements coming into force on 1 December 2022.

A *Sustainability Sector Engagement Table* was launched on 10 December 2020 under the lead of the AAFC, to provide a forum for ongoing dialogue between industry, governments, academia and other stakeholders on approaches to address environmental issues facing the sector such as climate change and biodiversity. The table is scheduled to engage in a strategic planning exercise in early 2021 to identify and direct its specific work activities and desired outcomes.

At the provincial level, the government of Quebec launched the *2020-2030 Sustainable Agriculture Plan* (*Plan d'agriculture durable*) in October 2020 to complement and reinforce the action deployed following the implementation of the *2018-2025 Biofood Policy* (*Politique bioalimentaire 2018-2025*). The Plan, developed in consultation with stakeholders in the agricultural sector, proposes interventions adapted to regional particularities and to different production models. The five key objectives of the Plan are: reducing pesticide use and associated risks; improving soil health and conservation, improving fertiliser management, optimising water management and improving biodiversity. According to this Plan, a budget of CAD 125 million (USD 93 million) spread over five years will be provided to accelerate the adoption of efficient agri-environmental practices by 2030. This total includes CAD 70 million (USD 52.1 million) devoted to incentivise agricultural producers whose efforts and favourable agri-environmental practices go beyond regulatory requirements and generate significant environmental gains. In addition, CAD 30 million (USD 22.3 million) are earmarked to be invested in research and knowledge development, and CAD 25 million (USD 18.6 million) are budgeted to facilitate knowledge transfer, training and support for agricultural producers.

A new *Efficient Grain Dryer Program* was implemented in Alberta to assist grain producers to improve energy efficiency within their operations. The programme helps to cover costs for eligible energy efficient grain drying equipment.

The government of Manitoba provided over CAD 5 million (USD 3.7 million) to the *GRowing Outcomes in Watersheds* (GROW) initiative for the delivery of ecological goods and services (EG&S) on agricultural landscapes. GROW promotes conservation of natural areas or changes to land uses that provide EG&S by helping farmers develop projects that maintain or improve local watershed health. Through the GROW Trust, watershed districts in Manitoba delivered 16 projects that improve resilience to the effects of climate change in 2020-21.

On risk management, a new approach to the *Organic Option* of the *AgriInsurance* programme was implemented in Saskatchewan in 2020 to ensure that this option remains relevant to local producers. Premiums and coverage are updated to better reflect the production experience of organic producers. With this change, organic insured prices are higher and premium rates are lower. Average coverage is also lower, realigning to reflect current risks to the organic sector.

In Manitoba, the *Contract Price Option* has been introduced on canola and field peas. This option allows producers to blend the price from their contracted production with the base *AgriInsurance* value to better reflect expected market price. Also, fall rye has been introduced as an eligible crop for organic insurance.

The government of Manitoba supported beef producers affected by dry conditions by providing a one-time, 20% rent credit to producers who held a forage lease or renewable permit on agricultural Crown lands in 2019 and who continue to hold it in 2021.

The government of Quebec provided financial support to cervid producers – particularly for red deer – ordered to slaughter and dispose of animals or to implement new sanitary measures in order to eradicate the Chronic Wasting Disease. Both measures are required under the Animal Health Protection Act.

It also provided an exceptional financial support to grain corn producers to reduce the impact of the rising price of propane used to dry grain corn. This assistance measure is targeted to producers who harvested after 19 November 2019, when Canadian National Railways employees went on strike.

On **supply-managed commodities**, the government of Canada continues to provide support to producers of supply-managed commodities who incurred income losses resulting from implementation of the Canada–European Union Comprehensive Economic and Trade Agreement (CETA) and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). The federal government approved the financing of the remaining compensation to dairy farmers, amounting to CAD 1.4 billion (USD 1 billion), to be provided over a three-year period, from fiscal year 2020-21 to 2022-23. Payments to producers are to be delivered through the *Dairy Direct Payment Program* based on individual milk quota as of 31 October each year.

In its 2020 Fall Economic Statement, the government of Canada also announced CAD 691 million (USD 514.2 million) over ten years for programmes specific to supply-managed chicken, egg, broiler hatching egg and turkey farmers. These programmes include support for farmers to make productivity-increasing investments, and for marketing activities.

On **infrastructure development**, in July 2020, the government of Saskatchewan announced an irrigation project valued at CAD 4 billion (USD 3 billion). The vision of this project is to irrigate up to 500 000 acres of land (202 343 hectares), more than doubling the irrigable area in Saskatchewan. The project is beginning with a CAD 22.5 million (USD 16.7 million) investment in preliminary engineering and initial construction and is expected to be developed in three phases over a period of ten years.

On **inclusiveness**, in August 2020, the government of New Brunswick implemented a new *Indigenous Agriculture Development Program* under the CAP to support First Nations interested in participating in the agriculture and agro-food industry. This programme is to help indigenous farmers develop viable business plans, manage finances and production costs, and build capacity required for their farming operations.

On **interprovincial partnership**, in 2020, the government of Manitoba officially adopted *New West Partnership Trade Agreement*, which commits each of the four western provinces (British Columbia,

Alberta, Saskatchewan and Manitoba) to enhance trade, investment and labour mobility, and to remove barriers to the movement of goods, services, investment and people within and between the jurisdictions. This agreement also streamlines the regulatory requirements to start and operate a business and eliminated the need to file multiple registrations and reports between the four provinces.

On **food safety**, on 15 July 2020, new requirements related to licensing, preventive controls and traceability under the *Safe Food for Canadians Regulations* applied to businesses in the manufactured food sector, including confectionary, snack foods, beverages, oils, dried herbs and spices, nuts and seeds, coffee and tea, processed grain-based foods such as baked goods, cereals and pasta. However, due to the COVID-19 pandemic, the Canadian Food Inspection Agency (CFIA) will not prioritise compliance activities related to these new requirements until announced with adequate lead time.

On **food policy**, within the framework of the Food Policy for Canada, the federal government has allocated funds to several initiatives planned for the period of 2019-24. Among others, it implemented the *Local Food Infrastructure Fund*, which is a five-year programme of CAD 50 million (USD 37.7 million) aiming to strengthen food support organisations and help improve access to safe and nutritious food for Canadians at risk.

The government of Canada has been also encouraging the development of solutions to food waste by investing CAD 20 million (USD 14.9 million) to establish the *Food Waste Reduction Challenge*. In November 2020, the first two streams of this challenge were launched with awards totalling up to CAD 10.8 million (USD 8 million) dedicated to innovative business models that can prevent or divert food waste at any segment of the food supply chain. The launch of two additional challenge streams focused on technological solutions to food waste is planned for spring 2021. These challenge streams will focus on technologies that can extend the life of food or transform food that would otherwise be lost or wasted.

The federal government has been addressing food fraud in order to protect consumers from deception and companies from unfair competition. As a part of this initiative, the CFIA published the *Enhanced Honey Authenticity Surveillance Report (2019 to 2020)* raising awareness about honey adulterated with sugars.

Domestic policy responses to the COVID-19 pandemic

Federal and provincial governments in Canada have been implementing various measures to address impacts of the COVID-19 crisis on agricultural production, the food chain and consumers. Support is being provided through both sector specific and overall economic measures.

A number of **general measures** were introduced to support individual or corporate firms affected by the COVID-19 crisis, to which agriculture and agro-food firms have access. Business support includes tax deferrals, wage subsidies, minimum income to those who had to stop their activity because of COVID-19, and additional funding for existing programmes. The main programmes benefiting agro-food sector include:

- The *Business Credit Availability Program,* allowing the Business Development Bank of Canada and Export Development Canada to enable access to capital for small and medium-sized business.
- *Canada Emergency Wage Subsidy* providing up to a 75% wage subsidy to eligible employers.
- *Regional Relief and Recovery Fund*, providing, through regional development agencies, liquidity assistance for businesses affected by the COVID-19 pandemic that have been unable to access existing support measures.
- *Canada Emergency Rent Subsidy,* providing rent and mortgage support for qualifying businesses.
- New measures under the *CanExport SMEs* programme to help small business owners to market their products through e-commerce and virtual trade shows, and help them manage the costs of new COVID-19 related trade barriers.

Federal and provincial governments in Canada adjusted and enhanced targeted programmes to **alleviate financial pressure** on food producers and help them deal with challenges surrounding COVID-19 (Government of Canada, 2021[14]).

Farm Credit Canada (FCC) increased its lending capacity by an additional CAD 5 billion (USD 3.7 billion) and put in place deferrals of principal and interest payments for existing loans and new credit lines to help farmers, agribusinesses and food processors who face cash flow issues. To support the sector, the FCC invested CAD 100 million (USD 74.4 million) in the *Agriculture and Food Business Solutions Fund*, which primarily offers convertible debt investments, as well as other flexible financing solutions.

Eligible grain, cattle and flower producers with outstanding loans under the *Advance Payments Program* (APP) benefited from debt restructuring to repay APP advances totalling CAD 173 million (USD 128.7 million). Over the extension period, the federal government continued to pay the interest on the interest-free portion of these advances.

The government of Canada also amended the *Canadian Dairy Commission (CDC) Act* to increase the CDC's borrowing limit by CAD 200 million (USD 148.8 million) to a total of CAD 500 million (USD 372 million) to allow cheese and butter to be temporarily stored and avoid waste. Those amendments complement existing CDC programmes helping the sector to manage surplus milk.

Under the CAP, producers continue to have access to a comprehensive suite of *Business Risk Management* programmes to help them manage significant financial impacts and risks beyond their control. In that vein, in May 2020, the government of Canada launched national *AgriRecovery* initiatives of up to CAD 125 million (USD 93 million) in funding to help livestock producers facing additional costs incurred by COVID-19. Initiatives have been designed and implemented jointly by the federal and provincial governments to ensure that they meet the specific needs of the provinces. They include set-asides for cattle and hog management programmes to manage livestock back-up on farms due to the temporary closure of food processing plants.

Aside from direct aid, a number of the BRM programme parameters and deadlines have been modified or extended in multiple provinces. For instance:

- The federal government and governments of Manitoba, New Brunswick, Nova Scotia, Quebec and Saskatchewan agreed to increase the interim payment rate from 50% to 75% of estimated final 2020 *AgriStability* benefits for the 2020 programme year.
- The government of Prince Edward Island provided to its producers an *AgriStability* top-up and an *AgriInsurance* discount for the 2020 and 2021 programme years. The provincial government is paying the provincial portion of removing the reference margin limit and increasing the trigger from 70% to 85% in AgriStability. The government is also providing a 10% discount on the farmer share of AgriInsurance premiums.
- In May 2020, the government of Saskatchewan announced an additional CAD 10 million (USD 7.4 million) assistance package to help livestock producers in the province manage the effects of COVID-19 related to market interruptions. The funds consist of CAD 5 million (USD 3.7 million) for Saskatchewan's share of the costs associated with participation in the national *AgriRecovery* set-aside programme, and CAD 5 million (USD 3.7 million) to partially offset higher premium costs under the *Western Livestock Price Insurance Program*.

The Ontario Government has expanded the cap for the *Risk Management Program* and the *Self-Directed Risk Management* programme from CAD 100 million (USD 74.4 million) to CAD 150 million (USD 111.6 million) annually. The initially planned implementation date of the funding increase was brought forward from 2021 to 2020 in the context of COVID-19. However, the scope of the programmes remains unchanged, supporting producers and helping them to manage risks.

The government of Canada and the government of Alberta have been expanding and extending the *Alberta Beekeepers Stock Replacement Program* to help Alberta beekeepers address the impact of COVID-19 on their beekeeping operations.

Business support also includes the **expansion of financial and advisory services** to the agriculture and agro-food sector. FCC put in place customer support programmes, which invite customers to contact their offices to discuss their finances and options. At the provincial level, Alberta's Agricultural and Finance Services Corporation has been also encouraging its customers to contact their relationship manager for enhanced loan arrangements. Support could include personalised solutions such as, loan payment relief through interest-only payment, payment re-amortisation or payment deferral options. The Government of Saskatchewan launched the Business Response Team, which works with businesses to identify programme supports available to them both provincially and federally.

Agriculture and Agri-Food Canada (AAFC) holds Industry-Government **COVID-19 information sharing calls** with stakeholders every second week to share information and discuss issues facing the industry, including potential impacts on trade. This allows both government and private-sector stakeholders to identify any developing issues and take mitigating actions to avert more serious consequences.

The government of Canada designated workers in the food supply chain as essential and introduced **labour-related measures** to facilitate the movement of agro-food products and inputs, both at home and abroad. Truck drivers, plane crews and others who are transporting goods are exempted from travel bans, as long as they are not showing symptoms. Temporary foreign workers (TFW) in agriculture, agro-food, seafood processing and other key industries are being allowed to travel to Canada. However, these workers and their employers are expected to follow the latest public health and safety requirements to help prevent the introduction and spread of COVID-19. TFWs entering Canada are subject to an *Emergency Order under the Quarantine Act*, which requires a 14-day mandatory quarantine upon arrival. The employers of TFWs are compelled, under the *Amendments to the Immigration and Refugee Protection Regulations*, to meet additional requirements such as paying workers for the initial quarantine period upon entry into Canada.

To ease the burden on Canadian employers, the government of Canada put in place the *Mandatory Isolation Support for Temporary Foreign Workers Program* with initial funding of CAD 50 million (USD 37.2 million) that, following the Quarantine Act, was extended until 31 March 2021 with an additional CAD 34.4 million (USD 25.6 million). The programme intends to help with the impacts of the COVID-19 pandemic on food supply in Canada by assisting the farming, fish harvesting, and food production and processing sectors with some of the incremental costs associated with the mandatory 14-day isolation period imposed on TFWs. Eligible costs could include wages, food, benefits, transportation, housing, and other protocol compliance requirements under the Quarantine Act.

The government of Canada invested CAD 58.6 million (USD 43.6 million) in the *Temporary Foreign Worker Program* to safeguard the health and safety of Canadian and temporary foreign workers from COVID-19: CAD 7.4 million (USD 5.5 million) to increase support to temporary foreign workers; CAD 16.2 million (USD 12.1 million) to strengthen the employer inspections regime, particularly on farms; and, CAD 35 million (USD 26 million) through the *Emergency On-Farm Support Fund* to improve health and safety on farms and in employee living quarters to prevent and respond to the spread of COVID-19. The latter going toward direct infrastructure improvements to living quarters, temporary or emergency housing, as well as personal protective equipment, sanitary stations, and any other health and safety measures. As part of these measures, the government of Canada committed to developing mandatory requirements to improve employer-provided accommodations for the TFW Program, with a focus on ensuring better living conditions for workers.

Provincial governments have also implemented programmes to assist employers in meeting the new requirements for temporary foreign and domestic farm workers. In British Columbia, TFWs are required to self-quarantine in government-managed accommodations for 14 days before being transported to their

farm. The province funds hotel, food service and worker support costs during this period, while the employers are responsible for paying these workers for a minimum of 30 hours per week. The government of British Columbia launched a programme that reimburses up to 70% of costs for personal protective equipment to support farmers housing domestic temporary farm workers on-farm in temporary structures. The government of Quebec invested CAD 45 million (USD 33.5 million) to support recruiting farm workers. The measures included a pay premium of CAD 100 (USD 74.4) to seasonal agricultural workers, including TFWs, who work a minimum of 25 hours per week; creation of a new worker travel programme that takes distancing rules into consideration; establishment of field squads to support producers in training new workers; and financial support to the agricultural employment centres to facilitate the matching of farm businesses and workers.

Furthermore, since March 2020, the government of Canada has also taken measures to reduce the administrative burden for employers, including increasing the maximum duration of employment under Labour Market Impact Assessment for employers of workers in the low-wage stream of the *Temporary Foreign Worker Program* from one to two years as part of a three-year pilot.

The *AAFC's Youth Employment and Skills Program* (YESP), which offers a wage subsidy to employers who hire youth for agricultural jobs, received an additional CAD 9.2 million (USD 6.8 million) in funding in response to the COVID-19 pandemic. The 2020 Fall Economic Statement further increased funding for YESP of up to CAD 21.4 million (USD 15.9 million) for 2021-22. The programme provides support for 50% of wages to a maximum of CAD 14 000 (USD 10 400), with a focus on youth facing barriers.

On **Business Support and Development**, the federal and provincial governments have been supporting agro-food businesses in implementing changes to **safeguard the health and safety of workers** due to the impacts of the COVID-19 pandemic, as well as boost their **capacity to adapt and recover after the crisis**. For instance, the *Emergency Processing Fund* (EPF), a one-time federal investment of up to CAD 77.5 million (USD 57.5 million), aims to support projects that help companies respond to the urgent health and safety needs of workers in agro-food sectors impacted by COVID-19, and improve, automate and modernise facilities needed to increase Canada's food supply capacity. The EPF provides up to CAD 5 million (USD 3.7 million) per recipient in non-repayable funding for emergency response activities and/or repayable funding for strategic investments.

A raft of business support measures were introduced at the provincial level as well. These include:

- In British Columbia, the *B.C. Agri-Business Planning Program* offers business planning services and coaching to develop an immediate and long-term recovery plan for agriculture, seafood and agro-food producers/processors who have seen a drastic loss in sales due to COVID-19.
- The government of Manitoba provided CAD 3 million (USD 2.2 million), as part of the *Special COVID-19 Response Initiative*, to agro-processors, industry organisations and industry service providers to adapt production processes and implement new strategies and technologies to mitigate the impact of the pandemic, ensure the security of the food supply and improve the competitiveness of the agricultural sector.
- The government of Alberta created the *Agriculture Training Support Program* of up to CAD 5 million (USD 3.7 million) in support to farmers, agro-businesses and food processors to offset costs for COVID-19 safety and training, including the costs for personal protective equipment.
- The government of Prince Edward Island implemented the *Strategic Fund for Agriculture Project* to support the local agriculture industry in mitigating impacts from the pandemic. Eligible expenses include costs associated with activities designed to assist with the marketing, movement and distribution of product, and assistance to address marketing challenges by implementing solutions using technology.

- The government of New Brunswick enhanced some existing programmes under the CAP to help producers deal with pandemic-related shocks and build resilience. Programming changes for 2020-21 include higher per project maximums, as well as an increased maximum cost-share levels.
- The government of Newfoundland and Labrador announced funding to create jobs in the agricultural sector and assist farmers. The funding is part of a plan to support employment in rural communities and help open new markets and products for renewable resource-based businesses during the COVID-19 pandemic. This funding will help increase beef production and large-scale potato production, and support the development of local secondary beef facilities and regional vegetable cold storage facilities, as well as regional equipment banks for new farming entrants.

Provincial governments also supported the sector to **adapt their market operations** during the COVID-19 pandemic by taking advantage of **digital technologies**. The government of Manitoba launched a project, as part of the CAP, to create a centralised online platform for Manitoban producers to allow local food producers and farmers' markets to sell their products online. The government of British Columbia (BC) provided funding to the *BC Association of Farmers' Markets* to cover fees for individual farmers' markets to join the online platform and set up their digital market store presence. It also supported the *Buy BC e-commerce* initiative to allow more local products to be advertised online and sold digitally. The government of Newfoundland and Labrador also provided funding to support agricultural virtual market opportunities.

On **food safety compliance**, the CFIA has temporarily suspended certain low-risk inspection activities to reassign existing employees to higher priority activities to better support Canadians and industry during the pandemic. The government of Canada invested CAD 20 million (USD 14.9 million) to **support critical food inspection** and ensure that Canadians have continued access to safe, high-quality food. This investment is allowing the CFIA to hire, train and equip additional staff to conduct critical inspection activities, as well as to support the training of provincial food inspectors so that they can provide assistance to the CFIA as needed. The funding is also supporting the CFIA in developing new means of carrying out inspections, including through the expanded use of electronic tools such as tablets and via access to the CFIA's remote service delivery network.

The CFIA is also working closely with industry and trading partners to minimise supply disruptions during this crisis. Among other activities, it has provided guidance to industry in cases of a positive COVID-19 case in a meat slaughter/processing plant, as well as an escalation protocol to follow; and created flexibility in the standard food packaging and labelling requirements to help redirect packaged food intended for use in restaurants and hotels to retail outlets and grocery stores.

To provide **food assistance** to food vulnerable populations during the pandemic, CAD 200 million (USD 148.8 million) in funding is being provided to food banks and other national food rescue organisations through the *Emergency Food Security Fund*. Funding is being used to purchase food and other basic necessities; buy or rent equipment and materials; transport and distribute food; access new distribution centres; hire temporary help to fill volunteer shortages; and implement biosecurity measures.

The government of Canada also launched the *Surplus Food Rescue Program* to help manage and redirect existing food surpluses to organisations addressing food insecurity. This one-time limited programme of up to CAD 50 million (USD 37.2 million) aims to provide assistance to acquire and process surplus commodities and food that would otherwise be lost or destroyed and distribute them to populations in need; assist producers and processors to dispose of such surpluses; and connect surplus commodities to food vulnerable populations to avoid food waste.

The *Nutrition North Canada* subsidy programme has been enhanced during the COVID-19 pandemic. New items have been added to the subsidy list and the medium and high subsidy rates have been increased to help the most vulnerable populations buy healthy food and other essentials.

Trade policy developments in 2020-21

The *Canada-United States-Mexico Agreement* (CUSMA) entered into force on 1 July 2020. The agreement preserves the existing agricultural commitments under the North American Free Trade Agreement (NAFTA), including duty-free access for a wide range of Canadian agricultural products such as meats, grains, oilseeds, fruits and vegetables, pulses, maple syrup, wines and spirits, and processed foods. Additionally, it will eliminate tariffs for margarine and whey between Canada and the United States. The CUSMA establishes US tariff rate quotas (TRQs) for Canadian exports of refined sugar and sugar-containing products, as well as certain dairy products (including cheese, cream, milk beverages and butter). As part of the overall agreement, Canada agreed to provide new market access to the United States in the form of tariff rate quotas for dairy, poultry, and egg products. The agreement also requires Canada to eliminate milk classes 6 and 7; establishes a mechanism to monitor exports of skim milk powder, milk protein concentrate, and infant formula; and allows US-grown wheat of varieties registered in Canada to receive an official Canadian grain grade. Furthermore, the agreement includes a new chapter on Sanitary and Phytosanitary Measures (SPS), which reinforces and builds on provisions contained in the original NAFTA and the World Trade Organization (WTO) SPS Agreement, and reflects the strong trade and regulatory relationship between the Parties. The agriculture chapter in the agreement includes new obligations for agricultural biotechnology, aiming to provide further transparency and predictability in the trade of products derived from current and future technologies.

Canada and the United Kingdom signed the *Canada–UK Trade Continuity Agreement* (TCA) on 9 December 2020. The TCA substantively replicates the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), ensuring continuity in Canada's trade with the United Kingdom after 31 December 2020 (the end of the Brexit transition period). The TCA maintains tariff elimination commitments for most agricultural exports, including products still subject to tariff phase-outs. The agreement continues Canada's duty-free quota access for beef, pork, bison, wheat, and processed sweetcorn, while not providing any additional market access for cheese or any other supply-managed products (dairy, poultry and eggs). The TCA is a transitional measure and includes a commitment by both Parties to negotiate a new comprehensive bilateral trade agreement that can best reflect the Canada–United Kingdom bilateral relationship.

Trade policy responses to the COVID-19 pandemic

On 22 April 2020, Canada and a diverse group of WTO Members, representing two-thirds of global agriculture exports, signed onto a joint statement called "Responding to the COVID-19 pandemic with open and predictable trade in agricultural and food products" in order to reinforce international co-operation on trade in agricultural and agro-food products. The statement articulates a set of principles whereby Members committed to not impose agriculture export restrictions; to keep supply chains open to avoid food shortages; that emergency measures related to agriculture and agro-food products designed to tackle COVID-19 are targeted, proportional, transparent and temporary; and to support international efforts on making information available on production, stocks, and prices.

On 15 June 2020, the Ottawa Group[4] Ministers endorsed an Action Plan on COVID-19, which includes specific actions on agriculture. The agreed action items on agriculture trade are consistent with and build on the principles included in the joint statement on open and predictable trade in agriculture and agro-food products led by Canada and initially circulated on 22 April 2020. The action items on agriculture are:

- to engage in ongoing discussions on the fulfilment of joint declarations on maintaining predictable and open agriculture trade
- to lead by example, and withdraw or end any emergency measures that may adversely affect trade in agriculture as quickly as possible

- to advance analysis and consideration on what steps WTO Members could take to continue improving agriculture trade based on the lessons learned from COVID-19 to ensure that future crises will not undermine trade, food security, and the stability of agricultural markets in the long-term.

Contextual information

Canada is a large, wealthy country with a small population relative to its land area, and relatively abundant land and water available to the agricultural sector. Primary agriculture accounts for only 2% of GDP and 1.8% of employment (Table 6.3), but accounts for a larger share of economic output in some of the country's regions. Crop production is concentrated in the western prairies, where the typical farm is twice as large as the national average, highly productive, and produces largely for export. Most milk production is located in eastern Canada, which has relatively smaller farms and a larger variety of crops. Red meat industries are present across Canada, with beef cattle production being especially prominent in western Canada, and hog production concentrated in Quebec, Ontario and Manitoba.

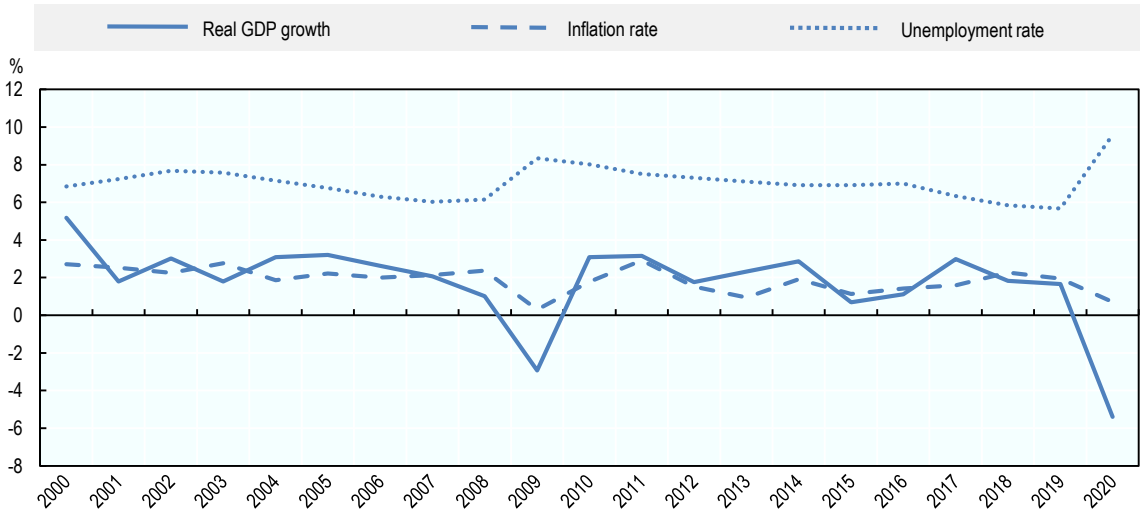
Table 6.3. Canada: Contextual indicators

	Canada		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	901	1 930	2.3%	1.7%
Population (million)	31	38	0.7%	0.7%
Land area (thousand km²)	8 966	8 966	10.7%	10.6%
Agricultural area (AA) (thousand ha)	61 287	58 199	2.0%	1.9%
			All countries[1]	
Population density (inhabitants/km²)	3	4	53	63
GDP per capita (USD in PPPs)	29 364	51 342	9 265	21 975
Trade as % of GDP	33	25	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	2.3	2.0	2.9	3.5
Agriculture share in employment (%)	3.3	1.8	-	-
Agro-food exports (% of total exports)	6.0	10.9	6.2	7.3
Agro-food imports (% of total imports)	5.0	8.0	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	43	58	-	-
Livestock in total agricultural production (%)	57	42	-	-
Share of arable land in AA (%)	67	66	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Over the past two decades, Canada has enjoyed a stable macroeconomic environment characterised by relatively low inflation rates fluctuating around its 2% target, and positive economic growth supporting steady declines in unemployment rates. However, the economy has been heavily affected by the COVID-19 pandemic and related restrictions, which caused a recession: Canada's GDP declined by more than 5% between 2019 and 2020, while the unemployment rate grew to almost 10% (Figure 6.5).

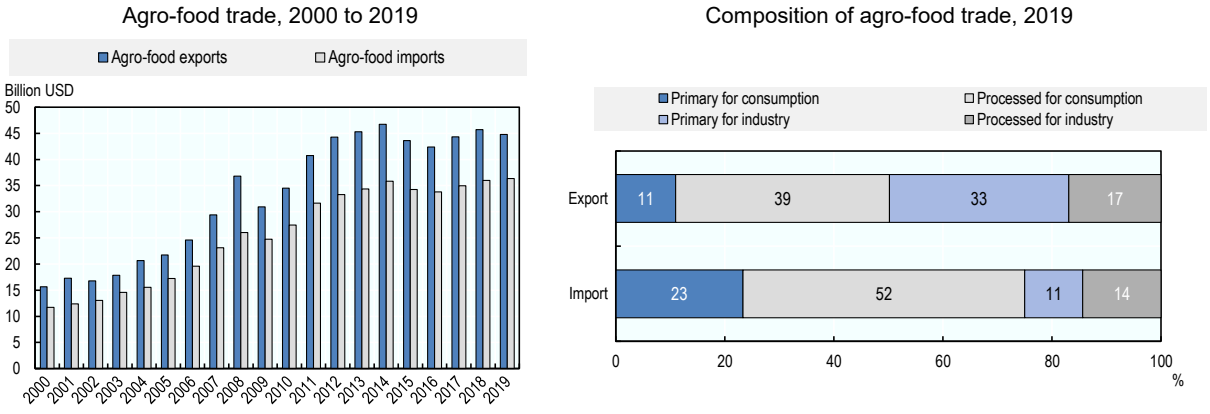
Figure 6.5. Canada: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; ILO estimates and projections; and Statistics Canada.

Canada's economy is well integrated in international markets – as measured by the ratio of trade to GDP at 25% in 2019 (Table 6.3). Agro-food products represent 11% of total Canadian exports and 8% of imports. Canada is a large net exporter of agro-food products and access to export markets is a significant issue for the sector. More than half of Canada's agro-food exports are destined for the United States. Most of Canada's agro-food exports are either processed products intended for direct consumption (39%), or primary products for processing (33%). Canadian households' final consumption absorbs 75% of agriculture and food imports, of which two thirds are processed goods (Figure 6.6).

Figure 6.6. Canada: Agro-food trade

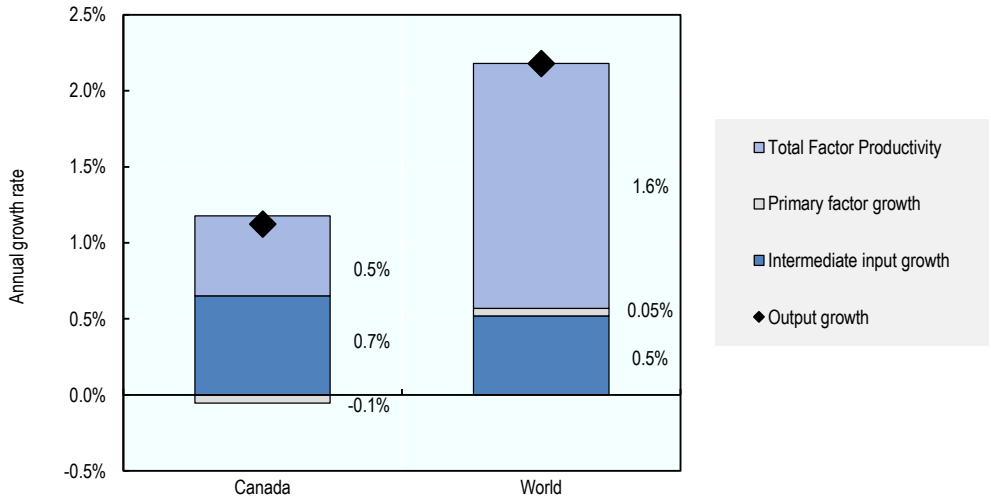


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

At 1.1%, Canada's agricultural output growth over the decade 2007-16 was below the global average. Total factor productivity (TFP) growth has become much less dynamic than in the 1990s and intermediate input growth, in particular the use of fertilisers, has come to be the primary driver of agriculture output growth (Figure 6.7). Nevertheless, agriculture output growth has been achieved with either reduced or minimally increased pressure on natural resources, as shown in various environmental indicators. Average

nutrient surplus intensities have been stable since 2000 for nitrogen and decreasing for phosphorous. Both nutrient surpluses are below the average for OECD countries, as is the share of agriculture in Canada's GHG emissions, although the latter has increased since 2000 (Table 6.4).

Figure 6.7. Canada: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 6.4. Canada: Productivity and environmental indicators

	Canada		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	2.4%	0.5%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	24.0	23.7	33.2	28.9
Phosphorus balance, kg/ha	1.5	0.6	3.4	2.6
Agriculture share of total energy use (%)	2.2	3.5	1.7	2.0
Agriculture share of GHG emissions (%)	7.8	8.1	8.4	9.5
Share of irrigated land in AA (%)	1.2	1.0	-	-
Share of agriculture in water abstractions (%)	9.7	8.6	46.0	43.4
Water stress indicator	1.2	0.9	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Notes

[1] In Canada, the term “agri-food” is more common and generally includes upstream industries in addition to agriculture and the downstream value-chain. In this chapter, policy measures related to the “agro-food” sector reflect this notion.

[2] Canada was the initiator of a joint statement with a group of WTO Members called “Responding to the COVID-19 pandemic with open and predictable trade in agricultural and food products” (https://trade.ec.europa.eu/doclib/docs/2020/april/tradoc_158718.pdf)

[3] The amount of greenhouse gas (GHG) emissions associated with all stages of fuel production and use per unit of energy.

[4] A group of 13 WTO Members: Australia, Brazil, Canada, Chile, the European Union, Japan, Kenya, South Korea, Mexico, New Zealand, Norway, Singapore and Switzerland.

7 Chile

Support to agriculture

Chile's support to farmers is among the lowest of OECD countries, at 2.6% of gross farm incomes in 2018-20, down from 7.3% in 2000-02. Since Chile reduced border protection during the first decade of this century, agricultural support creates very limited distortions to agricultural markets, with almost no market price support to the sector as domestic producer prices almost fully align with world prices.

Budgetary support to farms mostly targets small-scale farmers, mainly based on input use, particularly to support fixed capital formation. More than half of public expenditures in the sector go to general services (GSSE), especially for off-farm irrigation infrastructure, inspection and control, land access and restructuring, and agricultural knowledge and innovation systems. At 4% of agricultural value-added in 2018-20, expenditures for general services were slightly below the OECD average. Total agricultural support represented 0.3% of GDP in 2018-20, half the ratio observed in 2000-02.

Recent policy changes

Chile's focus during 2020 was to implement policies within a framework of the current administration's four strategic pillars: (1) sustainability and water, (2) institutional modernisation, (3) promotion of farmer associativity, and (4) rural development. Nonetheless, due to the COVID-19 pandemic, some priorities were adapted and existing programmes or initiatives reinforced or put on hold. For example, public-private co-ordination initiatives were strengthened to guarantee the production and distribution of food across the country.

During 2020, new regulations applied to the PRODESAL and PADIS programmes, focused on improving smallholders' wellbeing. These involved establishing bilateral agreements between the national government and 254 municipalities that implement those programmes. INDAP (the smallholders' agency) and the Ministry of Public Works signed a strategic collaboration agreement to ensure potable water supplies for INDAP beneficiaries, seeking synergies between both institutions to promote rural development.

The animal and plant health agency (SAG) promoted electronic certification, now established for exports to 34 countries and covering around 70% of all phytosanitary certificates. It also provides for important development potential for sanitary certification.

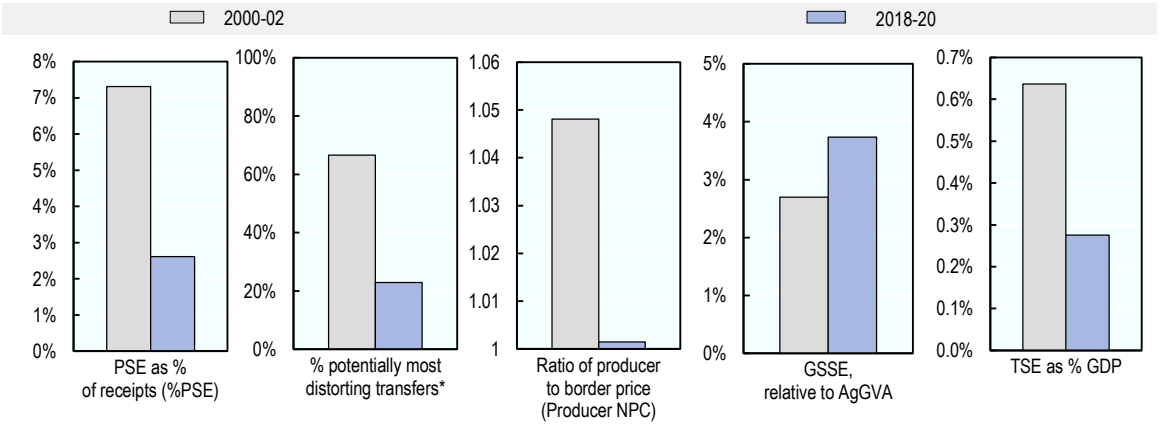
At national level, Chile began to update its climate change adaptation plan for agriculture, with commitments by the sector in the National Determined Contribution (NDC). The plan has three objectives: (1) governance and co-ordination of sub-national adaptation planning in the agriculture and forestry sector in the country's sixteen administrative regions; (2) a co-ordinated approach to the country's general development policy and strategy; and (3) territorial implementation of a pilot project on climate change adaptation in the region of Aysén in order to evaluate and possibly scale up to other regions.

The Office of Agricultural Policies and Studies (ODEPA) is co-ordinating new actions of the Ministry of Agriculture on water. In 2020, three tasks were achieved: (1) the starting of the design of an action plan, that should provide guidelines on water resources for the agencies of the Ministry of Agriculture; (2) the creation of a water board that discusses and identifies main water concerns for agriculture; and (3) the creation of a technical working group on water resources within the Ministry of Agriculture.

Assessment and recommendations

- Chilean agricultural policies involve almost no market distortions and producer support is low at an average 2.6% of gross farm receipts in 2018-20. Moreover, total support to agriculture imposes a smaller burden on the economy than in most OECD countries, accounting for only 0.3% of GDP in 2020.
- Chile emphasises the provision of public services to the agricultural sector. As a result, general services account for around 50% of total support to the sector, allocated mostly to irrigation infrastructure inspection and control, and agricultural knowledge and innovation systems. Even so, expenditures are low relative to agricultural value added, and could potentially be scaled up further.
- Payments to farmers target small-scale agriculture and indigenous farmers, who potentially are most in need. While these payments aim to improve productivity, competitiveness, recovery of degraded soils, and on-farm irrigation systems, attention should be paid to their effectiveness. Impact assessments should be carried out systematically, as these payments account for about half of public outlays directed at the sector.
- Given the rising number of support programmes targeting rural populations not directly implemented by the Ministry of Agriculture, improved co-ordination across ministries and agencies that provide support to the agricultural sector, and strong systems of evaluation, are key to ensuring efficient use of public resources.
- Moreover, given the increasing number of support programmes developed by regional governments targeting rural populations, improved co-ordination, communication and accountability processes are needed between regional and national governments to avoid overlapping efforts and supports.
- Chile positions itself as supporting strong climate action. Chile committed to a 30% emissions reduction by 2030 relative to 2007, and significant efforts, such as the climate change adaptation plan for agriculture, both mitigate greenhouse gas (GHG) emissions and adapt to climate change within the commitment made by the sector in the National Determined Contribution (NDC). This commitment will have important implications for agriculture.

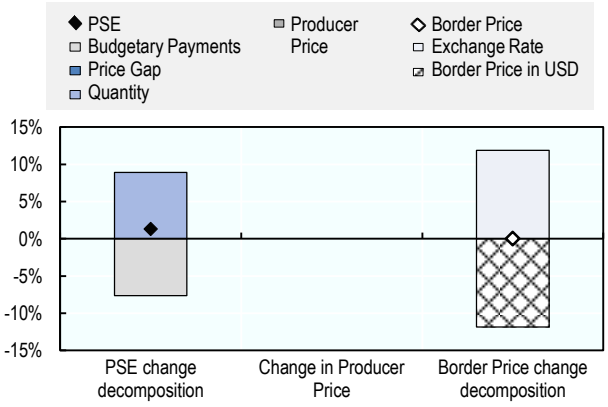
Figure 7.1. Chile: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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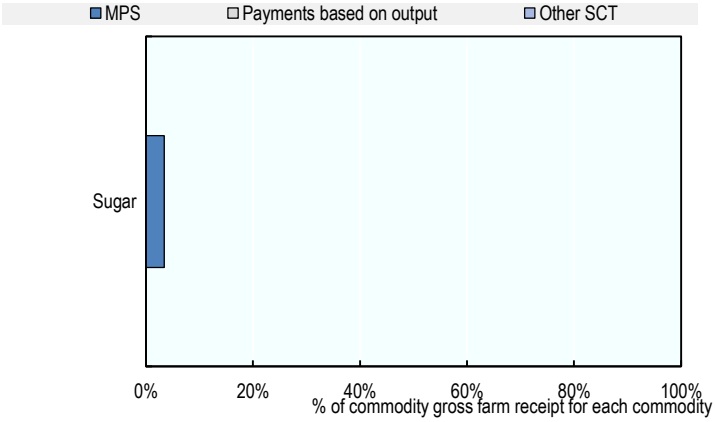
Figure 7.2. Chile: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/lvmdwf

Figure 7.3. Chile: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/fvisku

Table 7.1. Chile: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**4 806**	**13 480**	**14 714**	**13 281**	**12 444**
***of which:** share of MPS commodities (%)*	72.9	73.5	69.4	71.7	79.3
Total value of consumption (at farm gate)	**4 118**	**10 053**	**11 621**	**9 504**	**9 034**
Producer Support Estimate (PSE)	**369**	**361**	**387**	**366**	**329**
Support based on commodity output	227	19	14	7	35
Market Price Support[1]	227	19	14	7	35
Positive Market Price Support	228	19	14	7	35
Negative Market Price Support	-1	0	0	0	0
Payments based on output	0	0	0	0	0
Payments based on input use	140	330	364	338	287
Based on variable input use	21	63	68	67	55
with input constraints	0	0	0	0	0
Based on fixed capital formation	85	181	201	183	158
with input constraints	66	88	99	89	77
Based on on-farm services	35	86	95	88	74
with input constraints	7	37	35	40	36
Payments based on current A/An/R/I, production required	1	12	9	21	7
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	1	12	9	21	7
with input constraints	1	12	9	21	7
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**7.3**	**2.6**	**2.6**	**2.7**	**2.6**
Producer NPC (coeff.)	**1.05**	**1.00**	**1.00**	**1.00**	**1.00**
Producer NAC (coeff.)	**1.08**	**1.03**	**1.03**	**1.03**	**1.03**
General Services Support Estimate (GSSE)	**103**	**406**	**464**	**452**	**303**
Agricultural knowledge and innovation system	22	76	96	73	59
Inspection and control	3	110	101	120	109
Development and maintenance of infrastructure	67	208	251	247	127
Marketing and promotion	10	12	15	13	7
Cost of public stockholding	0	0	0	0	0
Miscellaneous	1	0	0	0	0
Percentage GSSE (% of TSE)	**22.0**	**52.7**	**54.5**	**55.3**	**47.9**
Consumer Support Estimate (CSE)	**-317**	**-24**	**-32**	**-25**	**-17**
Transfers to producers from consumers	-226	-13	-14	-7	-17
Other transfers from consumers	-92	-12	-17	-18	0
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	1	0	0	0	0
Percentage CSE (%)	**-7.5**	**-0.2**	**-0.3**	**-0.3**	**-0.2**
Consumer NPC (coeff.)	**1.08**	**1.00**	**1.00**	**1.00**	**1.00**
Consumer NAC (coeff.)	**1.08**	**1.00**	**1.00**	**1.00**	**1.00**
Total Support Estimate (TSE)	**472**	**767**	**851**	**818**	**632**
Transfers from consumers	318	24	32	25	17
Transfers from taxpayers	245	754	837	812	615
Budget revenues	-92	-12	-17	-18	0
Percentage TSE (% of GDP)	**0.6**	**0.3**	**0.3**	**0.3**	**0.3**
Total Budgetary Support Estimate (TBSE)	**244**	**748**	**837**	**812**	**597**
Percentage TBSE (% of GDP)	**0.3**	**0.3**	**0.3**	**0.3**	**0.2**
GDP deflator (2000-02=100)	**100**	**233**	**224**	**230**	**245**
Exchange rate (national currency per USD)	**621.08**	**712.31**	**641.90**	**703.31**	**791.72**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Chile are: wheat, maize, apples, grapes, sugar, tomatoes, milk, beef and veal, pig meat, poultry, eggs, blueberries, cherries and peaches.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Prior to 1973, agricultural policies in Chile followed an import substitution industrialisation model. The country implemented measures such as price and production controls for staples (e.g. wheat), import tariffs, and export restrictions. At the same time, key institutions were created that remain in place, such as INDAP (the smallholders' agency), SAG (animal and plant health), INIA (agricultural innovation), and others. During this period, the government also undertook land reform, providing land to small-scale farmers and landless people (Anderson and Valdés, 2008[1]).

Economic and agricultural policies shifted in 1973. Chile was the first country in the developing world to adopt market oriented open-economy reforms and structural macroeconomic reforms. These reduced the role of government in the economy and liberalised trade (OECD, 2008[2]).

From 1973-83, general reforms such as macroeconomic stabilisation went into effect while agricultural sector-specific reforms were deferred. However, marketing boards and price control agencies for agricultural products were dismantled, import tariffs were reduced and export restrictions were lifted. From the mid-1980s, the government took measures to improve competitiveness and stimulate production and exports, principally by providing general services to the sector. Several agricultural institutions related to innovation and irrigation were created, but smallholder development, the environment and resource use received little attention (Anderson and Valdés, 2008[1]).

Since the restoration of democracy in 1990, agricultural policy focuses on three objectives: (1) increasing competitiveness, (2) achieving more balanced agricultural development by better integrating poorer, less-competitive, farmers into commercial supply chains, and (3) preserving the environment through sustainable use of resources. Successive governments continued to commit to open markets. Tariffs were further reduced and numerous Free Trade Agreements (FTAs) were signed, granting trade preferences to partners for agricultural products (OECD, 2008[2]) (Table 7.2).

Table 7.2. Chile: Agricultural policy trends

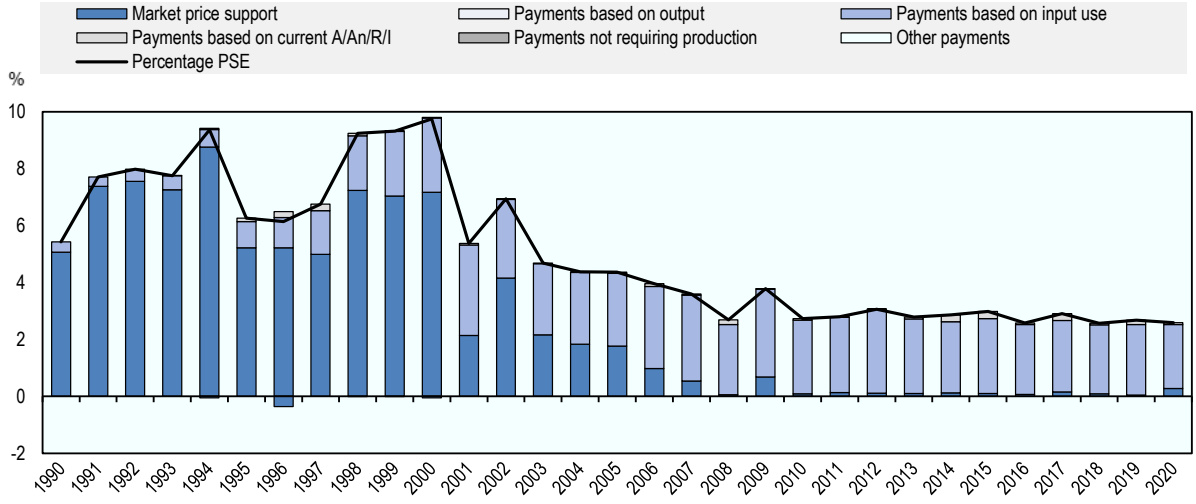
Period	Broader framework	Changes in agricultural policies
Prior to 1973	Import substitution industrialisation model Closed economy	High import tariffs Price controls (e.g. minimum prices of main agricultural products such as wheat, fixed consumer prices, fixed marketing margins) Export quotas, licenses and export bans on main staple foods Subsidies to some producers (e.g. milk) Interventions in input markets Investments in agricultural infrastructure (e.g. slaughterhouses, storage and processing facilities, roads) Establishment of key agricultural institutions (e.g. INDAP, SAG, INIA, COTRISA) Land reform
1973-1990	Reforms for trade liberalisation	Removal of agricultural price controls Dismantling of marketing boards and price control agencies, except for wheat, milk and oilseeds Rapid tariff reduction on most imports Introduction of a uniform, non-discriminatory tariff system Elimination of export restrictions Establishment of price stabilisation mechanisms (price band systems) for imported products (wheat, sugar and oilseeds) Creation of further agricultural institutions (e.g. FIA, CNR)

Period	Broader framework	Changes in agricultural policies
1990- present	Return to democracy continues with open markets model	Most Favoured Nation tariff reduction up to 1% by 2020 for all agricultural products Many free trade agreements signed Dismantling of the price band systems for sugar and oilseed Increase in budgetary allocation to support smallholders and for investments in general services

As market price support (MPS) has practically disappeared, Chile's level of producer support declined from close to 10% of gross farm receipts at the end of the 1990s to below 4% throughout the 2010s, and averaged 2.6% in the past three years. To some extent, MPS was replaced by payments related to agricultural input use, targeted to small-scale agriculture. Budgetary support also increased towards the provision of general services, which today account for half of Chile's total support estimate to agriculture.

Figure 7.4. Chile: Level and PSE composition by support categories, 1990 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Agricultural policy remained mostly unchanged over the past ten years, emphasising the development of small-scale agriculture, improvement of sustainable productivity and competitiveness, and conservation of natural resources.

Around half of budgetary expenditures are direct payments to small-scale farmers. These include various input subsidies and access to credit at preferential interest rates; subsidies for fixed capital formation, in particular improving degraded soils; and on-farm services like producer association programmes for small-scale and indigenous farmers.

The second half of budgetary expenditure finances general services to the agricultural sector, such as investments in infrastructure, mainly the expansion and improvements of irrigation systems, restructuring of and access to land, agricultural research and development, sanitary and phytosanitary services and inspection services.

Open trade helped Chile become an important producer and exporter of agricultural and food products such as fruits, vegetables, dairy products, poultry, pig meat and wine. Moreover, MPS declined over time as MFN tariffs for agricultural products fell to 1%.

Domestic policy developments in 2020-21

The year 2020 was dedicated to the implementation of policies within the framework of the four strategic pillars of the current administration: a) sustainability and water, b) institutional modernisation, c) promotion of farmer associativity, and d) rural development. Nonetheless, due to the COVID-19 pandemic some of the priorities were adapted and while some existing programmes or initiatives were reinforced others were put on hold. For example, public-private co-ordination initiatives were strengthened to guarantee the production and distribution of food across the country.

The Institute for Agricultural Development (INDAP) – an agency promoting smallholders' agriculture – continued modernising the governance of three of its emblematic programmes: the Local Development Programme (PRODESAL), the Agricultural Programme for the Comprehensive Development of Small Farmers of the Coquimbo Region (PADIS), and the Technical Advice Programme (SAT). New regulations (now more focused on the improvement of smallholders' wellbeing) were applied for PRODESAL and PADIS during 2020. These regulations involved the creation of national/local agreements with 254 municipalities that implement those programmes. New rules to the SAT programme were also established, which now require business plans for beneficiaries. An investment subsidy and a new credit line were also incorporated into this programme.

During 2020, INDAP and the Ministry of Public Works signed a collaboration agreement to provide potable water for INDAP beneficiaries and seeking synergies between both institutions to promote rural development such as better water management in agricultural activities.

The rural development initiative in the Araucania Region was created in 2020 and aims to develop a modern and sustainable agriculture by focusing on three strategic lines: 1) Rural Development; 2) Foster productive diversification; and 3) Associativity and market. Several programmes were created to strengthen small-scale agriculture under this initiative.

Around 83% of the area of Chile belongs to rural municipalities (263 of the 346), where 25.5% of the national population lives. The Ministry of Agriculture is working to improve the quality of life of the rural population and reduce the gaps with respect to those living in urban territories. For this, the National Rural Development Policy was published in May 2020, which aims to improve access and quality of public services and connectivity in rural areas. This initiative also seeks to guide actions, programmes, and projects of different Ministries by developing a better targeting and avoiding overlapping.

As part of, the national plan "Más Unidos" ("working closely"), that aims to encourage farmers' associations, the Ministry of Agriculture began during 2020 the development of a strategy for associations within the agricultural, livestock and forestry sectors which will be the reference framework for the next ten years.

During 2020, the animal and plant health agency, the Agriculture and Livestock Service (SAG) promoted the electronic certification in its different modalities, reaching 34 countries, transmitting around 70% of the total phytosanitary certification and with an important development potential for zoo-sanitary certification. This tool has allowed to maintain the commercial flow, speed-up processes, improve communication among all actors and facilitate the exchange of agricultural, livestock and forestry products by eliminating the use of paper in port procedures.

The final draft of the "Sustainability Strategy for the Chilean Agri-food Sector" was submitted during November 2020 to stakeholders (farmers associations, agribusiness associations, academia, NGOs, and public sector). The draft included three general dimensions: 1) environmental dimension (i.e. water, soil, climate change, biodiversity and ecosystem services), 2) social dimension (i.e. relationship with local

communities, labour regulations, healthy food and food safety), and 3) economic dimension (i.e. resilience, market development and competitiveness).

In April 2020, the Office of Agricultural Policies and Studies (ODEPA) established a technical board, bringing together experts from SAG and INDAP, to prepare a proposal for updating the emblematic Programme of Incentives for Agro-Environmental Sustainability of Agricultural Soils (SIRDS-S). The idea is to maintain the focus of the programme on recovering the productive potential of degraded soils but in a more sustainable way.

At national level, Chile began to update its climate change adaptation plan for agriculture, within the framework of compliance with the commitment made by the sector in the National Determined Contribution (NDC). The plan has three main objectives: 1) establishment of a governance and co-ordination of sub-national adaptation planning in the agricultural and forestry sector in the sixteen administrative regions of the country; 2) alignment of the country's general development policy and strategy; and 3) start the territorial implementation of a pilot project on climate change adaptation in the region of Aysén in order to evaluate and potentially scale up to other regions.

ODEPA is co-ordinating new actions of the Ministry of Agriculture on water. In 2020, three tasks were achieved: 1) the starting of the design of an action plan that should provide main guidelines on water resources for the agencies of the Ministry of Agriculture; 2) the creation of a water board for agriculture; and 3) the creation of a technical working group on water resources within the Ministry of Agriculture.

Domestic policy responses to the COVID-19 pandemic

In response to the health crisis caused by COVID-19, INDAP decided to postpone the expiration date of all credit operations (credits, extensions, renegotiations) from March to June. This extension was automatic, and only implied the change of the due date, without affecting the rest of the original conditions of the credit, nor the risk category, 17 225 farms benefited from the extension. Moreover, INDAP created a special credit renegotiation programme for all its credit beneficiaries, in which 50% of the interest is written-off. The rest of the debt is renegotiated according to the farmer's payment capacity.

Moreover, INDAP made more flexible its irrigation programme regulations to smallholders (e.g. rescheduling of debts, reduction of interest rates) and increased its credit allocations. Moreover, the National Irrigation Commission (CNR) implemented an easing of requirements to apply to the instruments of Law No. 18.450 (on-farm irrigation subsidies) for the promotion of private investment in irrigation.

To avoid major disruptions in the agro-food chains during the pandemic, the Ministry of Agriculture established a public-private co-ordination, the Safe Supply Committee (*Comité de Abastecimiento Seguro*), with the participation of different stakeholders, including the private sector, to co-ordinate joint actions and centralise information. Additionally, ODEPA maintained its monitoring and continuous dissemination concerning the evolution of producer and consumer prices and import prices. Furthermore, a series of actions were launched:

- Creation of a Council of Ex-Ministers of Agriculture, as an advisory body of a consultative nature, whose function has been to advise the Ministry of Agriculture in the management of contingencies that put the functioning of the food chains at risk.
- Meetings of the Council of Ministers of Agriculture of Americas, which reunites 35 ministers of agriculture of the Americas, to ensure the food supply of the region and learn from the experiences of other countries.
- Identification of critical points in the entire food chains (production, distribution, commercialisation) and permanent monitoring of the national and international markets, through ODEPA. This monitoring has identified, in a timely manner, the areas where the support of the ministry is necessary to unblock bottlenecks of the supply chains of agricultural products.

- Co-ordination with local authorities to ensure the operation of local markets and street markets (*Ferias libres*).
- Creation of a website[1] with official information on the sanitary situation, protocols for agricultural facilities and a Manual of Good Hygiene Practices in street markets (*Ferias libres*).
- All administrative procedures of the Ministry of Agriculture agencies started to be carried out online.

The government implemented an emergency income support for families that experienced a reduction in their incomes. This support has been maintained in 2021.

Food baskets are delivered to the poorest families with schoolchildren who normally get food at school canteens but have been affected by the suspension of classes.

The programme (Food for Chile/*Alimentos para Chile*) provided food baskets to the poorest families that were affected by the lockdowns in 2020. It delivered around 5.6 million baskets with food and hygiene products.

Trade policy developments in 2020-21

To deepen bilateral preferential trade, Chile is broadening the Partial Scope Agreement (PSA) with India, in force since 2007 and once modernised in 2017. Ongoing negotiations with the European Union continued in 2020. Negotiations with the European Free Trade Association (EFTA) continue during 2021. During 2020, Chile and Paraguay began their negotiations for a Free Trade Agreement, the first round of negotiations was held in 2020 and the next rounds will continue during 2021. In the context of the Brexit, Chile and the United Kingdom have signed an agreement that entered in force on 1 January 2021.

Access to the market for the People's Republic of China (hereafter "China") was secured for pears, hazelnuts (without shell), citrus fruits, honey and bee products; access to the Indian market was secured for blueberries, avocados, nuts with/without shell; and access to Viet Nam was secured for apples. At the Chilean border control, the SAG's Import Information System (SIIS) was also implemented, enabling a paperless registration connected with customs agencies and importers.

Contextual information

Chile has averaged a real GDP growth of around 4% since 2000 that helped it to become an upper middle-income country. Agriculture accounted for 3.9% of GDP and 9% of total employment in 2019. It has a dual structure, where small-scale labour intensive farms co-exist alongside a large-scale commercial farm sector. Chile is a net exporter of agro-food products with a surplus of around USD 5 billion (excluding fish and forestry). Agro-food exports were around 18% of total exports of the country.

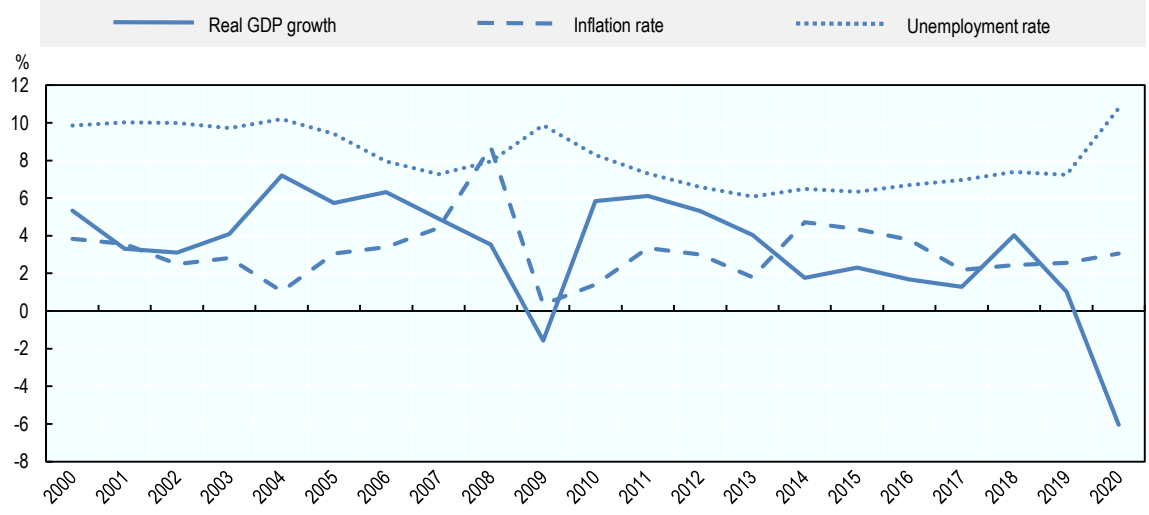
In 2020, Chile, like most of countries, was hit by the global pandemic. Consequently GDP growth was negative and the unemployment rate increased. Chile's agricultural and agro-food sector has been successful in adding value to the production of primary commodities, by producing more differentiated products like temperate fruits and processed products such as wine. In 2019, 87% of exports were mostly products for final consumption, both primary and processed, and only 13% were products for further industrial processing. Agro-food imports are mostly processed products, where 61% are for consumption and 24% for further processing in industry.

Table 7.3. Chile: Contextual indicators

	Chile		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	147	477	0.4%	0.4%
Population (million)	15	19	0.4%	0.4%
Land area (thousand km²)	744	744	0.9%	0.9%
Agricultural area (AA) (thousand ha)	15 110	15 693	0.5%	0.5%
			All countries[1]	
Population density (inhabitants/km²)	21	26	53	63
GDP per capita (USD in PPPs)	9 519	25 041	9 265	21 975
Trade as % of GDP	22	25	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	5.9	3.9	2.9	3.5
Agriculture share in employment (%)	14.1	9.0	-	-
Agro-food exports (% of total exports)	17.0	18.1	6.2	7.3
Agro-food imports (% of total imports)	7.7	10.1	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	68	65	-	-
Livestock in total agricultural production (%)	32	35	-	-
Share of arable land in AA (%)	12	8	32	34

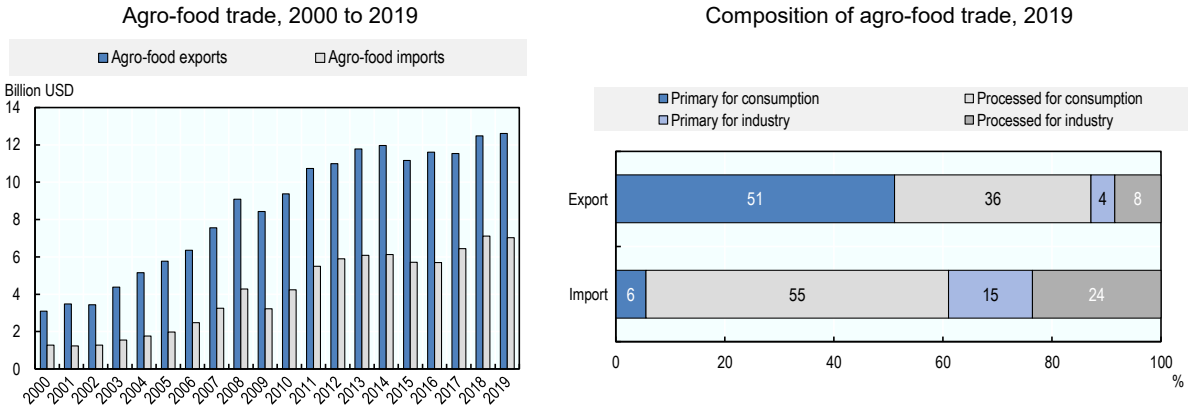
Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Figure 7.5. Chile: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

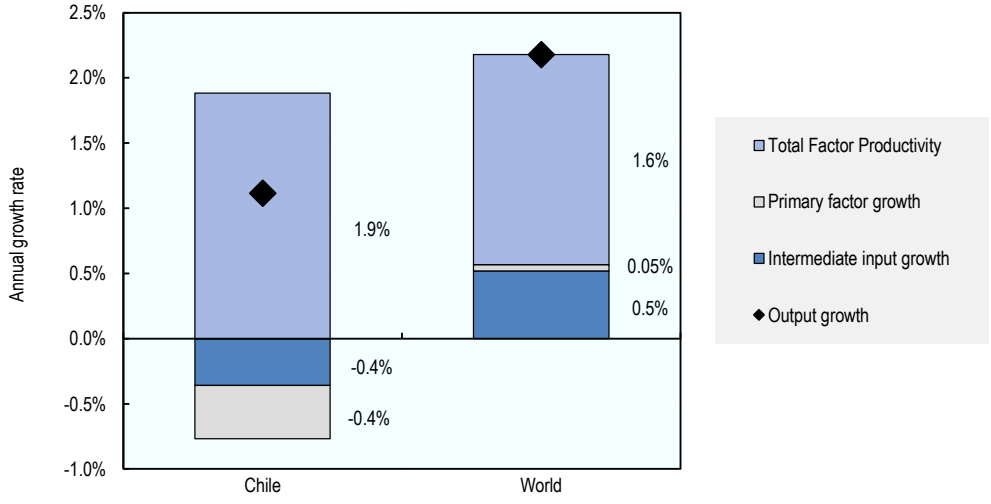
Figure 7.6. Chile: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

The agricultural sector has played a key role in Chile's economic success, both benefiting from stability and reforms, and making an important contribution via strong output and exports growth. Productivity growth has been central to Chile's agriculture. With a relatively stable use of primary and intermediate inputs into production, growth in output has been achieved by significant improvements in total factor productivity (TFP), with an average of 1.9% per year over the period 2007 to 2016, slightly higher than the global average. Agriculture contributes with around 11% of GHG emissions, while only 7% of the total agricultural land is irrigated.

Figure 7.7. Chile: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 7.4. Chile: Productivity and environmental indicators

	Chile		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	2.2%	1.9%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	..	..	33.2	28.9
Phosphorus balance, kg/ha	..	..	3.4	2.6
Agriculture share of total energy use (%)	..	1.7	1.7	2.0
Agriculture share of GHG emissions (%)	18.3	10.6	8.4	9.5
Share of irrigated land in AA (%)	7.0	7.0	-	-
Share of agriculture in water abstractions (%)	..	..	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Note

[1] http://covid19.minagri.gob.cl/.

8 China

Support to agriculture

The share of support to agricultural producers in gross farm receipts in the People's Republic of China (hereafter "China") decreased gradually since 2016 after two decades of steady growth. This support averaged 12.5% in 2018-20, reflecting policy reforms with respect to market intervention for soybeans, rapeseed, cotton and maize, as well as to the minimum purchase price for wheat and rice. The nominal depreciation of the CNY against the USD since 2014 (after a long period of appreciation) is another factor influencing the evolution of price gaps and contributing to stabilising levels of market price support (MPS) in recent years. Payments based on planted area have consistently increased since 2014 as a result of the recent reforms, but MPS remains the dominant part of total support, generated through both domestic price support policies and various border measures on imports. Overall, more than two-thirds of support to producers are in the form of potentially most-distorting transfers, a consistent pattern since 2000-02.

MPS levels differ across imported commodities, while prices of exported commodities are not supported. With the exception of eggs, peanuts, and fruit and vegetables that are exported, producers benefited from large transfers accounting for between 10% and 60% of commodity receipts in 2018-20. Prices received by farmers were on average 10% higher than world prices in 2018-20. The higher domestic producer prices on average indicate an implicit tax imposed on consumers, with a percentage consumer support estimate of -9.6% in 2018-20.

Within the general services support estimate (GSSE), three categories attract the largest financial support: public stockholding, development and maintenance of infrastructure, and the agricultural knowledge and innovation system. However, the GSSE corresponds to only 14.1% of total support to agriculture in 2018-20, and at 3% relative to agriculture value-added the GSSE is below the OECD average. Total support to agriculture as a share of GDP (%TSE) has remained relatively stable since 2000-02. At 1.6% in 2018-20, %TSE was nevertheless one of the highest among the countries covered, and about three times the OECD average.

Recent policy changes

Through the February 2021 No. 1 Central Document and the March 2021 14th Five-Year Plan 2021-2025 for National Economic and Social Development, China stepped up the focus on food availability aiming to boost grain yields, increase support for the domestic seed industry and enhance digital technology use in agriculture.

China took a diverse set of measures related to the agro-food sector in response to the COVID-19 crisis, focusing on institutional measures, overall economic measures, support to agricultural production, information and co-ordination measures, and trade measures affecting the operation of supply chains. In support to agricultural production, the minimum support price for indica rice increased in February 2020 for the first time since 2014. The 14th Five-Year Plan 2021-2025 targets further increases in minimum support prices for both wheat and rice. In May 2020, the National Development Research Council (NDRC)

released a food security response plan to the COVID-19 pandemic restricting further shifts in farmland to non-grain crops use and consolidating the central government's oversight of stocks in regions and provinces.

Since June 2020, China implemented measures to test for infectious SARS-CoV-2 material in domestic and imported food and food packaging. In December 2020, China introduced additional COVID-19 protocols at the border for agro-food transactions, which include testing and disinfection of agro-food products at border posts. It also established an online national traceability platform managed by the State Administration for Market Regulation (SAMR) operating in 13 provinces, where food companies have to report information on imported goods.

The three-year safeguard on sugar ended in May 2020 and the out-of-quota tariff dropped from 85% to 50%. Following the end of the safeguard, in July 2020 China introduced automatic import licensing for out-of-quota sugar imports.

The Regional Comprehensive Economic Partnership (RCEP) was concluded in November 2020. China's schedule of tariff commitments foresees tariff reductions and phase-outs for selected agro-food goods such as meat products, while other commodities such as cereals are largely excluded.

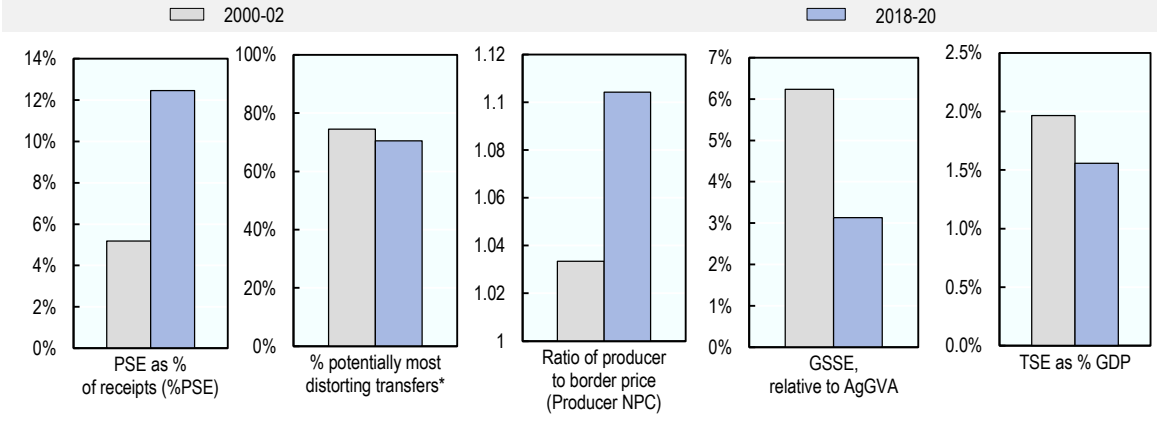
Assessment and recommendations

- Recent reforms to replace intervention prices for key crops by direct payments based on area planted are a step in the direction of rebalancing the policy portfolio. This reflects China's increasing policy orientation towards long-term productivity growth and sustainability. The reform of the maize purchasing and storage system towards direct payments eased the burden of public stockholding costs, which still represent the largest expenditure share in general services support. Such reforms could be gradually extended to include wheat and rice. Should direct payments to farmers be maintained over a longer-term, the link between these payments and production decisions should be loosened for instance by providing payments on a historical area basis, and 'greened' by making them conditional on environmentally friendly production practices.
- Public expenditures on general services have increased, but at a slower pace than support to individual producers. More efforts are needed to restructure agricultural support towards public investment in research and development, and agricultural infrastructure. In particular, further investments in sanitary inspection and control services will be key to support implementation of the revised provisions of the Food Safety Law, the envisaged nation-wide surveillance system for diseases and pests, and ultimately the recovery of the pig meat sector affected by African swine fever. This restructuring of public expenditure can be achieved by scaling down input subsidies, such as the subsidy to purchase farm machinery, and ensuring that support through direct payments only has a transitory role in backing farmers' adjustment to a new market environment.
- Reforms to land transfer rules contributed to the emergence of "new-style" farms, including large family farms, co-operative farms and farms run by agribusiness companies. To continue delivering expected outcomes, these reforms need to be complemented by investments in education and training, and improved access to financial services.
- To establish a solid framework for agri-environmental policies, China should define environmental targets adapted to local ecological conditions and strengthen monitoring mechanisms for the enforcement of environmental regulations. In this sense, the soil environmental information platform and monitoring system with regular soil examinations – under the 2019 Soil Pollution Prevention and Control Law – need to be fully implemented and can set the stage for similar efforts relating to water use in agriculture. More specifically, under continued discussions on the establishment of a national groundwater environmental monitoring system, a comprehensive

review of water governance could better define responsibilities, remove conflicts, and ensure effective and efficient policy implementation.

- China's Nationally Determined Contribution (NDC) recognises agriculture's importance to its economy-wide emission-reduction target, but no sector-specific targets were set. Nevertheless, a number of policy efforts aim to mitigate greenhouse gas (GHG) emissions by focusing on fertiliser efficiency, less emissions from rice cultivation, and agricultural biogas production. Several plans were put forward across institutions to strengthen policies supporting the sector's adaptation to climate change. In this context, the Ministry of Ecology and Environment could mainstream adaptation policy objectives across current and planned programmes, including better targeting of extension services for farmers. In addition, prior to any extension of insurance premium coverage, an evaluation of the performance of the subsidy to the agricultural insurance premium would assess its cost-efficiency and impacts on adaptation.

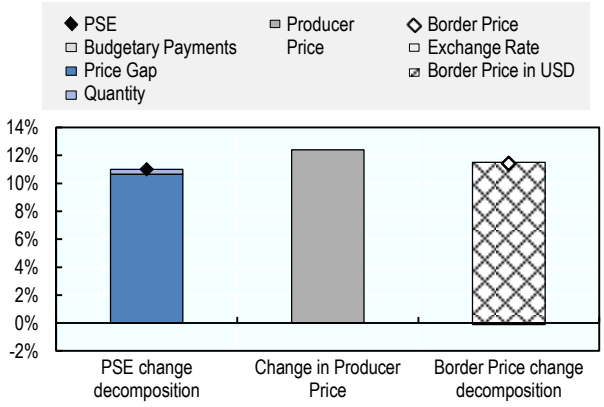
Figure 8.1. China: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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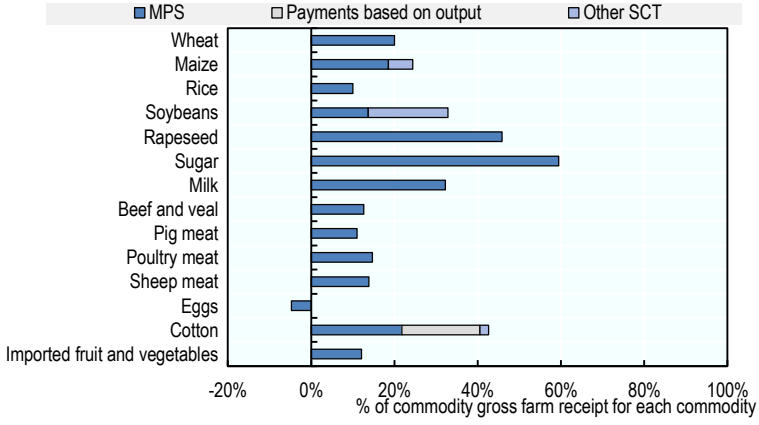
Figure 8.2. China: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Figure 8.3. China: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Table 8.1. China: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**270 118**	**1 472 294**	**1 362 576**	**1 434 460**	**1 619 846**
of which: *share of MPS commodities (%)*	75.8	80.6	80.3	80.7	80.9
Total value of consumption (at farm gate)	**281 331**	**1 556 683**	**1 423 557**	**1 527 298**	**1 719 193**
Producer Support Estimate (PSE)	**14 354**	**191 554**	**185 452**	**184 361**	**204 850**
Support based on commodity output	7 329	129 674	122 776	122 910	143 336
Market Price Support[1]	7 329	126 680	118 609	120 504	140 927
Positive Market Price Support	11 162	128 433	120 370	122 168	142 762
Negative Market Price Support	-3 833	-1 753	-1 761	-1 664	-1 834
Payments based on output	0	2 994	4 167	2 406	2 408
Payments based on input use	5 684	20 475	22 917	19 244	19 264
Based on variable input use	1 414	4 305	5 568	3 671	3 675
with input constraints	0	0	0	0	0
Based on fixed capital formation	3 026	13 519	14 702	12 920	12 933
with input constraints	0	0	0	0	0
Based on on-farm services	1 244	2 652	2 647	2 653	2 656
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	533	26 700	26 181	26 946	26 974
Based on Receipts / Income	533	2 095	2 116	2 084	2 086
Based on Area planted / Animal numbers	0	24 605	24 064	24 863	24 889
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	370	12 484	11 254	13 092	13 106
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	370	12 484	11 254	13 092	13 106
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	438	2 221	2 324	2 168	2 171
Based on long-term resource retirement	438	2 221	2 324	2 168	2 171
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**5.2**	**12.5**	**13.0**	**12.3**	**12.2**
Producer NPC (coeff.)	**1.03**	**1.10**	**1.11**	**1.10**	**1.10**
Producer NAC (coeff.)	**1.05**	**1.14**	**1.15**	**1.14**	**1.14**
General Services Support Estimate (GSSE)	**11 861**	**31 643**	**35 838**	**29 530**	**29 560**
Agricultural knowledge and innovation system	1 347	7 208	7 492	7 062	7 069
Inspection and control	349	2 581	2 114	2 812	2 815
Development and maintenance of infrastructure	3 424	6 232	8 351	5 169	5 174
Marketing and promotion	0	405	380	417	418
Cost of public stockholding	6 741	15 218	17 501	14 070	14 084
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**45.0**	**14.1**	**16.2**	**13.8**	**12.6**
Consumer Support Estimate (CSE)	**-8 512**	**-149 630**	**-133 514**	**-143 131**	**-172 246**
Transfers to producers from consumers	-8 688	-135 617	-127 603	-128 655	-150 592
Other transfers from consumers	-1 119	-21 710	-14 276	-21 534	-29 320
Transfers to consumers from taxpayers	128	0	0	0	0
Excess feed cost	1 167	7 696	8 365	7 058	7 666
Percentage CSE (%)	**-3.0**	**-9.6**	**-9.4**	**-9.4**	**-10.0**
Consumer NPC (coeff.)	**1.04**	**1.11**	**1.11**	**1.11**	**1.12**
Consumer NAC (coeff.)	**1.03**	**1.11**	**1.10**	**1.10**	**1.11**
Total Support Estimate (TSE)	**26 343**	**223 197**	**221 291**	**213 890**	**234 411**
Transfers from consumers	9 807	157 327	141 879	150 189	179 912
Transfers from taxpayers	17 655	87 581	93 688	85 235	83 818
Budget revenues	-1 119	-21 710	-14 276	-21 534	-29 320
Percentage TSE (% of GDP)	**2.0**	**1.6**	**1.6**	**1.5**	**1.6**
Total Budgetary Support Estimate (TBSE)	**19 014**	**96 517**	**102 681**	**93 386**	**93 483**
Percentage TBSE (% of GDP)	**1.4**	**0.7**	**0.7**	**0.7**	**0.6**
GDP deflator (2000-02=100)	**100**	**188**	**186**	**189**	**190**
Exchange rate (national currency per USD)	**8.28**	**6.81**	**6.62**	**6.91**	**6.90**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for China are: wheat, maize, rice, rapeseed, soybean, sugar, milk, beef and veal, sheep meat, pig meat, poultry, eggs, cotton, apples, groundnuts, peanuts, exported fruit and vegetables, and imported fruit and vegetables.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

The evolution of China's agricultural policy objectives reflects the changing role of agriculture at different stages of economic development. In the 1950s and 1960s, the agricultural sector was taxed to support the industrial sector's development. In the late 1970s, China initiated an important economic transformation process, implementing reforms towards a market-oriented economy with a direct impact on agriculture (OECD, 2005[1]; OECD, 2018[2]). China implemented its first rural reform, the household responsibility system (HRS), during 1978-84. This dismantled the people's communes and contracted cultivated land to individual households, mostly based on the number of people or labourers in the household.[1]

Until the late 1990s, agricultural policies focused on increasing food production, particularly grains, through the provision of fertiliser and other input subsidies to farmers. At the same time, policy actions targeted deregulation and diversification of marketing channels. Central and local governments allocated increasing support for irrigation.

Liberalisation of international trade started in the early 1990s with relaxation of trade restrictions and allowing private traders to play a role in agricultural commodity markets. In the context of China's WTO accession in 2001, the average import tariff for agricultural products fell from 42% in the early 1990s to 12% in the early 2000s.

In the 2000s, the growing income gap between urban and rural populations, and between developed and underdeveloped rural areas became an important policy issue. Increasing farmers' income was included among the key policy objectives together with food self-sufficiency[2] in several of the No. 1 Central Documents[3] during the 2000s. The importance of improving farmers' incomes was reflected in the introduction of minimum purchase prices for grains, the temporary purchasing and storage system, and subsidies for agricultural materials, superior crop varieties and agricultural insurance premiums.

Moreover, many of the No. 1 Central Documents emphasised other policy goals, such as ensuring the quality of agricultural products and food safety, enhancing agricultural competitiveness, and protecting the agricultural ecosystem. In the early 2000s, China introduced agri-environmental payments under programmes such as "Grain for Green" (officially called the Returning Farmland to Forests Programme), converting grazing land to grassland, or Grassland Ecological Protection.

In 2014, China further promoted land reforms through the "three rights separation system" into village collective landowner rights, individual household land contract rights, and land operation rights. These aimed to consolidate farm operations and contribute to productivity growth. To control the conversion of farmland for non-agricultural use, a "red line" on arable land was set at no less than 124.3 million hectares in the 2016 Adjusted Scenario of the Outline of the National Overall Planning on Land Use.

Reforms to the government-led temporary purchase and storage policy for cotton, soybeans and rapeseed at pre-determined prices were introduced in 2014-15, and 2016 for maize. For cotton, this was replaced by compensation payments covering the difference between pre-determined target prices and actual market prices. For soybeans and maize, it was replaced by direct payments based on area planted. In 2016, China also merged all subsidies on grain, seed and aggregate inputs into a single general income support payment. While wheat and rice remain subject to the minimum price procurement programme, support prices were gradually reduced between 2015 and 2019. In 2020, during the COVID-19 pandemic, the minimum support price increased for indica rice.

In 2017, China introduced a rural revitalisation strategy to close the urban-rural development gap. The rural revitalisation strategy foresees support to general services to increasingly contribute to the development of agro-food supply chains.

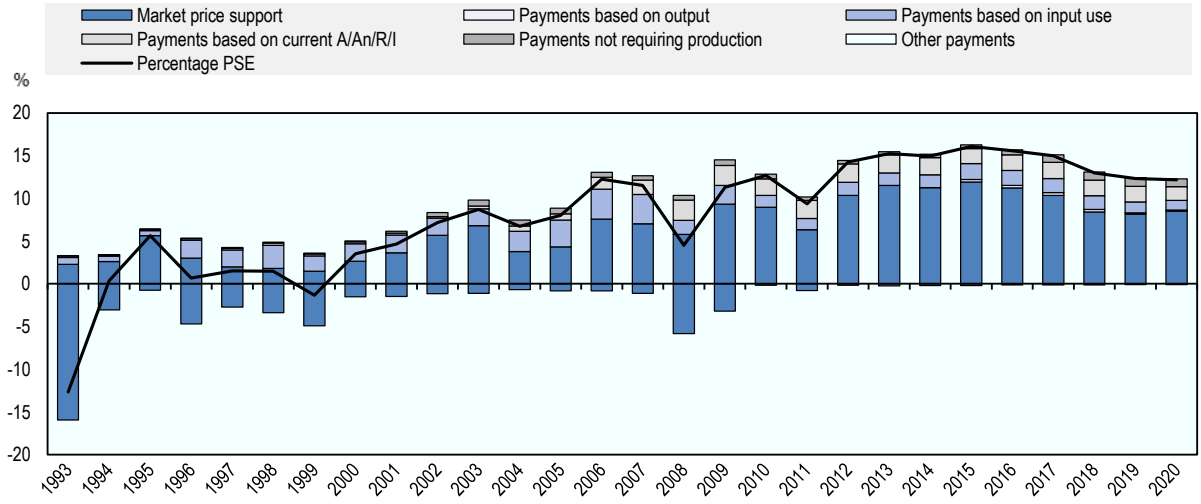
Table 8.2. China: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1978	Centrally planned economy	Centralised control of agricultural activities Collective and commune-farmer land systems Production, marketing and price controls, implicitly taxing agriculture Investments in irrigation systems and extension services State agricultural trading firms and high tariffs
1978-1999	Initial reforms to the centrally planned economy	Collective and commune land system dismantled, household responsibility system set up for land use Some deregulation of agricultural marketing State Grain Authority ensuring food availability and affordability to the population Public stockholding, food price subsidies to urban consumers Fertiliser and input subsidies
2000-2009	Improving farmers' incomes and food self-sufficiency key policy objectives Further trade liberalisation	Increase in spending on agricultural research and development Technical assistance services Input subsidies, implicit credit subsidies Increasing allocations to the "Grain for Green" conservation programme Input and output markets increasingly allow private traders WTO accession in 2001, free trade agreements signed, reduction of tariffs Minimum purchase price system for grains Temporary purchase and storage policy established for selected commodities
2010-2014	Increasing support to agriculture	Increasing minimum purchase prices, and larger set of commodities covered by the temporary purchase and storage system Agricultural insurance premium subsidies
Since 2014	Policy efforts to adjust the price support system and respond to agricultural productivity and sustainability challenges	Continued reforms in land transfer rules National Agricultural Sustainable Development Plan 2015-2030 Agricultural support and protection subsidy payments per area 2017 National strategy on "rural revitalisation" Dismantling of price support systems for cotton, soybeans, rapeseed, maize; introduction of direct payments based on area Gradual decrease in support prices for wheat and rice during 2015-19; increase in support price for indica rice in 2020

At the end of the 1990s, China's support to the agricultural sector mostly comprised budgetary allocations while market price support (MPS) was negative. Budgetary allocations went to input subsidies and general services to the sector. However, since 2002, MPS increased and became the main instrument to support agricultural producers. After 2009, China continued to increase its minimum support prices, leading to significant price gaps between domestic and international markets. Support to farmers increased until 2015, when reforms to commodities such as rapeseed, soybeans, cotton and maize contributed to lowering MPS. Nevertheless, MPS accounts for more than two-thirds of PSE, followed by budgetary support for payments based on current area and input subsidies (Figure 8.4).

Figure 8.4. China: Level and PSE composition by support categories, 1993 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Market price support is the main channel for providing support to Chinese farmers. It is provided through both domestic price policies, such as the minimum purchase prices for wheat and rice, and trade policies, including tariffs, tariff rate quotas (TRQ) and state trading.

The **minimum purchase prices** for wheat and rice are set every year by the National Development and Reform Commission (NDRC) in consultation with the Ministry of Agriculture and Rural Affairs (MARA), and other government institutions. Their application is limited to major wheat and rice producing provinces. The minimum purchase prices for wheat and rice are announced before sowing seasons, and only apply for several months after the harvest. The central government mandates that state-owned China Grain Reserves Corporation (Sinograin) and other state-owned companies undertake intervention purchases in case market prices fall below respective minimum prices. Only grain of national grade 3 or higher[4] can be purchased at minimum prices since 2018. However, in situations with large volumes of grain below grade 3, such as in cases of extreme weather events, provincial authorities can also purchase these under temporary reserves. Minimum price procurement can begin only when the market price has fallen below the minimum price for three consecutive days, and must be suspended when the market price rises above the minimum for three consecutive days. Ceilings on the volumes of grains procured at minimum purchase prices during a marketing year are set at 37 million tonnes for wheat (since 2019) and at 50 million tonnes for rice (since 2020).

Budgetary transfers to specific commodities include compensatory and direct payments. **Compensation payments** cover the difference between pre-determined target prices and actual market prices for cotton producers, and are a combination of output payments and area payments. **Direct payments** based on area planted are provided for soybeans and maize producers.

Other key **budgetary programmes** include: the agricultural support and protection subsidy, combining direct payments for grain producers, subsidies for agricultural inputs, and subsidies for improved seed

variety, all paid on per unit of land basis; subsidies for purchases of agricultural machinery; subsidies for land consolidation; subsidies for farmland irrigation construction; subsidies for agricultural insurance schemes; subsidies for returning farmland to forests and excluding degraded grassland from grazing.

Public stockholding of grains and programmes supporting the development of agricultural infrastructure (including irrigation and drainage facilities) represent the most important categories of **general services**. Expenditures related to agricultural knowledge and innovation are also sizable.

China ratified the **Paris Agreement on Climate Change** on 3 September 2016. Its Nationally Determined Contribution (NDC) includes several commitments, such as: to peak CO_2 emissions by 2030 at the latest; to lower the carbon intensity of GDP by 60-65% below 2005 levels by 2030; to increase the share of non-fossil energy in the total primary energy supply to around 20% by 2030; and to increase its forest stock volume by 4.5 billion cubic metres compared to 2005 levels. In September 2020, China committed to achieving carbon neutrality by 2060. While the NDC explicitly mentions agriculture, land-use change and forestry, among other sectors, no specific net-emission target has yet been set for the agricultural sector. The only specific quantitative target set for agriculture relates to achieving zero growth in fertiliser and pesticide utilisation by 2020, which MARA reported as already achieved in 2018. Other broad objectives concern controlling methane emissions from rice fields and nitrous oxide emissions from farmland, promoting comprehensive utilisation of straw or reutilisation of agricultural waste (UNFCC, 2015[3]; Climate Action Tracker, 2018[4]).

In 2016, the State Council released the Work Plan to Control GHG Emissions, looking to strengthen policies controlling GHG emissions besides CO_2, such as methane and hydrofluorocarbons (HFCs). The plan targets reducing methane emissions in the agricultural sector and in municipal waste and sewage treatment (NDRC, 2017[5]).

The National Agricultural Sustainable Development Plan (2015-2030) sets the goals and paths in terms of natural resources protection, farming practices that are protective of the environment and a focus on production quality and efficiency. It sets priorities for different zones by taking into account the capacity of agricultural production, resource endowments, and ecological characteristics (MOA, 2015[6]).

Domestic policy developments in 2020-21

Several **economy-wide** and **agriculture-specific policy documents** issued in 2020 and early 2021 identified the priorities for the agricultural sector, marking an increased emphasis on food availability and digital technologies. In March 2021, the CCCPC released the *14th Five-Year Plan 2021-25 for National Economic and Social Development.* The Plan outlines specific key priorities in the area of agriculture modernisation: enhancing food security, including by safeguarding a minimum arable land area of 120 million hectares; maintaining subsidies for grain producers and increasing minimum purchase prices for wheat and rice as appropriate; implementing high standard infrastructure and conservation projects, which can also advance the development of green agriculture; investing in innovative farm technologies and smart agriculture systems, including with respect to seeds and animal breeding; and improving pest and disease control systems. In addition, as regards the acceleration of the "rural revitalisation" strategy, the Plan foresees increased investments in rural infrastructure and financial services, agro-food supply chains and agri-businesses, further rural land reforms, and diversification of income generation activities, such as through rural eco-tourism. At an economy-wide level, the Plan also promotes the "dual circulation" strategy.[5]

The 2021 *No. 1 Central Document* released in February 2021 proposes that local governments gain increased responsibility with respect to food security, for which China plans to set up a "national food security industry belt" connecting all key grain areas. The No. 1 Document also introduces the following objectives: maintain grains production at more than 650 million tonnes per year; increase land area for maize; support the production of rapeseed, peanuts and other oil crops; and boost the recovery of pig meat

production while also increasing beef and sheep meat output. The No. 1 Document also emphasises the diversification of import sources of major agricultural products and the development of global supply chains for grains and other agro-food products. The development of digital technologies in agriculture and supply chains will be supported through 500 demonstration zones by 2025 and agricultural logistics hubs for cold chain (State Council, 2021[7]).

The agriculture-specific policy plans issued in 2020 address a wide range of areas from developing agro-food processing and the livestock sector to addressing food waste. In July 2020, MARA issued the *National Plan for Rural Industrial Development 2020-25*, which focuses on scaling up agro-food processing and developing rural services industries (MARA, 2020[8]). In addition, the State Council issued in September 2020 the "*Opinion on Promoting the High-quality Development of the Livestock Industry*". The document encourages imports for ensuring meat supplies, but also sets self-sufficiency targets for selected livestock products without specifying a time horizon for their achievement: 70% for dairy; 95% for pig meat; 85% for beef and mutton; and 100% for poultry. While the document aims to address environmental degradation in these sectors, it nevertheless loosens the stringent agri-environmental regulations introduced in 2018 for delineating zones where livestock farms would be banned or limited (State Council, 2020[9]; GAIN CH2019-0205, 2020[10]). Last, a new high-level campaign against food waste was launched in August 2020, capping for instance the amount of food consumers can purchase in restaurants and food outlets (Financial Times, 2020[11]).

The *Regulation for the Prevention and Control of Crop Diseases and Insect Pests* entered into force on 1 May 2020. The key provisions of the regulation concern the establishment of a nation-wide surveillance system for diseases and pests (GAIN CH2020-0069, 2020[12]).

Starting 1 July 2020, farmers and agri-businesses transporting pigs are required to register transport information through a programme on the WeChat mobile application. The programme is managed by the national animal disease control authorities and aims to reduce the risks of African swine fever transmission by increasing traceability (MARA, 2020[13]).

The Guangxi provincial government introduced a three-year action plan for the mechanisation of sugar cane production.[6] Farmers are provided up to CNY 403 (USD 63) per hectare for the purchase of machinery (GAIN CH2020-0054, 2020[14]).

China allocated CNY 4.6 billion (USD 650 million) to pig meat producers in counties with pig herds of more than 100 000 animal heads for the construction of waste treatment facilities and automatic feeding machinery (Xinhua, 2020[15]).

In July and September 2020, the MARA and the Ministry of Finance jointly allocated CNY 730 million (USD 117 million) to new **disaster relief** funds assisting agricultural producers in flood-hit regions (AMIS, 2020[16]).

On **infrastructure**, China allocated CNY 5 billion (USD 764 million) to build 14 000 on-farm cold storage facilities in 16 provincial-level regions, with a total capacity for storing 6 million tonnes of agro-food products (Xinhua, 2020[17]).

As regards **agri-environmental** measures, the Ministry of Finance allocated CNY 100 billion (USD 15 billion) over five years to consolidating water reservoirs in rural areas in order to ensure water supply for agricultural irrigation during drought periods (People Paper, 2020[18]). The Ministry of Water Resources and the Ministry of Finance also allocated CNY 2.5 billion (USD 0.4 billion) to 55 pilot counties to address water pollution in rural areas, including for agricultural activities (Xinhua, 2020[19])

Domestic policy responses to the COVID-19 pandemic

China took a diverse set of measures relating to the agro-food sector in response to the COVID-19 crisis, focusing on institutional measures, overall economic measures, supporting agricultural production,

information and co-ordination measures, as well as trade easing and trade restricting measures affecting the functioning of supply chains (Cheng, Zhu and Wu, 2021[20]). In support to agricultural production, the NDRC raised in February 2020 the minimum purchase price for indica rice for 2020-21, the first time since 2014: from RMB 2 400 (USD 341) to RMB 2 420 (USD 343) per tonne for early indica rice and from RMB 2 520 (USD 358) to RMB 2 540 (USD 361) per tonne for mid-late indica rice[7] (State Council, 2020[21]) (Teller Report, 2020[22]).

The fiscal support policies put in place for small and medium-sized enterprises (SMEs) in February and March 2020 also covered agri-businesses through: deferred tax payment; extended loans repayment periods; tax and social contributions exemptions for SMEs in difficulty (China Banking and Insurance Regulatory Commission, 2020[23]; MOFCOM, 2020[24]). In May 2020, China introduced a new **economy-wide stimulus package** of CNY 4.8 trillion (USD 0.74 trillion, or 4.5% of GDP) to address the consequences of COVID-19 on the economy. Key measures include extension of unemployment insurance to migrant workers; tax relief and waived social security contributions; and investment in infrastructure, including in the agricultural sector (IMF, 2020[25]).

In March 2020, MARA signed co-operation agreements with the China United Insurance Group and the Agricultural Bank of China to ensure the availability of **financial services** for farmers and agribusinesses (SNSJ Agri China, 2020[26]).

In February 2020, MARA, the NDRC and the Ministry of Transport supported the creation of domestic "green channels" for transporting feed from feed producers to livestock farmers facing logistical bottlenecks due to the COVID-19 quarantine restrictions (MARA, 2020[27]). Central and local governments also supported e-commerce as an alternative channel for the purchase and distribution of agricultural inputs. Platforms such as Pinduoduo or Alibaba's Taobao marketplace facilitated this for seeds, fertilisers, sprinklers, and other agricultural machinery (Reuters, 2020[28]).

In February 2020, China Energy, China Coal and Shaanxi Coal companies were requested to prioritise supplies to coal-based fertiliser production, while companies including PetroChina, Sinopec and China National Offshore Oil Corporation (CNOOC) were asked to prioritise supplies to gas-based fertiliser producers. China National Agricultural Means of Production Group Corp. (CNAMPGC) and Sinochem were requested to build up domestic stocks of potash fertiliser (Argus Media, 2020[29]).

On 22 May 2020, the NDRC released a **food security response plan** to the COVID-19 pandemic (AMIS, 2020[30]). The plan first targets the stabilisation of the grains crop area and in this sense, the State Council released in November 2020 a directive issued to all local governments restricting further shifts in farmland to non-grain crops. Local governments are responsible for the monitoring of crop areas through satellite remote-sensing technology (Bloomberg, 2020[31]).

The COVID-19 food security response also includes an improved management of grain reserves and expanding warehousing capacity. Subsequently, in December 2020, China published a new draft law on the management of its grain reserves, extending the central government's oversight to stocks in regions and provinces. The new law stipulates how the regional and provincial reserve volumes should be set and the commodities to be included, as well as when they can be released. The Chinese Government indicates that reserves should only be used in cases of grains shortage, significant price swings, or major natural disasters (World Grain, 2020[32]).

In addition, the May 2020 response plan on food security focuses on rebuilding the pig herd affected by African swine fever and diversifying imports of selected agricultural products and inputs, particularly soybeans, meat, seeds and fertilisers.

As regards **agro-food supply chain** policies, since June 2020, farmers selling fresh products through e-commerce platforms benefit from subsidised electricity prices for cold storage as well as from subsidies for building storage equipment (China Daily, 2020[33]).

China started to gradually close all live poultry markets as of July 2020 (Xinhua, 2020[34]). As regards **consumer** measures, around 45 000 food emergency supply outlets were established throughout the country since the onset of the pandemic (State Council, 2020[21]).

Trade policy developments in 2020-21

On 19 May 2020, the Ministry of Commerce (MOFCOM) introduced 80.5% anti-dumping and countervailing (AD/CV) duties on barley imports from Australia. On 26 March 2021, China introduced anti-dumping duties between 116.2% and 218.4% on Australian wine for a period of five years[8] (Global Times, 2021[35]).

The three-year safeguard on sugar terminated in May 2020 and the out-of-quota tariff dropped from 85% to 50%. The in-quota rate remains at 15% for the tariff rate quota (TRQ) amount of 1.954 million tonnes, which covers less than half of China's annual sugar imports. With the conclusion of the safeguard, MOFCOM introduced in July 2020 automatic **import licensing** for out-of-quota sugar imports. Similar to soybeans or palm oil, only approved companies (including both private and state-owned enterprises) are now allowed to import sugar and must regularly report import volumes (GAIN CH2020-0132, 2020[36]).

In May, August and December 2020, China successively suspended imports from six Australian beef meat plants, citing issues relating to labelling and health certificates (Reuters, 2020[37]). On 5 January 2021, China imposed a ban on poultry and related products imports from France due to reported avian influenza outbreaks in November 2020.

Starting on 5 April 2020, the General Administration of Customs of China (GACC) eliminated the requirement for quality inspections of imported cotton. GACC continues to conduct phytosanitary inspections as required by Chinese import regulations (GACC, 2020[38]).

On 6 November 2020, Sinograin signed a soybean purchase agreement with selected suppliers in Argentina and Brazil for imports to China (OilCn, 2020[39]).

On 16 September 2020, the United States formally entered into consultations with China at the WTO regarding the imposition of tariffs on certain goods originating from China (AMIS, 2020[16]). In the WTO dispute settlement proceedings regarding China's TRQ administration for wheat, rice and maize, China and the United States have agreed to extend the compliance deadline to 31 March 2021 (WTO, 2021[40]). In addition, on 28 September 2020, a WTO dispute panel was established to determine whether China complied with an earlier ruling regarding the provision of support to wheat and rice producers (WTO, 2020[41]).

On 19 December 2020, China released rules on foreign investment security review to safeguard national security. The rules, jointly released by the NDRC and MOFCOM, specify provisions on the security review mechanism on foreign investment, including the types of investments subject to review, review scope, and procedures. Agriculture, energy, and natural resources are among the sectors covered (Xinhua, 2020[42]).

On 15 November 2020, the Regional Comprehensive Economic Partnership (RCEP) was concluded[9]. China's schedule of tariff commitments[10] foresees tariff reductions and phase-outs for selected agro-food goods such as meat products, while other goods such as cereals are largely excluded. The Agreement also provides a framework for strengthening co-operation among parties in the areas of standards, technical regulations, and conformity assessment procedures as well as for streamlining rules of origin and border processes for perishable goods. The latter includes best endeavour provisions covering expedited six-hour clearance times for perishable products, release of such goods outside normal business hours, and at the importer's storage facilities (ASEAN Secretariat, 2020[43]; AMIS, 2020[44]; China Briefing, 2020[45]).

On 26 January 2021, China and New Zealand signed the upgraded China-New Zealand Free Trade Agreement, for which negotiations had been concluded in November 2019. The upgraded FTA includes a

number of provisions with a direct impact on agro-food products. This concerns areas such as certificates of origin (introducing the option for 'approved exporters' to self-declare the origin of their goods) as well as simplifying administrative processes and trade documentation for goods in transit. Further operational improvements cover expedited six-hour clearance times for perishable products, release of such goods outside normal business hours, and appropriate storage. Tariffs on New Zealand dairy exports will be phased out by 2024 (SCMP, 2021[46]).

On 14 September 2020, China and the European Union signed the *Agreement on Cooperation on, and Protection of, Geographical Indications (GIs)*. The agreement, which was concluded in November 2019, protects 100 European GIs in China and 100 Chinese GIs in the European Union. The Agreement entered into force on 1 March 2021. Within four years after its entry into force, the scope of the agreement will expand to cover 175 additional GIs from each side.

On 30 December 2020, China and the European Union also concluded a deal in principle on investment (*Comprehensive Agreement on Investment*). In the non-services sectors, China would make limited investment liberalisation commitments in agriculture and fisheries. In addition, China would remove joint venture requirements in environmental services such as solid waste disposal, nature and landscape protection and sanitation (China Briefing, 2021[47]).

Trade policy responses to the COVID-19 pandemic

In February 2020, China introduced a ban on the trade and consumption of wildlife as food (IFPRI, 2020[48]).

On 20 March 2020, the State Taxation Administration (STA) and the Ministry of Finance increased the rebate rate for the value-added tax (VAT) and consumption tax on exported products[11] in support to exporters affected by COVID-19. The rebate was increased from 6% to between 9% and 13% for 1 464 products, including 380 agro-food goods such as selected meat, fish, and fruit products[12] (GAIN CH2020-0051, 2020[49]).

Starting on 24 June 2020, China has requested that imports of soybeans originating from Brazil, Canada and the United States be accompanied by a signed declaration guaranteeing that the shipment is not contaminated with COVID-19 (AMIS, 2020[50]).

Following a COVID-19 outbreak in June 2020 linked to Beijing's Xinfadi Wholesale Market, China implemented a series of measures to test for infectious SARS-CoV-2 material in domestic and imported food and food packaging. It also delisted several approved facilities in partner countries for products such as pig meat, beef, poultry, fish or seafood, preventing these from exporting to China. Imports of frozen food from 124 suppliers in 21 countries have been suspended since then (GAIN CH2019-0205, 2020[10]; Bloomberg, 2021[51]).

In December 2020, China introduced additional COVID-19 protocols at the border affecting agro-food trade transactions, which include testing and disinfection at customs and regular nucleic acid testing for workers in shipping. The new protocols involve multiple departments, including customs, transportation, health, sanitary agency, market supervision, and local governments (Xinhua, 2020[52]).

In October 2020, as an effort to improve **import traceability** during the COVID-19 pandemic, all businesses importing cold-storage meat and seafood sold in Beijing markets were required to upload data on their products onto a platform supervised by the Beijing Administration for Market Regulation. Trace codes were made available on the packages of the products or market shelves where they are placed in order for consumers to scan and obtain information on the products, including their origin (China Daily, 2020[53]). This led to the set-up in December 2020 of an online national traceability platform managed by the State Administration for Market Regulation (SAMR), currently operating in 13 provinces. Food companies have to report the source of imported shipments, the amount, their current location and

destination. Inspection and disinfection certifications must be transmitted with the shipment (State Council, 2020[54]).

Starting on 2 December 2020, imported frozen food products cannot be commercialised without an inspection or quarantine certificate, COVID-19 testing report, disinfection certificate, or traceability information (State Council, 2020[54]).

Contextual information

China has the world's largest population and the second largest land area. It is an upper-middle income economy, with a GDP per capita – adjusted by PPP – close to 76% of the average of countries covered by this report (Table 8.3). However, while counting almost 20% of the world's population, it has only 7% of the world's potable water and 10% of the world's agricultural land. China is thus a resource scarce country, which results in severe competition between agriculture and other users of land and water resources.

Agriculture accounts for 25.4% of employment, but its 7.4% share in GDP indicates that labour productivity is significantly lower than in the rest of the economy. Even if rural incomes are growing at high rates, they remain at around one-third of those in urban areas.

Crop production represents 67% of total agricultural output and its composition has changed significantly over the last decades, driven by the shift towards higher value-added agricultural products such as fruit and vegetables. While the average farm size remains less than one hectare, large-scale production has been developing rapidly, including co-operative and corporate farms. North and northeast provinces have seen more rapid farm consolidation than other regions, as increased labour mobility and transfer of land among farmers over the past three decades have led to adjustments in the farm structure. Livestock production originates mostly from larger-scale commercial units (OECD, 2018[2]).

Table 8.3. China: Contextual indicators

	China		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	3 688	23 605	9.2%	20.7%
Population (million)	1,291	1,434	30.0%	27.6%
Land area (thousand km^2)	9 425	9 425	11.3%	11.1%
Agricultural area (AA) (thousand ha)	523 731	528 529	17.1%	17.3%
			All countries[1]	
Population density (inhabitants/km^2)	138	153	53	63
GDP per capita (USD in PPPs)	2 921	16 785	9 265	21 975
Trade as % of GDP	19	16	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	14.9	7.4	2.9	3.5
Agriculture share in employment (%)	50.0	25.4	-	-
Agro-food exports (% of total exports)	4.8	2.3	6.2	7.3
Agro-food imports (% of total imports)	4.7	6.5	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	65	67	-	-
Livestock in total agricultural production (%)	35	33	-	-
Share of arable land in AA (%)	23	23	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

While real GDP growth averaged 6.5% in 2017-19, China continued to experience a gradual slowdown in economic growth. The COVID-19 pandemic and related restrictions then led to a steep drop in GDP growth to 2% in 2020 (Figure 8.5). China is nonetheless the only major economy experiencing economic growth in 2020, supported by the upturn in industrial activity and a boost of 3.6% in exports. Unemployment remained stable at 4.4% in 2020, supported by the COVID-19 fiscal support policies. The inflation rate increased to 3% in 2020, with food inflation largely driven by higher pig meat prices following the African swine fever outbreak and related supply reductions.

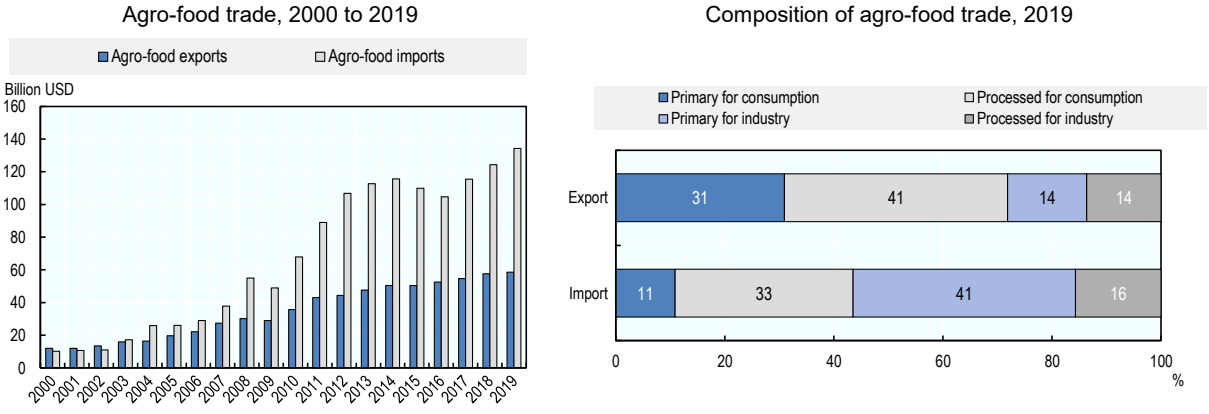
China has consistently been a net agro-food importer since 2003, but agro-food exports have been growing steadily over the last two decades. Primary products used as inputs in the domestic food industry dominate China's agro-food imports, representing 41% of the total in 2019. In turn, primary and processed products for final consumption are key export categories, accounting for 70% of total agro-food exports (Figure 8.6).

Figure 8.5. China: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 8.6. China: Agro-food trade

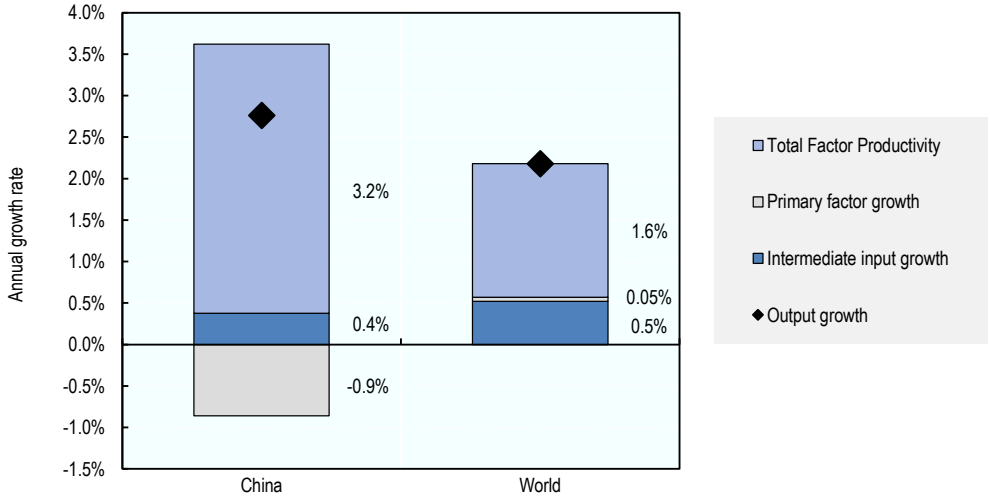


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Agricultural output growth in China averaged 2.8% in 2007-16, almost one-third above the world average (Figure 8.7). This has been driven by strong growth in total factor productivity (TFP) at 3.2% per year, twice the global average. TFP growth can be largely attributed to farm consolidation and increased mechanisation of production.

However, the rapid and sustained growth in agricultural output has been exerting mounting pressures on natural resources, most notably on land and water. This is reflected in the high nutrient surplus intensities for nitrogen and phosphorus (Table 8.4). Agriculture remains the key user of water, accounting for 61.2% of total water consumption, well above the OECD average. Water stress is more than twice as high as the OECD average.

Figure 8.7. China: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 8.4. China: Productivity and environmental indicators

	China		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	4.2%	3.2%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	49.1	40.5	33.2	28.9
Phosphorus balance, kg/ha	9.7	10.6	3.4	2.6
Agriculture share of total energy use (%)	2.4	2.2	1.7	2.0
Agriculture share of GHG emissions (%)	9.8	6.7	8.4	9.5
Share of irrigated land in AA (%)	10.3	13.0	-	-
Share of agriculture in water abstractions (%)	68.8	61.2	46.0	43.4
Water stress indicator	19.3	20.8	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Notes

[1] Although ownership of land remained collective, control and income rights belonged to individuals under the HRS, with a land contract term of 15 years. When this ended in the late 1990s, the second term was extended to 30 years.

[2] Interpreted to mean that China should produce 95% of its own grain requirements. The Chinese self-sufficiency rate for grains is defined as the total production of wheat, coarse grains and rice divided by total domestic consumption of these crops (OECD, 2005[1]).

[3] The No. 1 Central Document is the most important policy document in China, issued jointly by the Central Committee of the Communist Party of China (CCCPC) and the State Council. This document determines the most important policy issues and focus of the year. Issues related to agriculture, farmers and rural area have consistently been selected as the topic of this document since 2004.

[4] The quality grade standard is divided into five grades plus a sub-standard category.

[5] The strategy of "dual circulation" was introduced in May 2020, placing an increased emphasis on the domestic market (or "internal circulation") while gradually decreasing reliance on an export-oriented development model (or "external circulation") (SCMP, 2020[55]).

[6] Guangxi accounts for 70% of China's total cane sugar production.

[7] In February 2020, the National Food and Strategic Reserves Administration (NFSRA) also introduced a ceiling on the volume of rice procured at the minimum purchase price at 50 million tonnes (20 million tonnes for indica rice and 30 million tonnes for japonica rice).

[8] On 27 November 2020, preliminary AD/CV duties between 107.1% and 212.1% were introduced on Australian wines, following the anti-dumping investigation launched by MOFCOM in August 2020.

[9] The list of signatories includes: Australia, Brunei Darussalam, Cambodia, China, Indonesia, Japan, Lao People's Democratic Republic, Malaysia, Myanmar, New Zealand, the Philippines, Singapore, South Korea, Thailand and Viet Nam. RCEP will enter into force 60 days after the date on which at least three non-ASEAN signatories and six ASEAN signatories have completed their necessary domestic procedures and deposited their instrument of ratification

[10] China's *Schedule of Tariff Commitments* includes five sections applicable to ASEAN, Australia, Japan, Korea, and New Zealand.

[11] Companies can apply for a rebate, or refund of the VAT and consumption tax on eligible products destined for overseas markets.

[12] Includes breeding animals, fresh or frozen meat and offal, certain fresh or chilled fish products (such as scabbard fish, yellow croaker, and butterfish), selected fruits (such as grapes, melon, fragrant pear) and a variety of nuts (such as hazelnut, Brazilian nut, chestnut).

9 Colombia

Support to agriculture

Agricultural producer support in Colombia expressed as a share of gross farm receipts averaged 13.1% during 2018-20, down from 24% in the early 2000s. Around 90% of transfers to producers are still in the form of market price support (MPS), which continues to dominate the producer support estimate (PSE). MPS for a range of agricultural products is driven by border measures. In consequence, support to individual commodities (SCT) is particularly high for rice, maize, milk and pig meat. On average, prices received by farmers were 14% higher in 2018-20 than those observed in world markets.

Budgetary transfers to farmers accounted for around 10% of the PSE in 2018-20, mostly based on variable input use such as implicit credit, and subsidies for purchases of machinery and equipment, fertiliser and seeds.

Budgetary allocations to general services to the sector as a whole (GSSE) were relatively small, accounting for only 2.3% of agricultural value-added on average. Support for general services focuses on agricultural research and knowledge transfer; infrastructure, particularly in irrigation; and farm restructuring (e.g. land formalisation, rights and access). Overall, total support to the sector (TSE) corresponded to 1.2% of Colombia's GDP, pointing to the comparatively high cost of agricultural policies to the economy.

Recent policy changes

In 2020, the Ministry of Agriculture launched a policy framework called "Together for the Countryside" (*Juntos por el campo*). It establishes policy programmes such as subsidies to compensate for high domestic transportation costs, subsidies for machinery and equipment, and subsidies for the purchase of variable agro-inputs (e.g. seeds, fertilisers, agricultural machinery, etc.). Underlying this framework, the contract farming programme created in 2019 seeks to connect 300 000 producers to markets by linking farmers directly to commercial partners. In 2020, around 120 000 smallholders benefited from the programme by selling their product directly to 757 buyers.

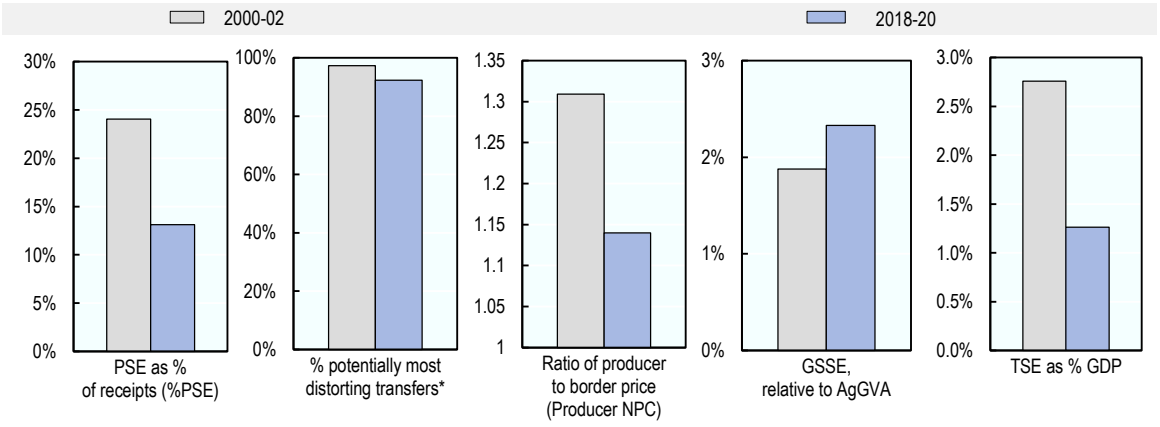
Total public expenditures fell from 2019 to 2020 and several programmes were replaced by eleven programmes launched in 2020 focused on production management, improving the sanitary quality of agricultural products, initiatives for adaptation to climate change, institutional modernisation, and innovation and development.

To offset the effects of COVID-19, Colombia implemented measures such as the creation of special credit lines, of which 82% were used by small and medium-scale farmers; the distribution of food by creating a transport centre in Bogota for the commercialisation of agriculture production; and the provision of basic food products to poor and vulnerable households.

Assessment and recommendations

- While Colombia's agricultural sector continues to face structural challenges, support to general services that would help overcome these challenges is limited. Short-term responses to problems faced by agricultural producers, mainly in the form of input subsidies, divert scarce economic resources from developing an enabling environment for sustainable growth of the sector.
- Emphasis should be given to strategic investments such as off-farm irrigation systems; transport infrastructure; research, development, and innovation capacity; animal and plant health protection and control services; promotion of sustainable use of natural resources; and national and functional extension, training and technical assistance systems that foster technology adoption. Public investment in all these areas should contribute to improving productivity and competitiveness, and ensure the sector's sustainable development. A re-orientation of support from input subsidies to general services would also help foster more inclusive and sustainable agricultural growth.
- An inclusive land-access policy framework would promote rural and sectoral development. Colombia faces a high concentration of land ownership and under-exploitation of arable land, while 40% of land ownership continues to be informal. Upgrading the cadastre system and accelerating registration and assignation of land rights are crucial for the sector. Land rights contribute to long-term growth in the agricultural sector by stimulating private investment and help promote the development of rural areas.
- The government should systematically assess the impact of policy instruments and agricultural support programmes. Current programmes cover broad and varied areas, implemented through a bundle of policy instruments with unclear combined impact. A review could redefine and re-organise policy instruments based on evidence of costs and benefits of individual measures and policy packages. Such a review should also consider equity, social and environmental outcomes.
- Colombia's Intended Nationally Determined Contribution (INDC) committed to reduce its greenhouse gas (GHG) emissions by 20% with respect to the projected Business-as-Usual (BAU) scenario by 2030. Given agriculture's role as a major contributor to the country's GHG emissions, it is likely to be significantly impacted by this commitment even though specific emission reduction targets for the sector have not been set. Moreover, the sustainability performance of the sector, including biodiversity, water use, and deforestation, is a key concern the country needs to address more systematically.

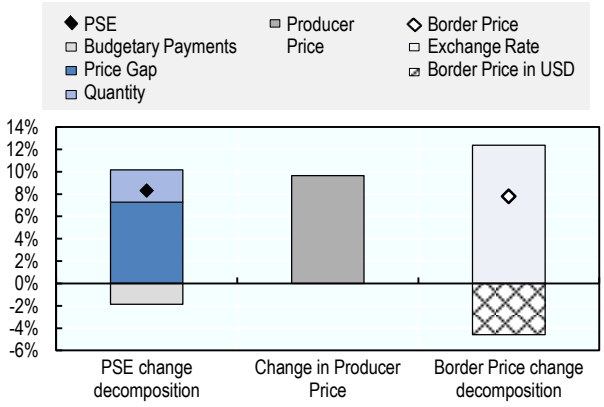
Figure 9.1. Colombia: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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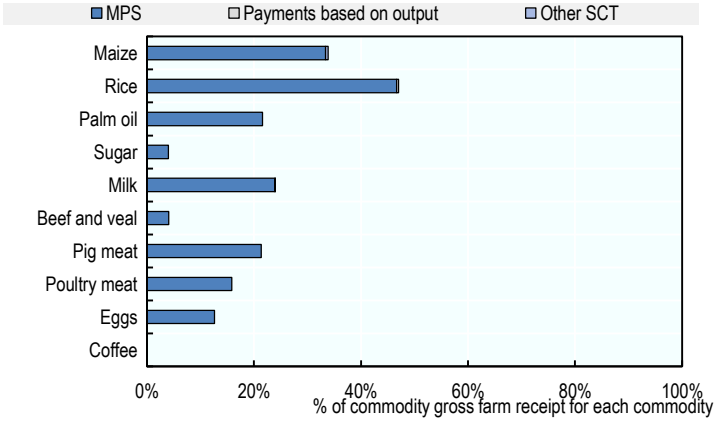
Figure 9.2. Colombia: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/nu9wym

Figure 9.3. Colombia: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/0ca4sv

Table 9.1. Colombia: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**10 565**	**25 859**	**28 975**	**25 494**	**23 108**
of which: *share of MPS commodities (%)*	80.7	73.4	66.8	73.3	80.2
Total value of consumption (at farm gate)	**7 938**	**20 737**	**21 814**	**20 883**	**19 513**
Producer Support Estimate (PSE)	**2 546**	**3 439**	**3 977**	**3 232**	**3 108**
Support based on commodity output	2 460	3 143	3 639	2 912	2 877
Market Price Support[1]	2 460	3 133	3 610	2 912	2 877
Positive Market Price Support	2 466	3 134	3 610	2 912	2 879
Negative Market Price Support	-6	-1	0	0	-2
Payments based on output	0	10	29	0	0
Payments based on input use	86	296	338	320	231
Based on variable input use	53	173	185	187	146
with input constraints	36	142	138	153	136
Based on fixed capital formation	16	73	110	67	43
with input constraints	3	41	63	31	30
Based on on-farm services	17	50	43	66	42
with input constraints	5	24	8	29	33
Payments based on current A/An/R/I, production required	0	0	0	0	0
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	0	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**24.1**	**13.1**	**13.6**	**12.5**	**13.3**
Producer NPC (coeff.)	**1.31**	**1.14**	**1.15**	**1.13**	**1.14**
Producer NAC (coeff.)	**1.32**	**1.15**	**1.16**	**1.14**	**1.15**
General Services Support Estimate (GSSE)	**154**	**458**	**566**	**431**	**377**
Agricultural knowledge and innovation system	49	198	262	183	150
Inspection and control	9	41	52	36	35
Development and maintenance of infrastructure	95	197	230	189	174
Marketing and promotion	0	21	22	23	18
Cost of public stockholding	0	0	0	0	0
Miscellaneous	1	0	0	0	0
Percentage GSSE (% of TSE)	**5.7**	**11.7**	**12.5**	**11.8**	**10.8**
Consumer Support Estimate (CSE)	**-2 234**	**-3 819**	**-4 027**	**-3 852**	**-3 579**
Transfers to producers from consumers	-2 003	-2 793	-2 771	-2 815	-2 792
Other transfers from consumers	-248	-1 055	-1 294	-1 065	-806
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	16	28	39	28	18
Percentage CSE (%)	**-28.3**	**-18.4**	**-18.5**	**-18.4**	**-18.3**
Consumer NPC (coeff.)	**1.40**	**1.23**	**1.23**	**1.23**	**1.23**
Consumer NAC (coeff.)	**1.39**	**1.23**	**1.23**	**1.23**	**1.22**
Total Support Estimate (TSE)	**2 700**	**3 897**	**4 542**	**3 663**	**3 485**
Transfers from consumers	2 251	3 848	4 065	3 880	3 598
Transfers from taxpayers	697	1 104	1 771	849	693
Budget revenues	-248	-1 055	-1 294	-1 065	-806
Percentage TSE (% of GDP)	**2.8**	**1.3**	**1.4**	**1.1**	**1.3**
Total Budgetary Support Estimate (TBSE)	**240**	**764**	**932**	**751**	**608**
Percentage TBSE (% of GDP)	**0.2**	**0.2**	**0.3**	**0.2**	**0.2**
GDP deflator (2000-02=100)	**100**	**246**	**238**	**248**	**251**
Exchange rate (national currency per USD)	**2 297.17**	**3 311.19**	**2 956.90**	**3 281.07**	**3 695.61**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Colombia are: maize, rice, sugar, milk, beef and veal, pig meat, poultry, eggs, bananas, plantains, coffee, palm oil and flowers.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

The agricultural sector has played an important role in Colombia's economic growth. Until the beginning of the 1990s, agriculture was the main productive sector of Colombia. By the 1960s, Colombia had entered a period of fast expansion in commercial agriculture. Growth, especially in the 1960s and 1970s, was partly a response to incentives to mechanise and intensify the use of modern inputs, and partly a consequence of the sector's protection from imports. The coffee booms of the 1970s and the 1980s coincided with strong growth in agricultural and total GDP. During this time, import substitution policies were used, including tariffs, quantitative restrictions, state marketing enterprise, subsided credit and minimum prices (Anderson and Valdés, 2008[1]).

At the beginning of the 1990s, Colombia entered a decade of trade opening. The Colombian government eliminated its monopoly in agricultural marketing and encouraged private banks to lend to farmers and agricultural exporters. To diversify the markets for Colombian agro-food products, the government negotiated a large number of trade agreements including with Mercosur, the United States, Central America, Chile, Canada, and the European Union (OECD, 2015[2]).

This economy-wide programme of trade liberalisation accompanied deregulation of foreign exchange rates and labour markets. Quantitative trade restrictions were abolished, and import tariffs reduced and replaced by ad valorem tariffs. The role of IDEMA (Instituto de Mercadeo Agropecuario), the agricultural marketing institute that had a monopoly over grain imports, was reduced and limited to poor, isolated areas. Minimum guaranteed prices were established for some staple commodities, with international prices used as a benchmark (Anderson and Valdés, 2008[1]).

However, this rapid liberalisation did not allow for necessary adjustments, putting the sector in crisis. Pressured by famers, the government implemented policies to protect the sector and stabilised producer incomes in the face of price fluctuations in world markets. To stabilise producer prices, the government introduced a price band system for six agricultural commodities, and their substitutes and derivatives, and ended up covering 112 products. This eventually evolved into the Andean Price Band System (SAFP). Despite the stated purpose of this policy, the way price bands were constructed to fix the floor and ceiling prices served as a protective device. Price stabilisation funds (FEP) were also expanded (OECD, 2015[2]).

After 56 years of conflict between the government, paramilitary groups and guerrilla groups, a peace agreement was signed in 2016 by the government and the Revolutionary Armed Forces of Colombia (FARC). The negotiations resulted in an agreement with a common vision for rural development. It sets out a long-term vision for the sector focusing on the use of land and water resources, increased productivity and competitiveness, improved infrastructure and other public goods for the agricultural sector, and a redefined institutional architecture to design and implement policy (OECD, 2015[2]).

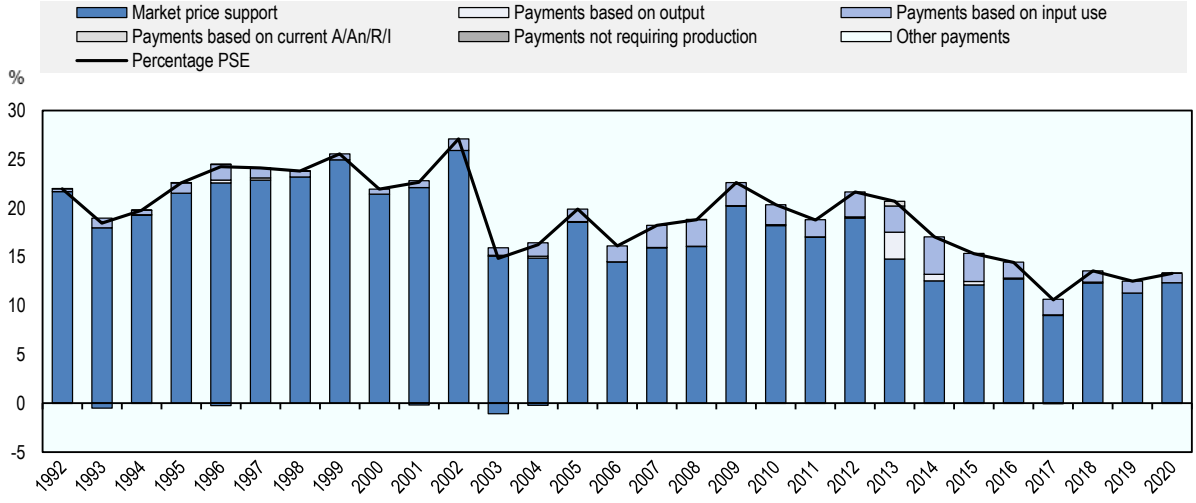
Colombia's support to agricultural producers relative to gross farm receipts changed little during 1992-2013, but trended downwards before stabilising again in the last few years. Support is predominantly provided through market price support. Since 2007, there was a clear trend towards increasing budgetary support to the sector, particularly in 2013 when outlays more than doubled. This trend reversed since 2016, and budgetary allocations have fallen considerably in both absolute and relative terms (Figure 9.4).

Table 9.2. Colombia: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1990s	Import substitution policies	Agricultural input and output tariffs Other border measures establish import rate quotas Minimum prices Export promotions and subsidies for traditional crops (coffee, sugar) State marketing agency (government purchases of agricultural products) Subsided agricultural credit Export taxes
1990-2013	Back and forth changes to trade liberalisation and measures to offset economic crisis Changes to trade liberalisation and some protection measures	Role of the state marketing company reduced and then increased for marketing cereals and oilseeds Reduction of agricultural tariffs for both outputs and inputs Export subsidies Several FTA signed The price band system extend and becomes the Andean Price Band System covering in total 154 products and by-products Quantitative import restrictions created Direct payments introduced Import quotas for some products Expansion of price stabilisation funds to other crops
2013-present	Peace negotiations and agreement	Focus on agricultural innovation and public goods Rural development Efforts to improve the land tenure system Reduction in budgetary allocations

Figure 9.4. Colombia: Level and PSE composition by support categories, 1992 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Agricultural policy aims for competitive, equitable and sustainable development of agricultural, forestry, fisheries and rural development that contributes to improving quality of life for the rural population. Implementation of this objective falls under the Ministry of Agriculture and Rural Development and its affiliated agencies.

Colombia has the Andean Price Band System, which aims to stabilise import prices for 13 commodities including rice, barley, yellow maize, white maize, soya beans, wheat, unrefined soya bean oil, unrefined palm oil, unrefined sugar, refined sugar, milk, chicken cuts and pig meat, as well as for their respective related first-stage processed products.

Several programmes provide input support. Main measures include preferential interest rates for agricultural credit, debt rescheduling, sporadic write-offs and insurance programmes. Subsidies are also provided for the purchase of seeds and fertilisers, and for investment related to drainage and on-farm irrigation infrastructure, among others.

Colombia has gradually directed more public expenditures to general services for the sector. This includes investments in agricultural research and extension services, such as those for financing the agricultural innovation institution (former CORPOICA and now AGROSAVIA).

The commodity Price Stabilisation Funds (FEP), financed and administered by producer associations,[1] cover seven commodities, including cotton, cocoa, palm oil, sugar, beef, milk and (since 2019) coffee. FEPs make payments to producers when the selling price of a product falls below a minimum. When the sales price of a product is higher than an established maximum, producers contribute to the FEPs. The ceiling and floor prices are based on international prices for each product, while transfers and compensations take into account a reference indicator at which the products reach the market.

Domestic policy developments in 2020-21

In 2020, a new policy framework strategy was launched by the Ministry of Agriculture called “Together for the Countryside” (“Juntos por el campo”). The policy has six pillars: 1) the organisation of the agricultural production for ten priority products: cocoa, avocado, potato, dairy, forestry, rice, corn, onion, sugarcane, fishing, and aquaculture, and five strategic crops such as flowers, palm, coffee, bananas, and sugar. Within this pillar, there are two components: the phytosanitary protection and planning according to the suitability of the soil. 2) Agricultural extension that aims at 550 000 producers. 3) Extending credit and better credit conditions (i.e. more preferential rates) to farmers. 4) Financing rural public goods such as infrastructure, transformation plants, storage and cold chains, and irrigation districts. 5) Technology and innovation. 6) Support for productivity through subsidies for the acquisition of agricultural inputs.

In 2020, several programmes were created such as subsidies for domestic transportation costs that benefited 35 382 farmers, subsidies for machinery and equipment that reached 15 000 producers, subsidies for the purchase of variable agro-inputs (e.g. seeds, fertilisers, etc.) that benefited 34 779 producers, Pacific Opportunities (a programme for rural women's associations that carry out agricultural productive projects in the Pacific region), which registered 349 smallholders organisations, commercialisation subsidies for potatoes, rice and maize.

The framework strategy has as transversal axis, the contract farming programme created in 2019 and seeks to connect 300 000 producers to markets by linking farmers to commercial partners. In 2020, around 120 000 smallholders benefited from the programme, by selling their products directly to 757 buyers. The value chains with the greatest participation in this programme were: fruits and vegetables (28%), coffee (19%), fishing (15%), cocoa (13%), and milk and milk products (8%).

The contract farming has the objectives of: 1) reduce uncertainty and risks in agricultural marketing by the advance selling of products to industry and final markets or consumers; 2) generate a stable supply of raw

materials and agricultural products, with the characteristics and conditions required by industry and final markets or consumers; 3) promote more efficient, cost-effective agricultural production processes and products with higher quality and safety for the consumer; 4) encourage the formalisation of trade relations between agricultural buyers and sellers, by reducing the volatility of agricultural prices; and 5) contribute to the better use of land (zoning) for agricultural production, and thus to greater sectoral competitiveness.

Lastly, total public expenditures were reduced from 2019 to 2020 and several programmes were replaced by eleven new programmes launched in 2020 focused on production management, strengthening sanitary status, climate initiatives, institutional capacity, and innovation and development.

Domestic policy responses to the COVID-19 pandemic

In 2020, special credit lines of more than COP 1.5 billion (USD 406 million) were granted to farmers to offset the effects of COVID-19, of which 82% were used by small and medium-scale farmers.

To assure the distribution of food, decree 482 of 2020 was adopted that facilitated transport logistics by creating a transport centre in Bogota for the commercialisation of agriculture production.

As a response to COVID-19, the decree 507 was adopted in 2020, which main purpose was to help most vulnerable households by providing basic food products, medicines and medical devices.

Trade policy developments in 2020-21

Some border measures were removed to mitigate the effects of COVID-19, and the decree 523 of 2020 was adopted that applied 0% import tariff of commodities like yellow maize, sorghum, soybeans and soybean cake during the months of April, May and June 2020.

In August 2020, the Free Trade Agreement (FTA) with Israel came into force, which grants duty free quotas to both countries. This is the first FTA that Colombia has signed with a Middle Eastern country. In 2020, Colombia had sanitary and phyto sanitary access to 18 new products in 10 markets such as pineapples in Uruguay, pork meat in Ghana, live bovine in Brazil, coffee beans in Ecuador, and papayas in Peru.

In 2019, Colombia concluded the free trade agreement negotiations with the United Kingdom that entered into force in January 2021. Negotiations continue with Japan, Turkey, Singapore, Canada, New Zealand and Australia, in order to deepen the current trade agreements with those countries.

Contextual information

Colombia has a surface of 1.1 million km^2; it is the only South American country that borders both the Atlantic and Pacific Oceans. Colombia has abundant agricultural land and fresh water, is very biodiverse and is rich in natural minerals and fossil fuels. Agriculture continues to be an important sector for the economy – accounting for more than 16.6% of employment and 6.7% of GDP in 2019. Colombia has a dualistic distribution of land ownership where traditional subsistence smallholders co-exist with large-scale commercial farms. Even when the relative weight of agro-food exports in total exports have declined over the years, the sector continues to make a significant contribution to the country's exports, with agro-food exports accounting for 18% of all exports in 2019 (Table 9.3).

Colombia saw its real GDP growth declined due to the global pandemic, while its unemployment rate experienced a small increased and the inflation rate remained about the same as the previous year. The country has been a net exporter of agricultural and food products with a net surplus of almost USD 650 million in 2019. Colombia's agro-food exports are almost equally split between those destined for final consumption (54%) and those that are sold as intermediate inputs (46%) for use in manufacturing

sectors in foreign markets. In contrast, the majority of agro-food imports (64%) are in the form of intermediates for further processing in the country.

Table 9.3. Colombia: Contextual indicators

	Colombia		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	265	787	0.7%	0.7%
Population (million)	39	49	0.9%	0.9%
Land area (thousand km²)	1 110	1 110	1.3%	1.3%
Agricultural area (AA) (thousand ha)	44 859	49 492	1.5%	1.6%
			All countries[1]	
Population density (inhabitants/km²)	36	45	53	63
GDP per capita (USD in PPPs)	6 690	15 644	9 265	21 975
Trade as % of GDP	12	14	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	8.3	6.7	2.9	3.5
Agriculture share in employment (%)	22.3	16.6	-	-
Agro-food exports (% of total exports)	22.3	18.2	6.2	7.3
Agro-food imports (% of total imports)	12.8	12.5	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	59	61	-	-
Livestock in total agricultural production (%)	41	39	-	-
Share of arable land in AA (%)	..	12	32	34

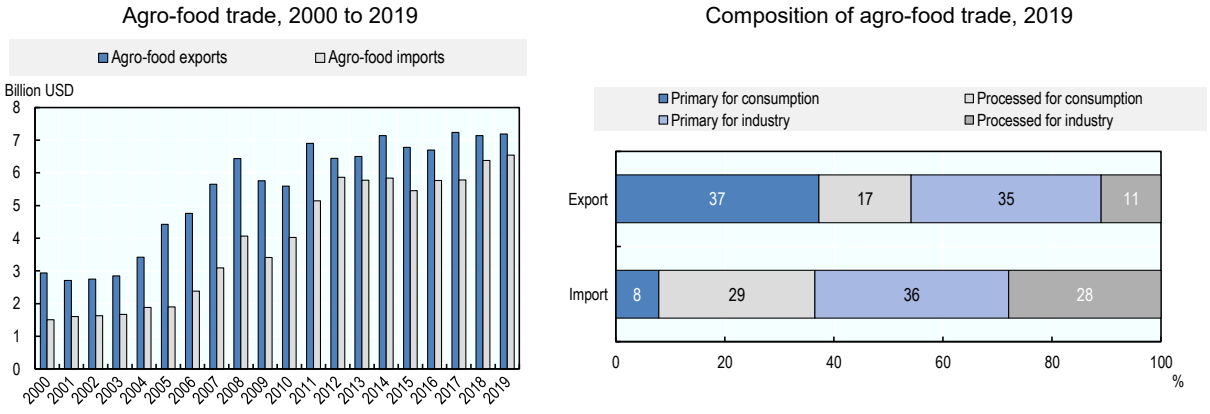
Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Figure 9.5. Colombia: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

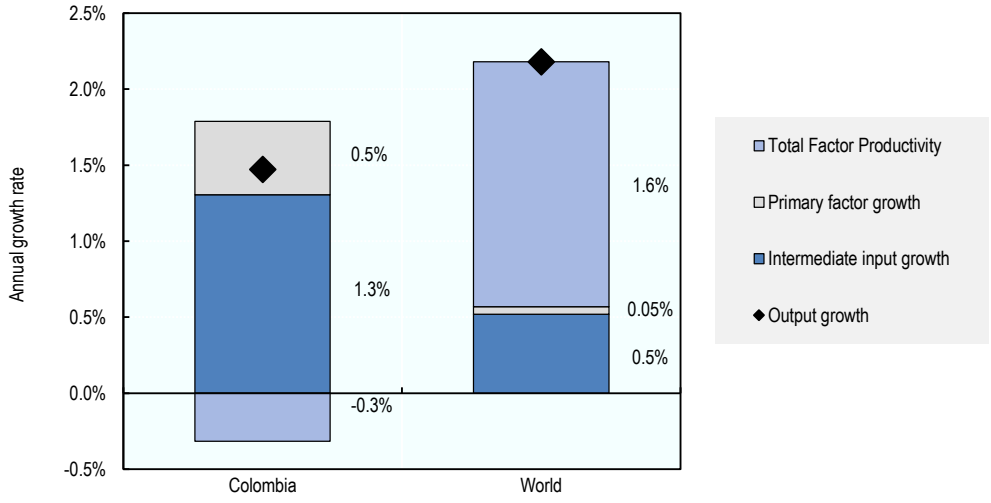
Figure 9.6. Colombia: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Low productivity undermines the sector's competitiveness, largely driven by infrastructure deficiencies, unequal access to land and land use conflicts. The growth rate of the Total Factor Productivity (TFP) was -0.3% over the period 2007-16, far below the world average. Agriculture is the main water user with a share of 59.6% total water use, above the OECD average. Furthermore, in 2016 agriculture contributed with 28.7% of greenhouse gas (GHG) emissions. In contrast, nutrient balances are comparatively low and have slightly fallen since the early 2000s.

Figure 9.7. Colombia: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 9.4. Colombia: Productivity and environmental indicators

	Colombia		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	1.6%	-0.3%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	14.1	11.6	33.2	28.9
Phosphorus balance, kg/ha	5.8	6.0	3.4	2.6
Agriculture share of total energy use (%)[1]	6.0	0.9	1.7	2.0
Agriculture share of GHG emissions (%)	34.1	28.7	8.4	9.5
Share of irrigated land in AA (%)	..	2.6	-	-
Share of agriculture in water abstractions (%)	..	14.4	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Notes: * or closest available year.
1. Data are not directly comparable between time periods due to change in methodology in 2013.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

References

Anderson, K. and A. Valdés (2008), *Distortions to Agricultural Incentives in Latin America*, World Bank, Washington DC, https://openknowledge.worldbank.org/handle/10986/6604. [1]

OECD (2015), *OECD Review of Agricultural Policies: Colombia 2015, OECD Publishing*, http://dx.doi.org/10.1787/9789264227644-en. [2]

Note

[1] Government provided the initial (seed) capital for the funds.

10 Costa Rica

Support to agriculture

Costa Rica's agricultural policies generated average support for producers of 6.3% of gross farm receipts in 2018-20, well below the OECD average. This support is almost entirely (92%) based on market price support (MPS). MPS, one of the most trade- and production-distorting forms of support, is generated through border measures (tariffs) and minimum reference prices. Products most supported through such policies include rice, poultry, pig meat and sugar. Border protection and price interventions resulted in producer prices 6.2% higher than international prices in 2018-20, on average.

The remaining producer support (8% of the total) comes through input subsidies for agricultural equipment and machinery, payments for environmental services, and other subsidies.

Spending on general services (GSSE) accounted for 2.1% of total agricultural value added in 2018-20, up from 1.3% in 2000-02. These expenditures were allocated to three main areas: (1) agricultural knowledge and innovation system, particularly extension services; (2) development and maintenance of irrigation and rural roads infrastructure; and (3) inspection and control. Overall, total support to the sector (TSE) corresponded to 0.6% of GDP in 2018-20, down from 1.2% at the beginning of the century.

Recent policy changes

Most policy developments in 2020 addressed the COVID-19 emergency. The Ministry of Agriculture and Livestock (MAG) maintains a roundtable for development and implementation of policies in response to the COVID-19 pandemic. The table includes all agricultural centralised and decentralised institutions, the agro-industrial chambers and producer organisations.

In 2020, the Rural Development Institute (INDER) suspended re-payments to the Rural Credit Program for four months. This debt was re-scheduled to the end of the loan term without any default fine. Due to the closure of public schools, the National Production Council (CNP) distributed basic food packages to students.

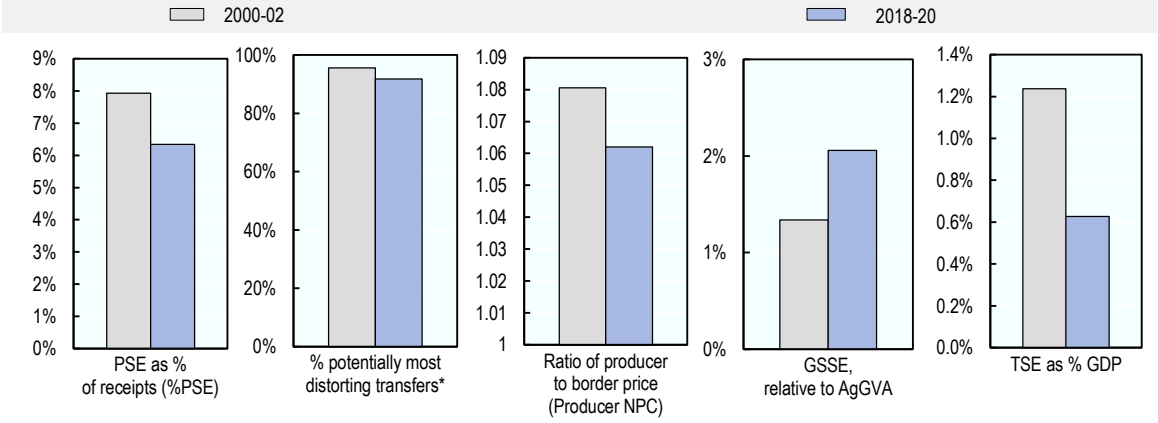
The Ministry of Finance offered a moratorium on VAT and select consumption tax payments, introduced a VAT exemption on commercial leases, and exempted all economic activities, including agriculture, from partial payments of income tax.

Assessment and recommendations

- Producer support predominantly comes through border protection for several products, namely rice, poultry, pig meat and sugar, and through reference prices for rice. This support distorts both domestic markets and trade, constrains competition and, hence, productivity and competitiveness. The government should consider phasing out this support and replace it with more targeted payments to producers in need on a temporary basis when necessary.

- Agricultural infrastructure is a significant bottleneck, preventing the sector from becoming more efficient and responsive to market signals. Investments are required both to enhance productivity (e.g. through irrigation and drainage) and facilitate access to markets (e.g. transportation, distribution, cold-chain facilities, etc.).
- Small-scale producers suffer low productivity, and poor access to credit and financial tools. In addition, as private commercial banks lack incentives to provide loans to small-scale farmers, stringent requirements impede small-scale farms from taking advantage of available credit sources. While avoiding moral hazard, existing credit programmes provided by the national development bank and agricultural organisations or cooperatives could expand to improve the financial infrastructure for smallholders in particular.
- Limited capacity and resource misallocations constrain the effectiveness and efficiency of Costa Rica's extension services, which account for around 20% of total public expenditures to the sector. Given the importance of these services to the agricultural sector, major efforts should ensure that funding is used efficiently, including providing training to extension services personnel on new production systems and management, streamlining and reducing the administrative burden for technical staff, and better co-ordination between research agencies, extension services and farmers' needs.
- Costa Rica has a long history of environmental protection, sustainable development policies and action on climate change mitigation. In 2019, a new plan outlined Costa Rica's pathway towards net-zero emissions by 2050. This includes strategies for all sectors, including agriculture, such as improved farming practices and measures against food waste. Despite these efforts, opportunities for improvement remain. In particular, the country should align adaptation and other agricultural objectives to prepare for climate change. Farmers' awareness could be enhanced through strengthened co-ordination between R&D and technical assistance.

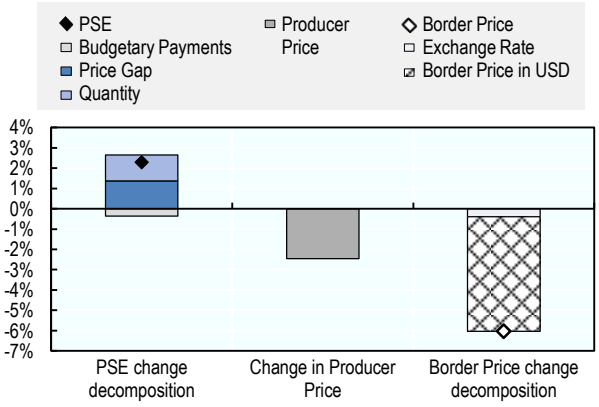
Figure 10.1. Costa Rica: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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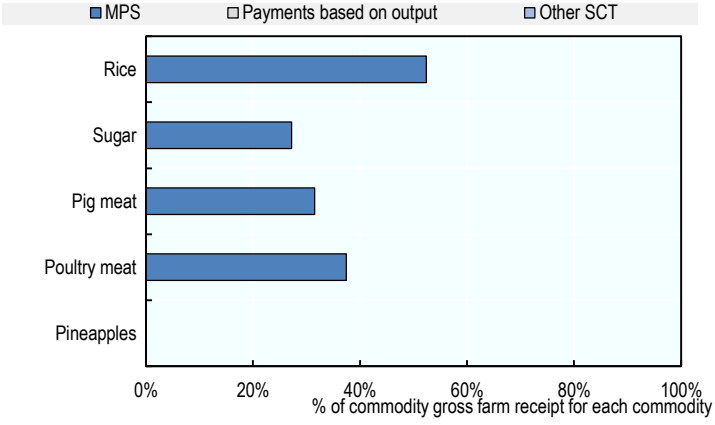
Figure 10.2. Costa Rica: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Figure 10.3. Costa Rica: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Table 10.1. Costa Rica: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**2 209**	**4 990**	**5 024**	**4 988**	**4 960**
of which: *share of MPS commodities (%)*	79.2	91.7	90.2	90.1	94.7
Total value of consumption (at farm gate)	**1 114**	**2 446**	**2 434**	**2 440**	**2 463**
Producer Support Estimate (PSE)	**175**	**318**	**255**	**344**	**354**
Support based on commodity output	164	291	228	317	328
Market Price Support[1]	164	291	228	317	328
Positive Market Price Support	164	291	228	317	328
Negative Market Price Support	0	0	0	0	0
Payments based on output	0	0	0	0	0
Payments based on input use	9	25	25	26	25
Based on variable input use	4	14	13	16	12
with input constraints	1	13	12	15	12
Based on fixed capital formation	1	6	6	4	7
with input constraints	0	2	3	1	2
Based on on-farm services	5	6	6	6	6
with input constraints	3	0	0	0	0
Payments based on current A/An/R/I, production required	0	0	0	0	0
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	0	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	1	1	1	1	1
Based on long-term resource retirement	0	1	1	1	1
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	1	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**7.9**	**6.3**	**5.0**	**6.9**	**7.1**
Producer NPC (coeff.)	**1.08**	**1.06**	**1.05**	**1.07**	**1.07**
Producer NAC (coeff.)	**1.09**	**1.07**	**1.05**	**1.07**	**1.08**
General Services Support Estimate (GSSE)	**20**	**61**	**66**	**61**	**55**
Agricultural knowledge and innovation system	10	29	30	28	30
Inspection and control	3	11	11	11	12
Development and maintenance of infrastructure	7	19	24	21	13
Marketing and promotion	0	1	2	1	1
Cost of public stockholding	0	0	0	0	0
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**10.4**	**16.1**	**20.6**	**15.1**	**13.6**
Consumer Support Estimate (CSE)	**-190**	**-339**	**-274**	**-364**	**-378**
Transfers to producers from consumers	-156	-263	-200	-282	-305
Other transfers from consumers	-34	-76	-73	-82	-73
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	0	0	0	0	0
Percentage CSE (%)	**-17.0**	**-13.9**	**-11.3**	**-14.9**	**-15.3**
Consumer NPC (coeff.)	**1.20**	**1.16**	**1.13**	**1.18**	**1.18**
Consumer NAC (coeff.)	**1.20**	**1.16**	**1.13**	**1.18**	**1.18**
Total Support Estimate (TSE)	**196**	**379**	**321**	**406**	**409**
Transfers from consumers	190	339	274	364	378
Transfers from taxpayers	40	116	121	124	104
Budget revenues	-34	-76	-73	-82	-73
Percentage TSE (% of GDP)	**1.2**	**0.6**	**0.5**	**0.7**	**0.7**
Total Budgetary Support Estimate (TBSE)	**31**	**88**	**93**	**88**	**81**
Percentage TBSE (% of GDP)	**0.2**	**0.1**	**0.2**	**0.1**	**0.1**
GDP deflator (2000-02=100)	**100**	**344**	**339**	**345**	**347**
Exchange rate (national currency per USD)	**331.77**	**582.96**	**577.19**	**587.02**	**584.68**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Costa Rica are: rice, sugar, milk, beef and veal, pig meat, poultry, bananas, coffee, palm oil and pineapple.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Costa Rica's agricultural policy progressed through three distinct phases in recent decades. From the 1960s to the 1980s, Costa Rica's agricultural sector followed an import substitution path, supported by government market interventions, such as price control and agricultural import tariffs (Anderson and Valdés, 2008[1]).

From the mid-1980s to the mid-2000s, agricultural support policies evolved in line with Costa Rica's outward-oriented growth strategy. Market intervention decreased significantly, combined with continued reforms and increasingly open borders. Reforms involved elimination of price controls (except rice), removal of export taxes and reduction of import tariffs. Costa Rica fully integrated into international markets, and free trade agreements resulted in duty-free imports from many countries, though import tariffs still apply to some agricultural products (Anderson and Valdés, 2008[1]; OECD, 2017[2]).

Since the food price crisis of 2007-08, which fuelled food security concerns in the country, specific strategies aim to increase productivity of staple foods and focus on small-scale farmers, such as by prioritising extension services to those farms. Reforms to the rice price system took place in 2015 with the introduction of a minimum reference price, which works more as an indicative rice price. Still, Costa Rica's policies continue to emphasise export-oriented agriculture with emphasis on sustainability and smallholders (Table 10.2) (OECD, 2017[2]).

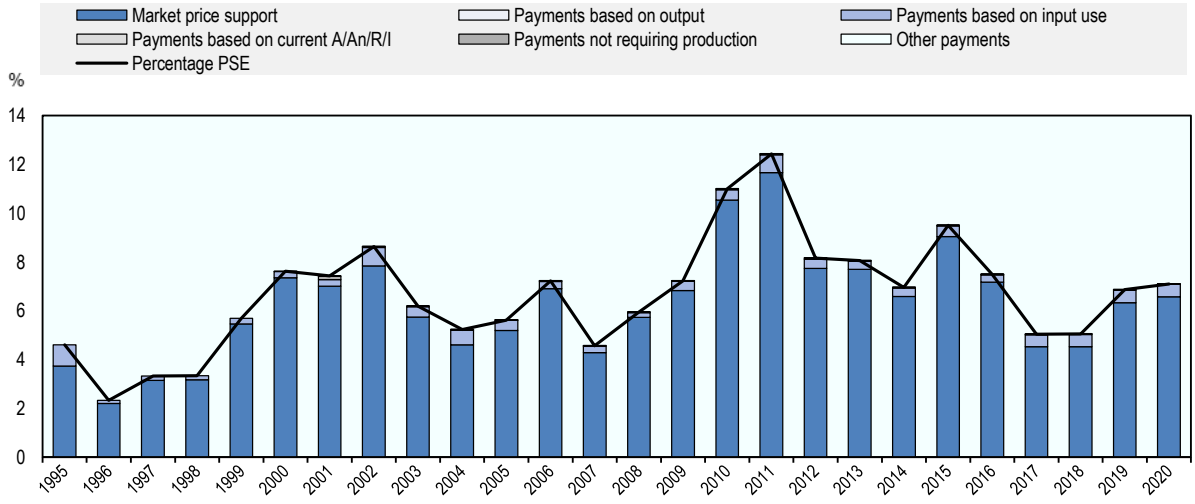
Table 10.2. Costa Rica: Agricultural policy trends

Period	Framework	Changes in agricultural policies
Prior to 1980s	Closed economy	Import substitution approach; price interventions on agricultural products, particular emphasis on guaranteed price for rice; high tariffs on agricultural product imports Creation of the National Production Council (CNP) in the 1940s to promote agricultural and industrial production, control agricultural prices and own public infrastructure for the collection, storage, transport and distribution of grains
1980s-2007/08	Gradual shifts to open the economy	Dismantling price interventions, but minimum price for rice continued Reduction of trade barriers (import and export tariffs) Reforms to CNP end most functions, keeping only the Institutional Supply Programme (PAI), which purchases food from small and medium farms for consumption in public institutions Strengthening agricultural exports via product diversification and development of destination markets; several FTAs signed; incentives (including in agriculture) to domestic and foreign companies to attract FDI, such as the Free Trade Zone Regime (FTZ) providing tax benefits and preferential port rates Creation of agricultural institutions for animal health (SENASA), plant health (SFE), agricultural innovation (INTA) Creation of rural development institute (IDA/INDER)
2008-2020	Open economy with a focus on food security	Emphasis on extension services on small-scale farms; promotion of good agricultural practices Small and limited payments to farmers for environmental services Changes to rice price, from guaranteed price to a reference price in 2015 Continuing use of import tariffs

Producer support fluctuated between 7% and 12% of gross farm receipts over the last 20 years, based predominantly on market price support. MPS concentrates mostly on rice and livestock products, accounting for around 90% of the PSE. In contrast, budgetary support to producers is limited, with little change over time (Figure 10.4). Around 80% of total budgetary allocations to the sector go to general services. R&D, extension services, rural infrastructure, inspection and control account for 98% of total expenditures on general services in the last ten years. Costa Rica does not provide budgetary transfers to consumers.

Figure 10.4. Costa Rica: Level and PSE composition by support categories, 1995 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Costa Rica's agricultural policy framework are the 2019-2022 Policy Guidelines for the Agricultural, Fishing and Rural Sector. It seeks to: contribute to the social and economic well-being of the agricultural working population; achieve mechanised, competitive, inclusive and sustainable agriculture with responsive, modern and co-ordinated public institutions; and create a sector resilient to physical, biological, economic and social impacts. The guidelines also have a crosscutting axis of climate actions and disaster risk reduction in the production of goods and services by strengthening the capacities of public institutions and farmers.

The country maintains a wide range of border measures, in particular tariffs for several agricultural products (rice, poultry, pig meat, milk, sugar, etc.). Moreover, the country maintains a reference price for rice. This reference price is based on domestic production costs, processing costs, international prices, and defined by the National Rice Corporation (CONARROZ) with the supervision of the Ministries of Agriculture, Economy and Industry. This reference price imposes a burden on consumers, as domestic prices are higher than international prices.

Budgetary policy instruments predominantly focus on providing essential services to agriculture, including extension services, R&D, and plant and animal health services, with a significant emphasis on environmental protection.

The Agricultural Technology Research and Transfers Institute (INTA) manages agricultural R&D and innovation. INTA also operates technology transfer and extension services to farmers with the MAG's National Directorate of Agricultural Extension. The National Animal and Health Service (SENASA) and the National Phytosanitary Service (SFE) are in charge of animal and plant health services.

The country also provides minor subsidies. These include payments for environmental services such as the use of green or living fences and terraces, organic production or soil condition improvements, implicit

subsidies through credit at preferential interest rates to all loans, and some subsidies for fixed capital formation mostly directed to small-scale farmers.

In Costa Rica's National Decarbonisation Plan 2018-2050, the agricultural sector has commitments in the following areas: (1) promotion of highly efficient agro-food systems that generate low carbon products for both domestic and international market, and (2) consolidation of an eco-competitive livestock model based on productive efficiency and reduction of GHG emissions. Within this context, the sectorial office for climate actions and decarbonisation was created in 2019 within the MAG. This office is in charge of Nationally Appropriate Mitigation Actions (NAMA) for livestock, and of the development of banana, rice and sugar cane NAMAs.

Two agricultural chains apply NAMAs: coffee and livestock. The coffee NAMA is more advanced and aims to reduce GHG emissions and improve resource use efficiency. The main actions implemented by the coffee NAMA are fertiliser reduction use, efficient use of water and energy, audits in coffee processing to measure carbon footprint, developing strategies to promote specialty coffee, technical assistance for coffee producers and processors, and planting forest trees for carbon capture.

During 2019, SEPSA developed the Climate Change Information Observatory,[1] with information on climate change and on the El Niño Southern Oscillations (ENSO).

Domestic policy developments in 2020-21

The Water Supply Programme for Guanacaste was launched in 2019, administered by the National Groundwater, Irrigation and Drainage Service (SENARA), which consists of an expansion of access to water for irrigation in the lower area of Guanacaste, through the construction of a reservoir and infrastructure for hydroelectric generation. In 2019, under this programme, 55 kilometres of canals and distribution network for irrigation were constructed, benefiting more than 17 000 hectares.

The DESCUBRE Programme – an initiative linking farmers to markets – was created in 2019 as a public-private alliance. Two fundraising events were held in 2020, raising USD 458 000 and benefiting 38 agricultural SMEs that will use the funds for agricultural innovation activities that boost productivity.

Domestic policy responses to the COVID-19 pandemic

Most policy developments that occurred in 2020 were aimed at addressing the COVID-19 emergency. The Ministry of Agriculture and Livestock (MAG) continues with a dialogue table for COVID-19 policy decisions. The table includes all sectoral decentralised institutions, the agro-industrial chambers and producer organisations. MAG co-ordinates prevention measures to control the spread of the virus within the farmers' fairs. In the regional offices, face-to-face agricultural procedures (access to services) were suspended, document expiration periods were extended and new virtual procedures were implemented.

The MAG, the Export Promotion Agency (PROCOMER), the Ministry of Economy and the Food Industry Chamber (CACIA), created the virtual platform "*La Finca Agropecuaria*". This smartphone application allows producers, buyers and final consumers to negotiate directly price and production of agricultural, livestock and fishery products. For farmers without internet access a text-messaging platform by SMS was created to link farmers and buyers.

In 2020, the Rural Development Institute (INDER) suspended, for four months, the Rural Credit Program re-payments. This four-month debt was re-scheduled to be paid at the end of the loan term without any default fine. INDER also provided an extension of three months for land lease contracts, benefiting 3 825 farmers and farmer organisations.

Due to the closure of public schools and their dining rooms during 2020 due to COVID-19, the National Production Council (CNP) main institutional procurement programme (PAI) was in charge of preparing and distributing basic food packages to all students in 1 426 schools. INDER and CNP signed an agreement

to buy beans from smallholders of the northern region of the country. This initiative was part of the broader procurement programme operated by CNP.

The Ministry of Finance, under the Law No. 9830, offered a moratorium on VAT payments and on selective consumption taxes, introduced VAT exemption on commercial leases, and exempted all economic activities of the country, including agriculture, from partial payments of income tax.

Trade policy developments in 2020-21

During 2020, different preparatory negotiations were undertaken for the entry into force of the Association Agreement between the United Kingdom and Central America (AACRU) as of 1 January 2021. These discussions were related to the implementation of the agreement, and took place between Central America countries and the United Kingdom, as well as with national institutions involved in the process. Moreover, work was carried out on answering inquiries (such as excluded products, tariff reductions, tariff rate quotas (TRQs), etc.) from the companies regarding this new Association Agreement.

Additionally, in November 2020 the annual meeting of the institutional framework of the Association Agreement between the European Union and Central America (AACUE) was held virtually, to discuss aspects related to market access, regulations, etc. Also, the Free Trade Commission of the Free Trade Agreement between Central America and Chile met in November 2020.

In 2020, Costa Rica opened three import quotas for paddy rice in order to supply local consumption. The country also implemented a safeguard measure (for three years) under Article XIX GATT 1994 for sugar in solid form of whatever origin, that increases the applied tariff from 45% to 72.7%.

Trade policy responses to the COVID-19 pandemic

Both the Animal Health (SENASA) and Plant Heath (SFE) institutions continued to perform their functions at border posts while avoiding (due to COVID-19) any disruptions in imports and exports of agricultural products. A new location was set up for a single export window (part of the single export window system) with the sanitary conditions established by the Ministry of Health. Agricultural imports are allowed based on printed documents as well as digitised documentation. The SFE created an online system for consulting in real time the phytosanitary certificates for Costa Rican agricultural exports.

Contextual information

Costa Rica is a small country with a population of 5 million. The country's long democratic tradition and political stability have underpinned its important economic progress – including the development of its agricultural sector. Agriculture still plays a relatively important role in the economy, contributing 4.6% to the country's GDP and employing 12.1% of its work force. Costa Rica has achieved higher standards of living and lower poverty rates than other countries in the region, with a per capita income of USD 20 434 (PPP) in 2019 (Table 10.3).

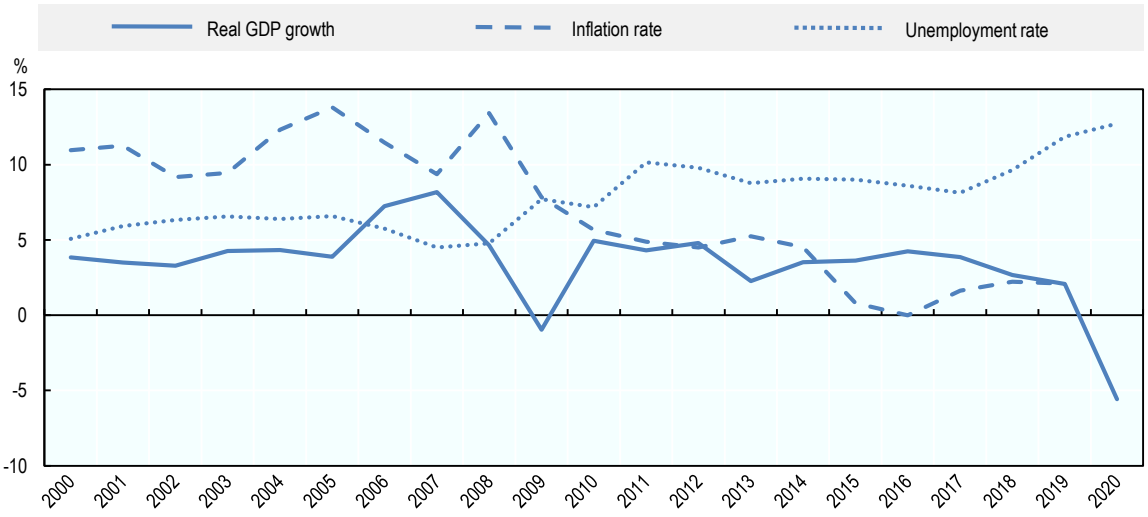
Table 10.3. Costa Rica: Contextual indicators

	Costa Rica		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	31	103	0.08%	0.09%
Population (million)	4	5	0.09%	0.10%
Land area (thousand km²)	51	51	0.06%	0.06%
Agricultural area (AA) (thousand ha)	1 840	1 783	0.06%	0.06%
			All countries[1]	
Population density (inhabitants/km²)	78	99	53	63
GDP per capita (USD in PPPs)	7 837	20 434	9 265	21 975
Trade as % of GDP	38	22	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	10.3	4.6	2.9	3.5
Agriculture share in employment (%)	16.3	12.1	-	-
Agro-food exports (% of total exports)	31.0	39.7	6.2	7.3
Agro-food imports (% of total imports)	7.6	12.7	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	76	72	-	-
Livestock in total agricultural production (%)	24	28	-	-
Share of arable land in AA (%)	11	14	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

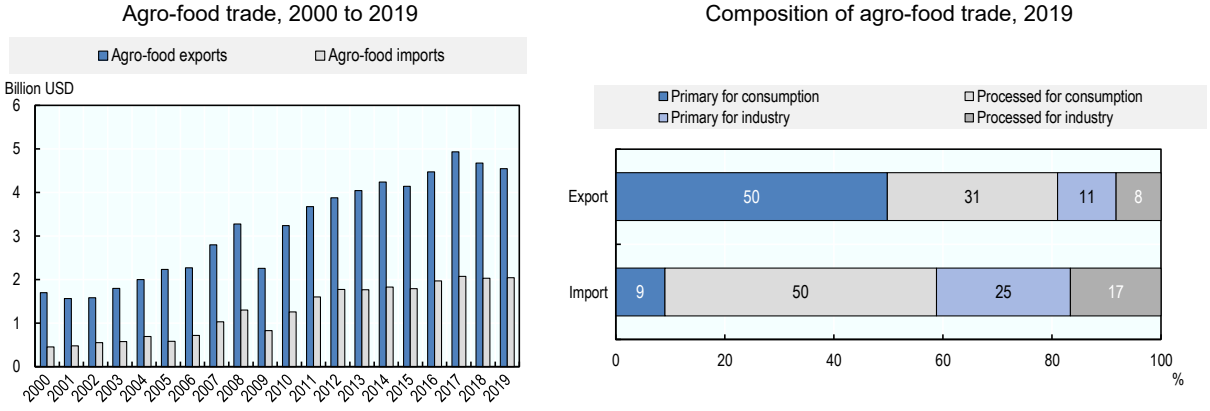
In 2020, GDP growth experienced an important declined due to the COVID-19 pandemic. Inflation has significantly declined since 2008, while unemployment has increased in the most recent years (Figure 10.5). Costa Rica has developed a successful and dynamic agricultural export sector in recent decades. The country is a net agro-food exporter, with a share of agro-food exports in total exports of 40% in 2019. Half of Costa Rica's agricultural exports are primary crops for final consumption, such as bananas and pineapples (Figure 10.6). The country is also an important exporter of processed products for final consumption. Half of agro-food imports are processed products for final consumption.

Figure 10.5. Costa Rica: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

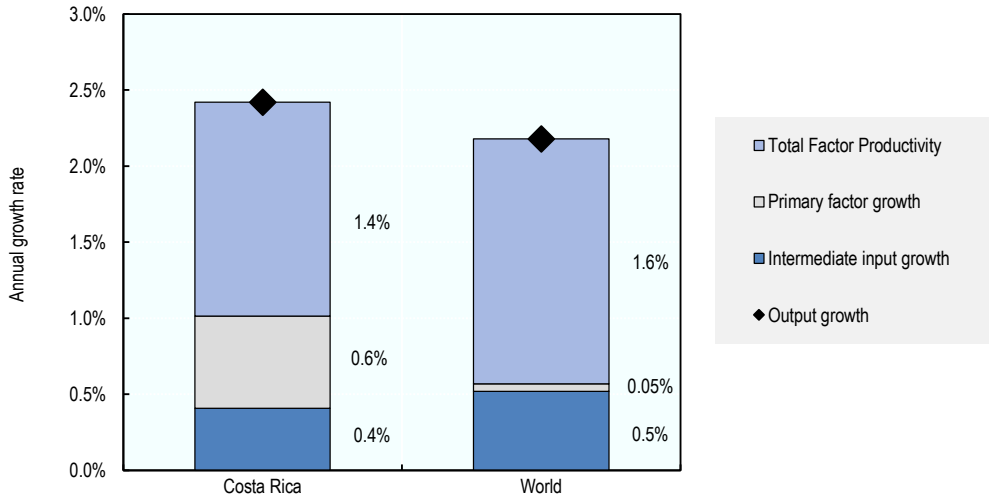
Figure 10.6. Costa Rica: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Total Factor Productivity (TFP) growth has decreased from the 2000s and has been slightly below the world average over the last decade (Figure 10.7). Area expansion into less productive land, ongoing farm fragmentation and limited financial and physical infrastructure were among the key contributing factors to this decline. Agriculture is the main user of water resources. Environmental regulations have led to the reforestation of large parts of the country, and 25% of Costa Rican territory is now under some form of stricter environmental protection. However, the country continues to have relatively high nutrient balances for nitrogen and phosphorus (Table 10.4).

Figure 10.7. Costa Rica: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 10.4. Costa Rica: Productivity and environmental indicators

	Costa Rica		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	3.0%	1.4%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	41.1	45.5	33.2	28.9
Phosphorus balance, kg/ha	12.1	11.8	3.4	2.6
Agriculture share of total energy use (%)	6.6	1.9	1.7	2.0
Agriculture share of GHG emissions (%)	27.2	24.1	8.4	9.5
Share of irrigated land in AA (%)	5.3	9.0	-	-
Share of agriculture in water abstractions (%)	32.5	68.6	46.0	43.4
Water stress indicator	..	2.6	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

References

Anderson, K. and A. Valdés (2008), *Distortions to Agricultural Incentives in Latin America*, World Bank, Washington DC, https://openknowledge.worldbank.org/handle/10986/6604. [1]

OECD (2017), *Agricultural Policies in Costa Rica*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264269125-en. [2]

Note

[1] www.infoagro.go.cr/CambioClimatico/observatorio/.

11 European Union

Support to agriculture

Producer support in the European Union,[1] measured by the Producer Support Estimate (PSE), is close to the OECD average. After falling from the 1990s through the early 2000s, support to producers in the European Union as a share of gross farm receipts stabilised at around 19% since 2010, compared to 18% for all OECD members.

While trade protection measures, including import and export licensing, tariff rate quotas (TRQ) and special safeguards, remain in effect for a number of sectors, support in the form of price distortions declined substantially over time. In 2018-20, market price support (MPS) accounted for 18% of support to producers, down from 46% in 2000-02.

Most support to producers comes from budgetary support – largely in the form of direct payments. Production distortions from these payments declined since the early 2000s. As of 2020, nearly half of budgetary support is decoupled from production; one third is based on current production and 18% is based on input use. Moreover, nearly 60% of payments to producers are contingent on mandatory environmental constraints, and an additional 14% of payments to producers come from voluntary agri-environmental schemes with conditions beyond the mandatory requirements.

Expenditures for general services to the sector (GSSE) in 2018-20 averaged 10.4% of total support, or 4.7% of agricultural value-added – a slight increase compared to 2000-02 but still below the OECD average. While the relative importance of GSSE is largely unchanged over the past two decades, the composition of GSSE expenditures has shifted. Expenditures on agricultural knowledge and innovation systems continued to predominate, as their share of total expenditures grew 12 percentage points to 54% in 2018-20. Expenditures on marketing and promotion also rose (now responsible for 22% of GSSE), while support for development and maintenance of infrastructure and public stockholding both declined.

Total support to the sector declined in relative terms over the past twenty years. In 2018-20, total support was estimated at 0.6% of GDP, compared to 1.0% in 2000-02.

Recent policy changes

Much policy activity in 2020 focused on ensuring that the food and agricultural sectors could cope with the impacts of COVID-19. A raft of measures was implemented on this front at the EU-level, including flexibility under the Common Agricultural Policy (CAP), exceptional market measures, and direct support to farmers and rural areas. In this framework, Member States responded with their own policy packages, targeting the most affected sectors. In particular, spending on state aid initiatives under the Temporary State Aid Framework soared in 2020 and early 2021, with 22 countries implementing sector-specific aid packages totalling nearly EUR 6.2 billion (USD 7.1 billion), equivalent to more than 11% of CAP expenditure in 2020.

The European Union also released the Recovery Plan for Europe, a long-term recovery initiative from the COVID-19 emergency. In particular, the Next Generation EU initiative under this plan will fund some

activities for the agricultural sector to support Member States in recovering, repairing and emerging stronger from the crisis.

Other policy initiatives were either released or came closer to completion in 2020. In particular, on 27 November, the European Parliament and the Council agreed on transitional rules for the CAP in 2021-22 (based on the principal of continuity of the current CAP) while negotiations continue on CAP reform. In addition, in May, the European Commission released more details about proposed Green Deal initiatives most relevant to the agricultural sector. Specifically, the Farm to Fork and Biodiversity strategies seek to halt biodiversity loss in Europe, transform EU food systems into global standards for competitive sustainability, protect human and planetary health, and safeguard the livelihoods of all actors in the food value chain. The Farm to Fork Strategy outlines a 27-point action plan covering four primary policy domains: (1) ensuring sustainable food production; (2) stimulating sustainable food processing, and wholesale, retail, hospitality and food service practices; (3) promoting sustainable food consumption and facilitating the shift towards healthy, sustainable diets; and (4) reducing food loss and waste. The strategy includes several agriculture-specific targets, including reducing chemical pesticide use by 50%, reducing nutrient loss by at least 50% and increasing the share of farmland under organic farming to at least 25%. The Biodiversity Strategy is a long-term plan to protect nature, reverse the degradation of ecosystems and build resilience to future threats. It also contains agriculture-specific targets, including reversing the decline of pollinators and establishing biodiversity-rich landscape features on at least 10% of farmland.

On 31 December 2020, the United Kingdom left the EU Single Market and Customs Union, ending the free movement of people, goods and services. The draft EU-UK Trade and Cooperation Agreement agreed on 24 December 2020 lays down the rules governing trade and movement between the two. Of relevance to agriculture, the trade component of the agreement includes duty and quota free imports on all goods that comply with rules of origin provisions.

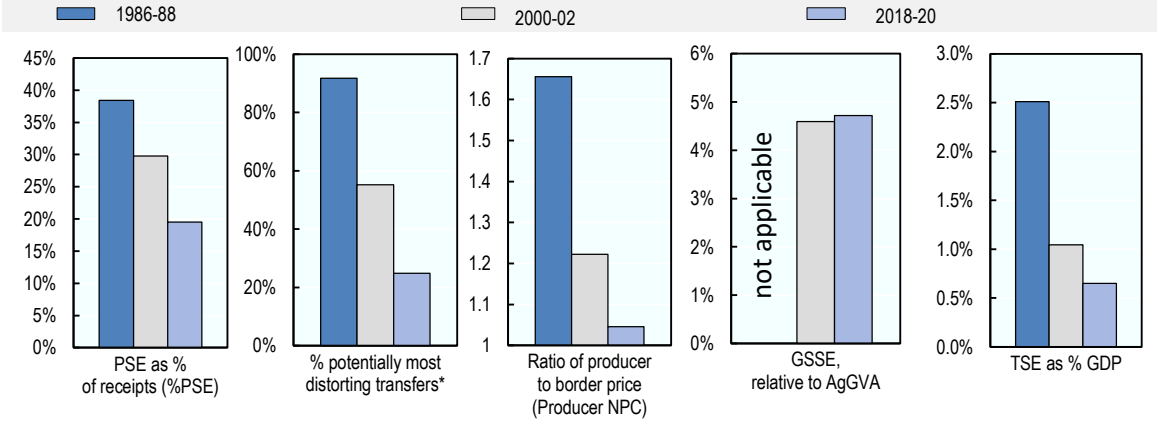
Several additional trade agreements were negotiated or came into effect in 2020. The Agreement on Cooperation on, and Protection of, Geographical Indications (GI) between the European Union and the People's Republic of China (hereafter "China") was signed on 14 September. The EU-Viet Nam Free Trade Agreement entered into force on 1 August. On 28 April, the European Union and Mexico finished negotiations on a new trade agreement to supersede the EU-Mexico Global Agreement in force since 2000.

Assessment and recommendations

- The Farm to Fork and Biodiversity Strategies outline a welcome ambition to improve the productivity, sustainability and resilience of the European Union's agricultural sector. At the same time, it is unclear how the particular targets chosen as desired outcomes will affect overall productivity and sustainability. Moreover, the strategies should place more emphasis on the need to continue to improve water management as a prerequisite for improved sustainability and resilience – an area that will become increasingly important under projections for a drier, hotter Europe.
- Current CAP proposals continue to support, within existing budgetary limits and regulations, commodity-specific assistance (in the form of voluntary coupled support) which has been shown to distort markets and may worsen environmental outcomes. Additionally, while the new national strategic plans represent an opportunity to better target policies to national circumstances, they risk increasing divergence in the national implementation of the CAP, including on coupled support. Phasing out programmes known to contribute to negative environmental outcomes or effectively addressing these impacts, could improve CAP coherence with Farm to Fork strategy. This approach would be an important first step to consider in the national plans in order to achieve current environmental ambitions.

- The European Union's long-term COVID-19 recovery packages (in the form of Next Generation EU and the reinforced budget) are a welcome development, attempting to leverage the crisis as an opportunity to build a more resilient agricultural sector.
- Numerous ad hoc assistance packages announced under the Temporary Framework for State Aid indicate that either the current risk management policy toolbox is not appropriate for dealing with catastrophic events, or the incentives to take up existing tools are misaligned. Policymakers should discuss with sector stakeholders to determine what policies best address gaps in farm-level risk management – keeping in mind that the prospect of undefined ad hoc assistance packages erodes incentives to invest in risk management and resilience, particularly when such programmes are susceptible to political objectives and do a poor job of delivering assistance where needed.
- Despite huge disruptions in food and agricultural markets caused by the COVID-19 emergency, European food and agricultural systems proved resilient in ensuring that consumers were able to access food. The Green Lanes initiative and efforts to facilitate market information likely assisted in these efforts. However, the crisis also increased calls for a reassessment of the preparedness of the European Union in relation to food security crises. Policymakers should be cautious and avoid adopting approaches that could undermine incentives to adapt and transform industries to manage future shocks.

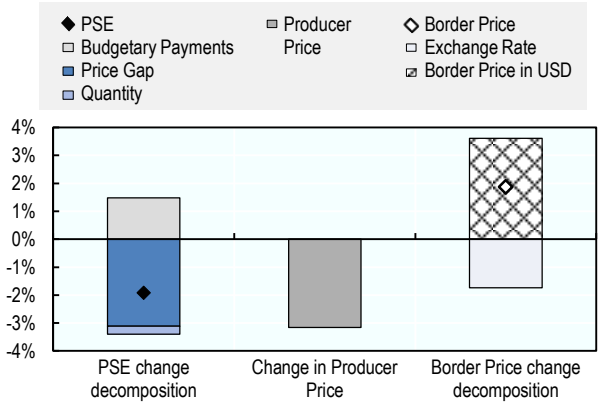
Figure 11.1. European Union: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers. EU12 for 1986-88, EU15 for 2000-02, EU28 for 2018-19 and EU27 plus UK for 2020.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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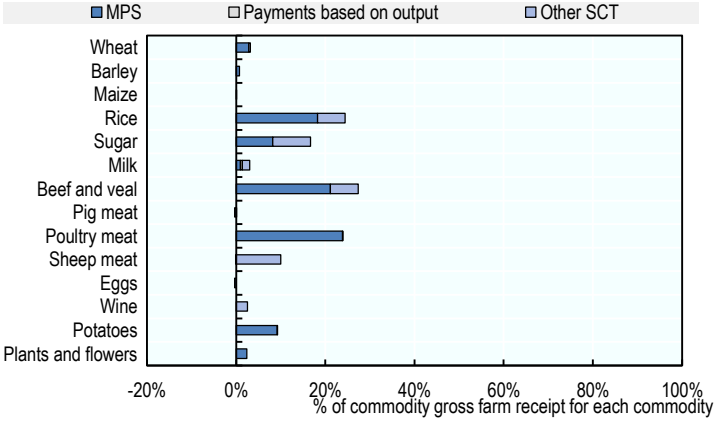
Figure 11.2. European Union: Drivers of the change in PSE, 2019 to 2020



Note: EU28 for 2019 and EU27 plus UK for 2020.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/t69ycm

Figure 11.3. European Union: Transfer to specific commodities (SCT), 2018-20



Note: EU28 for 2018-19 and EU27 plus UK for 2020.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/8ompwl

Table 11.1. European Union: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**233 558**	**225 093**	**457 423**	**466 823**	**452 697**	**452 748**
***of which:** share of MPS commodities (%)*	75.0	73.3	73.4	73.7	73.6	73.0
Total value of consumption (at farm gate)	**212 900**	**226 789**	**448 379**	**464 115**	**435 556**	**445 464**
Producer Support Estimate (PSE)	**95 385**	**79 781**	**106 077**	**108 994**	**104 698**	**104 538**
Support based on commodity output	86 308	40 997	19 633	21 839	20 160	16 900
Market Price Support[1]	80 672	37 067	19 330	21 523	19 864	16 601
Positive Market Price Support	81 784	37 067	19 561	21 814	20 268	16 601
Negative Market Price Support	-1 112	0	-231	-290	-403	0
Payments based on output	5 637	3 930	304	316	296	299
Payments based on input use	5 056	6 833	15 115	14 745	14 780	15 821
Based on variable input use	960	3 047	6 412	6 284	6 286	6 667
with input constraints	0	0	38	31	42	41
Based on fixed capital formation	2 986	2 259	6 271	6 471	6 140	6 202
with input constraints	0	94	111	108	109	115
Based on on-farm services	1 109	1 527	2 432	1 990	2 354	2 952
with input constraints	90	274	10	10	10	10
Payments based on current A/An/R/I, production required	3 587	31 196	27 899	27 529	27 053	29 115
Based on Receipts / Income	147	99	614	328	324	1 188
Based on Area planted / Animal numbers	3 440	31 097	27 286	27 201	26 728	27 927
with input constraints	940	13 953	22 261	22 279	21 739	22 767
Payments based on non-current A/An/R/I, production required	0	0	4	3	3	7
Payments based on non-current A/An/R/I, production not required	0	10	41 920	43 486	41 239	41 034
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	10	41 920	43 486	41 239	41 034
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	478	1 078	987	949	973	1 037
Based on long-term resource retirement	476	846	149	157	148	142
Based on a specific non-commodity output	2	176	769	739	776	792
Based on other non-commodity criteria	0	57	69	53	50	103
Miscellaneous payments	-43	-334	519	443	490	623
Percentage PSE (%)	**38.4**	**29.8**	**19.5**	**19.7**	**19.5**	**19.3**
Producer NPC (coeff.)	**1.66**	**1.22**	**1.05**	**1.05**	**1.05**	**1.04**
Producer NAC (coeff.)	**1.62**	**1.42**	**1.24**	**1.24**	**1.24**	**1.24**
General Services Support Estimate (GSSE)	**9 118**	**8 355**	**12 369**	**12 690**	**12 002**	**12 416**
Agricultural knowledge and innovation system	1 788	3 492	6 720	6 969	6 623	6 568
Inspection and control	194	281	1 177	1 180	1 170	1 180
Development and maintenance of infrastructure	1 331	2 222	1 719	1 895	1 577	1 684
Marketing and promotion	1 210	996	2 710	2 614	2 597	2 919
Cost of public stockholding	4 571	1 294	28	15	20	49
Miscellaneous	24	69	16	16	15	16
Percentage GSSE (% of TSE)	**8.3**	**9.1**	**10.4**	**10.4**	**10.2**	**10.6**
Consumer Support Estimate (CSE)	**-69 408**	**-33 000**	**-17 808**	**-20 344**	**-18 411**	**-14 668**
Transfers to producers from consumers	-80 268	-36 084	-18 489	-21 260	-19 172	-15 036
Other transfers from consumers	-1 699	-717	-152	-65	-265	-128
Transfers to consumers from taxpayers	4 992	3 537	469	511	400	496
Excess feed cost	7 567	264	365	470	626	0
Percentage CSE (%)	**-33.4**	**-14.8**	**-4.0**	**-4.4**	**-4.2**	**-3.3**
Consumer NPC (coeff.)	**1.63**	**1.19**	**1.04**	**1.05**	**1.05**	**1.04**
Consumer NAC (coeff.)	**1.50**	**1.17**	**1.04**	**1.05**	**1.04**	**1.03**
Total Support Estimate (TSE)	**109 495**	**91 672**	**118 915**	**122 195**	**117 101**	**117 450**
Transfers from consumers	81 967	36 801	18 642	21 325	19 436	15 164
Transfers from taxpayers	29 228	55 589	100 426	100 934	97 929	102 414
Budget revenues	-1 699	-717	-152	-65	-265	-128
Percentage TSE (% of GDP)	**2.5**	**1.0**	**0.6**	**0.6**	**0.6**	**0.7**
Total Budgetary Support Estimate (TBSE)	**28 824**	**54 606**	**99 586**	**100 671**	**97 237**	**100 849**
Percentage TBSE (% of GDP)	**0.7**	**0.6**	**0.5**	**0.5**	**0.5**	**0.6**
GDP deflator (1986-88=100)	**100**	**152**	**191**	**189**	**193**	**..**
Exchange rate (national currency per USD)	**0.91**	**1.09**	**0.87**	**0.85**	**0.89**	**0.88**

.. Not available

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
EU12 for 1986-88; EU15 for 2000-02; EU28 for 2018-19; and EU27 and the United Kingdom for 2020.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for the European Union are: wheat, maize, barley, oats, rice, rapeseed, sunflower, soybean, sugar, milk, beef and veal, sheep meat, pig meat, poultry, eggs, potatoes, tomatoes, plants and flowers, and wine.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

The CAP has been the European Union's agricultural policy framework since its institution in 1962, although the mix of policy instruments has evolved substantially over time (Table 11.2). The Treaty of Rome that established the European Community outlined the CAP in 1957 (OECD, 2011[1]; European Parliament, 2021[2]). Agriculture made up a much larger share of Europe's economy at the time, and the income gap between rural and urban households was increasing. Moreover, the region was a net food importer with concerns about securing adequate food supplies during the Cold War (Grant, 2020[3]). In this context, the Treaty of Rome laid down five main objectives for the CAP:

1. To increase agricultural productivity by promoting technical progress and ensuring the optimum use of the factors of production, in particular labour
2. To ensure a fair standard of living for farmers
3. To stabilise markets
4. To assure the availability of supplies
5. To ensure reasonable prices for consumers

Measures targeting these objectives were financed from the European Agricultural Guidance and Guarantee Fund (EAGGF), split into separate Guidance and Guarantee sections. Different rules governed the two: the Guidance Section financed operations related to structural policy and development of rural areas, while the Guarantee section funded expenditures on market and price policies (European Parliament, 2021[4]).

From the CAP's institution until the 1990s, support prices were high compared to world market prices. Combined with an unlimited buying guarantee, European farmers produced increasing surpluses. The cost of these policies was large, however, such that by the 1980s the EU introduced quantitative production restrictions in the form of quotas on milk and sugar production.

The CAP's first major reform occurred in 1992, in conjunction with negotiations on the General Agreement on Tariffs and Trade (GATT). The **MacSharry Reform** brought a major shift in how the public sector delivered support to agriculture. Instead of supporting production (through intervention buying and export subsidies), the regime shifted to supporting producer incomes directly, to close the gap between supply and demand, and reduce overall expenditures (European Parliament, 2021[5]). This wide-ranging reform included reducing cereal intervention prices, introduced compensatory payments per hectare for cereals or per head for livestock, and introduced a mandatory set-aside scheme to take land out of production. In conjunction with the reform of budgetary support measures through the MacSharry package, MPS also declined thanks to EU commitments under the 1995 Uruguay Round Agreement on Agriculture. Namely, bound tariffs were gradually reduced, and other border measures were tariffied (including replacing variable import levies with *ad valorem* or specific tariffs and tariff rate quotas) (OECD, 2011[1]).

Subsequent reforms built on the foundation of the MacSharry Reform, reducing distortive support to the agricultural sector or changing how support is delivered. The **Agenda 2000** reform focused on aligning EU and world prices, offsetting the reduction of price support with increased direct aid to producers (European Parliament, 2021[5]). In addition, the Rural Development Regulation was introduced as Pillar 2 of the CAP. Finally, this package instituted the first environmental cross-compliance conditions for granting aid.

The 2003 **Fischler Reform**[2] further developed and consolidated these measures. It saw the introduction of the single payment scheme (SPS), decoupling most support from production (European Parliament, 2021[5]). Furthermore, receiving the full payment required cross-compliance related to the environment, animal welfare, plant protection and food safety. This package also introduced modulation, allowing Member States to transfer funds between the two pillars to reinforce rural development objectives. The

reform also prioritised financial discipline, freezing the budget of Pillar 1 and imposing annual compulsory ceilings. This coincided with the splitting of the budget into the European Agricultural Guarantee Fund (EAGF) to finance Pillar 1 and the European Agricultural Fund for Rural Development (EAFRD) to finance Pillar 2 from 2007. Additionally, this round of reform introduced the single common market organisation (CMO) in 2007, which codified the regulation mechanisms of the existing CMOs. Reform programmes for specific commodities (cotton, hops, olive oil, tobacco, sugar, fruits and vegetables, and wine) were introduced from 2003 to 2008, with the aim of reducing distortive payments and restoring market-based incentives (OECD, 2011[1]).

Measures taken under the 2009 **Health Check** sought to continue the direction of the 2003 reform. Namely, decoupling of aid continued and nearly all payments (with the exception of suckler cow, sheep and goat premia) were consolidated into the SPS. It also further reduced market intervention for a number of products, abolished set-aside and introduced phase-out of milk quotas. Additional flexibility for direct payments was introduced as well (OECD, 2011[1]).

The **2013 Reform** set out a more global, integrated approach to agricultural support, undertaken through four lines of action (European Parliament, 2021[5]):

1. Converting decoupled aid into a multifunctional support system with aid directed toward specific objectives. Accordingly, the SPS was replaced by a system of payments with seven components: (1) a basic payment; (2) a greening payment for environmental public goods; (3) an additional payment for young farmers; (4) a 'redistributive' payment for first hectares of farmland; (5) support for areas with specific natural constraints; (6) aid coupled to production; and (7) a simplified system for small farmers.
2. Consolidating the two CAP pillars, with direct aid and market measures funded through Pillar 1, and rural development funded through Pillar 2 and co-financed by the Member States.
3. Consolidating CMO tools into safety nets in case of market disruption or price crisis, and ending other supply control measures, namely the sugar and milk quotas.
4. A more integrated, targeted and territorial approach to rural development, including simplifying the range of available instruments to focus on certain core objectives.

The instruments of the 2013 Reform remain in place, although the next round of reform is underway. All told, through the rounds of CAP reform, the absolute budget figure for the CAP has more than doubled over the past 30 years, partly related to additional Member States joining the European Union. At the same time, CAP expenditures as a share of the total EU budget declined sharply, from 74% in 1985 to 37.4% in 2019 (EC, 2020[6]).

Table 11.2. European Union: Agricultural policy trends

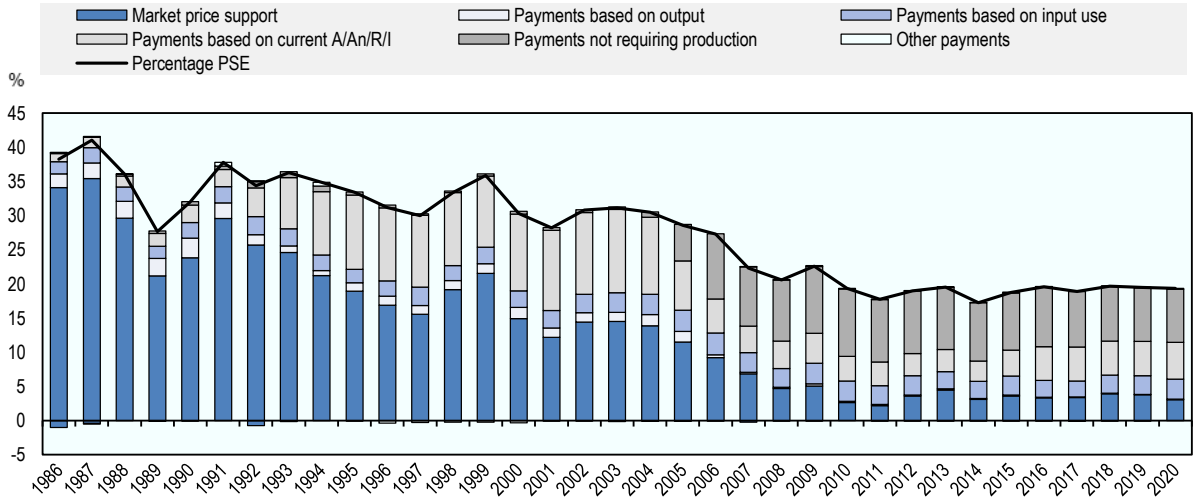
Years	Main Milestones	Key Policy Features
pre-1992	**Coupled support phase**: CAP financed by the European Agricultural Guidance and Guarantee Fund (EAGGF), European Union expansion to 15 members	Support prices greater than world prices Unlimited buying guarantee Production quotas for certain products, including dairy and sugar
1992-1999	**MacSharry Reform**: CAP, EU Expansion 1995 (Austria, Finland, Sweden), Uruguay Round Agreement on Agriculture	Shift from product support through prices to producer support through income-supporting measures, with the reduction in intervention prices compensated by increased direct aid per hectare or livestock headage payments Establishment of set-aside payments to encourage land retirement Tarrification of border measures and gradual reductions in bound tariffs
2000-2002	**Agenda 2000 CAP Reform**: CAP divided into Pillar 1 and Pillar 2 (Rural Development)	Further reduction of EU market support prices in closer alignment with world prices, partly offset by direct aid to producers in the form of increased area or headage payments First introduction of compulsory environmental cross-compliance Introduction of Rural Development Regulation as a second pillar of the CAP
2003-2008	**Fischler Reform**: CAP Pillars 1 (financed by EAGF) and 2 (financed by the European Agricultural Fund for Rural Development EAFRD), EU Expansion 2004 (Malta, Cyprus, Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Slovenia, Hungary) and 2007 (Bulgaria and Romania)	Decoupling much of CAP support from volume of production, with fixed single farm payment (SPS) introduced based on historical references Cross-compliance for environmental and public health objectives compulsory for receiving full payments Single common market organisation (CMO) introduced Reform programmes initiated for cotton, hops, olive oil, tobacco, sugar, fruit and vegetable and wine regimes
2009-2013	**Health Check**: CAP Pillars 1 and 2	Further reduction of EU market intervention for certain products Phasing out of milk quotas initiated Abolition of set-aside Integration of nearly all payments into SPS New cross-compliance requirements introduced
2013-present	**2013 Reform**: CAP Pillars 1 and 2, EU Expansion 2013 (Croatia) and Contraction 2020 (United Kingdom)	Decoupled aid converted to multifunctional support (including basic payment, greening payment, small farmer payment, etc.) Consolidation of two pillars of CAP, with direct payments and market measures under Pillar 1 Consolidation of CMO tools, abolition of supply control measures (including ending milk and sugar quota schemes) External and internal convergence, with payment envelopes gradually adjusted to move toward a uniform minimum per hectare payment

Source: (European Parliament, 2021[5]); (OECD, 2011[1]).

Total support to the agricultural sector as percentage of agricultural gross value-added in the European Union largely comes from budgetary allocations (Figure 11.4). Market price support declined significantly from 1986 through the 2000s, but remains mostly unchanged since around 2010. The most substantial change to PSE composition began in the mid-2000s after the Fischler reforms decoupled most payments to farmers from production.

Figure 11.4. European Union: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
European Union refers to EU12 for 1986-94, EU15 for 1995-2003, EU25 for 2004-06, EU27 for 2007-13, EU28 for 2014-19, and EU27 and the UK for 2020
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The **Common Agricultural Policy** is the agricultural policy framework of the European Union. In addition to the CAP, Member States may implement measures funded from national or sub-national budgets that target specific sectors (including agriculture) or objectives, as long as they comply with the European Union's state aid rules and do not distort competition within the common market (OECD, 2017[7]).

The CAP typically covers a seven-year period – currently 2014-20, but extended to the end of 2022 with the passage of transitional CAP rules in 2020. It comprises two pillars: the European Agricultural Guarantee Fund finances Pillar 1, and measures under Pillar 2 are based on Rural Development Programmes co-financed by the European Agricultural Fund for Rural Development and EU Member States.[3] Member States deploy RDPs over the seven-year CAP period. The CAP 2014-20, while in many ways the continuation of the CAP 2007-13, offers a number of novel features (OECD, 2017[7]).

The implementation of the CAP 2014-20 started with measures under Pillar 1, followed in 2016 by implementation in the Member States of 118 national and regional Pillar 2 RDPs.[4] In 2018, the CAP simplification took place within the revision of the EU financial rules, also known as the Omnibus regulation (OECD, 2018[8]).

The budget for the CAP 2014-20 was EUR 408 billion (USD 465 billion), of which 76% were initially allocated to Pillar 1 (covering market related expenditure and direct payments), and the remaining 24% to Pillar 2 (rural development spending, including agri-environmental payments). The CAP 2014-20 allows Member States to transfer up to 15% of each envelope[5] between the two pillars. As of December 2018, twelve transferred funds from Pillar 1 to Pillar 2 while five transferred funds from Pillar 2 to Pillar 1, with a net result of EUR 3.76 billion (USD 4.28 billion), or less than 1% of expenditures transferred from Pillar 1 to Pillar 2 over the period (EC, 2019[9]).[6]

Pillar 1 defines and funds **market measures** under the common market organisation, as well as **direct payments** – mostly per hectare payments that do not require production (see next paragraph), but also payments to a few specific sectors, such as fruits and vegetables. To this end, for the entire period of the CAP 2014-20, entitlements to direct payments were assessed and allocated to those deemed to be active farmers.

The Basic Payment Scheme (**BPS**) and the Single Area Payment Scheme (**SAPS**) – the BPS equivalent that offers a uniform per hectare payment rate in all but three Member States that joined the European Union after 2000[7] – make up 50% of the EU Pillar 1 direct payments envelope in Budget Year 2021 (Table 11.3). Wide variations across Member States reflect their spending choices on optional measures under Pillar 1. Both the BPS and the SAPS require cross-compliance, though exceptions apply. Additional conditions are attached to the per-hectare **Greening** payment that accounts for 29% of the Pillar 1 direct payments budget. As of 2017, farmers who do not comply with all the requirements of greening may be subject to new greening administrative penalties (equivalent to 20% of the farmer's greening payment in 2017, rising to 25% from 2018 onward) in addition to forfeiting a share of the greening payment on the non-compliant area.

Table 11.3. Direct payments budget under Pillar 1, 2020

	Budget 2021 (EUR million)	Share in direct payments	Share in decoupled direct payments
Direct payments; of which:	37 432		
Decoupled direct payments, of which:	31 545	84%	
Basic Payment Scheme (BPS)	14 172	38%	45%
Single Area Payment Scheme (SAPS)	4 406	12%	14%
Greening	10 778	29%	34%
Voluntary Coupled Support	4 019	11%	

Note: Other decoupled payments represent about 7% of direct payments under Pillar 1. The 2021 EU fiscal year (November to October) is attributed to year 2020 in the PSE system.
Source: OECD calculations based on European Commission, EUR-Lex budget 2021.

In the ten Member States that apply the SAPS, commodity-specific payments may be granted from national budgets within limited envelopes. **Transitional National Aid** (TNA) is mostly disbursed as decoupled payments. In claim year 2018 (the most recent year for which this data is available), only 15% of TNA was paid as coupled support (EC, 2020[10]). It may apply on a per area basis to arable land, hops and starch potatoes; a volume basis to milk; and a headage basis to livestock. Member States may review TNA budgets and supported commodities on an annual basis. The maximum TNA payments allowed decrease gradually from 75% of the 2013 level of SAPS aid in 2015 to 50% in 2020.

As the CAP 2014-20 is implemented, the gap in per hectare payment rates of the BPS and the SAPS will narrow, both between countries (**external convergence**) and between farmers and regions within countries (**internal convergence**[8]). Internal convergence applies to BPS when a flat rate is not yet applied, while under the SAPS a uniform payment rate at national level already applies to each hectare.

In the CAP 2014-20, Member States may choose to allocate part of their direct payments envelope to commodity-specific payments within defined ceilings (up to 13%) and under defined conditions. The **voluntary coupled support** (VCS) expands the coupled support scheme under Article 68 of the previous CAP 2007-13, and lets Member States allocate a larger envelope to more sectors or regions and under a wider set of specific conditions. Such support may be granted to create an incentive to maintain current levels of production in the sectors or regions concerned. Choices of Member States on take-up of the VCS vary greatly, both in terms of the level of support and the commodities supported. On several occasions, Member States reviewed VCS budgets and commodity attributions, making some minor adjustments. All

except Germany chose to offer VCS, using 10% of the EU direct payments budget on average from 2018-20. This compares to 3% spent previously under Article 68 coupled support, as reported in the EU general budgets.

A top-up payment to young farmers in addition to the BPS and SAPS applies in all Member States. In 2020, this payment accounted for 1.5% of the European Union's direct payments envelope, as reported in the general budget. Member States have chosen to implement this measure in different ways. Some offer recipients a flat payment rate on a limited number of hectares, while others apply a payment proportional to the BPS or SAPS received. In addition to this compulsory young farmer scheme, 25 Member States chose to attribute a portion of their rural development envelopes to support young farmers, representing 4.5% of total planned rural development expenditures (ENRD, 2016[11]). The bulk of this spending is directed toward business development and investments.

Fifteen Member States chose to offer small farms simplified payment attribution conditions – the Small Farmers Scheme – that waives requirements attached to the greening payment and cross-compliance. The payment cannot exceed EUR 1 250 (USD 1 424) per farm and, depending on the method chosen by the member state, the overall envelope may be limited to 10% of national direct payments.[9]

Denmark and Slovenia implement the Pillar 1 direct payment to **Areas with Natural Constraints** (ANC). Under this payment, ANC are defined based on eight biophysical criteria.[10] Denmark uses 0.3% and Slovenia 1.6% of their national direct payments envelope for ANC payments (EC, 2019[9]). A payment targeted to areas with natural or other specific constraints can also be budgeted under the RDP, labelled as the Less Favoured Areas payment in the previous CAP. It is implemented in 25 Member States and accounts for 19% of Pillar 2 public expenditure funds (including Member States' contributions from national budgets) in 2020. In the past, Member States used up to 140 different criteria for assessing ANC status for Pillar 2 payments. However, these were consolidated into the same eight biophysical criteria that apply to Pillar 1 ANC payments.

Ten Member States or regions have chosen to grant higher payments to the first hectares[11] under the so-called **redistributive payment**, using 4% of the European Union's direct payments envelope, as reported in European Union's 2020 general budget.

Member States that implement the redistributive payment may opt-out of so-called "degressivity" and six Member States and regions did so.[12] Under **degressivity**, BPS amounts above EUR 150 000 (USD 170 932) per recipient are reduced by a minimum of 5%. Funds deducted under this provision are transferred to Pillar 2 and used to fund the member state's RDPs. Fourteen[13] applied the minimum reduction. Ten used the option to increase the amount exempt from the 5% reduction by the value of salaries paid. Ten have chosen to apply a full cap on the BPS at levels varying from EUR 150 000 (USD 170 932) to EUR 600 000 (USD 683 728).

A **Crisis reserve** is earmarked to be used in case of emergency. It is funded from the Pillar 1 direct payments budget. If unused, the envelope reverts for distribution as Pillar 1 direct payments in the same year. The crisis reserve is renewed each year and up to now has not been used as an emergency fund.

The **POSEI scheme** (*Programmes d'Options Spécifiques à l'Eloignement et à l'Insularité*) supports farming in the European Union's outermost regions by using production-related payments. The scheme supports access to food, feed and inputs for local communities, and the development of local agricultural production with 1.2% of the direct payments envelope in 2020.

Pillar 1 also funds measures that support **commodity markets**, representing 4.7% of the overall agriculture and rural development budget in 2020. Prices paid to EU domestic producers averaged 5% above world market prices in 2018-20.

While the possibility for public intervention for cereals (namely common and durum wheat, barley, and maize) exists, the last intakes of cereals into public storage occurred during the 2009/10 marketing year

(EC, 2013[12]). Purchase at the cereal intervention price is limited to 3 million tonnes of common wheat, beyond which purchase is by tender. Public intervention for durum wheat, barley and maize can be opened under special circumstances by means of tendering. Public intervention also applies to paddy rice. Until 30 September 2017, sugar was supported with production quotas, coupled with a minimum price for sugar beets. After the end of the sugar quota regime, provisions for agreements between sugar factories and growers were maintained, and white sugar remained eligible for private storage aid. The support regime for cereals and sugar also includes trade protection through tariffs and TRQs. No export refunds have been granted since July 2013. Furthermore, since the WTO Ministerial conference in Nairobi in December 2015, the European Union has committed not to resort to export subsidies.

Fruits and vegetables are eligible for voluntary coupled support and commodity specific payments; they are also supported through various market measures. These include crisis intervention measures that may be managed by producer organisations, an entry price system (minimum import price) for some products and ad valorem duties, but no export subsidies. Support co-financed by Member States also applies to the fruit and vegetables sector, and the olive oil and table olives sectors. These support a wide range of actions from production planning, quality measures, market withdrawal and harvest insurance to training, promotion and communication. Some measures apply at farm level while others are provided to producer organisations or the sector at large. Private storage may be activated as an optional scheme for olive oil and flax fibre. In the CAP 2014-20, recognition of producer and inter-branch organisations expands beyond fruits and vegetables. Compensation may be greater when producers claim support via producer groups, as was the case with compensation payments related to the Russian Federation's embargo on imports.

Also targeting the fruit and vegetables sector, a consumer support system directed toward schoolchildren covers consumption of fresh fruits and vegetables, processed fruits and vegetables, and banana products. The scheme's budget grew rapidly from EUR 29 million (USD 33 million), when it was implemented in 2010, to EUR 117 million (USD 133 million) in 2016. A similar scheme supported milk consumption for schoolchildren, with a budget of EUR 64 million (USD 73 million) in 2016. In August 2017 both schemes merged under the title "School Schemes" and the budgets combined into EUR 216 million (USD 246 million) in 2020.

In the dairy sector, intervention prices are used together with import protection for butter and skimmed milk powder (SMP). Intervention purchases cannot exceed 50 000 tonnes for butter, and 109 000 tonnes for SMP, respectively representing 2% and 7% of production in 2020. Above those limits, purchase is made by tender. Intervention purchases were opened for both products as a response to sector shocks due to COVID-19, prior to which no intervention purchases were made for butter since 2009, while the last intervention purchases for SMP took place in 2018.

Floor prices,[14] tariffs and TRQs support the beef market. Import protection provides support for pig meat. The market support regime for sheep meat comprises tariffs and TRQs, with most country-specific TRQs subject to a zero customs duty. TRQs also support the poultry and eggs markets. Private storage may be activated as an optional scheme for butter, SMP, certain cheeses, beef, pig meat, sheep meat and goat meat. Indeed, private storage was opened for butter, SMP, cheese, beef and sheep meat in 2020 in response to the COVID-19 emergency (see Domestic policy responses to the COVID-19 pandemic). Furthermore, specific provisions are made for milk and milk products.

A system of authorisations for new vine planting support the wine sector. Since January 2016, new vine planting is limited to 1% of the planted vine areas per year. Authorisations would be automatically granted to producers to replace grubbing of an existing vine area. Member States had until 31 December 2020 to transition to the new system. The sector is also supported through promotional measures in both the European Union and third countries, restructuring and conversion of vineyards; compensation for green harvesting; setting up of mutual funds; investment in tangible and intangible capital; income insurance; development of new products, processes and technologies; and distillation of by-products.

Rural Development is part of the EU-level Common Strategic Framework covering all support from European Structural and Investment (ESI) funds[15] in Member States through partnership agreements. The EAFRD finances **Pillar 2** of the CAP 2014-20 to serve six priority areas: (1) fostering knowledge transfer and innovation; (2) enhancing competitiveness of all types of agriculture and the sustainable management of forests; (3) promoting food chain organisation, including processing and marketing, and risk management; (4) restoring, preserving and enhancing ecosystems; (5) promoting resource efficiency and the transition to a low-carbon economy; and (6) promoting social inclusion, poverty reduction and economic development in rural areas (Table 11.4). Pillar 2 funds are implemented through national (or regional) **RDPs**. RDPs also support projects that use the **LEADER** approach (*Liaison Entre Actions de Développement de l'Économie Rurale*) relying on a multi-sectoral approach and local partnerships to address specific local problems, and technical assistance for the implementation of Pillar 2 measures.

Table 11.4. CAP expenditure by source and use (estimated 2020)

CAP expenditure (EU funding), of which:	Share in EU funding:
Administrative expenditure	0.01%
Interventions in agricultural markets CMO	4.73%
Direct Payments	67.60%
Rural Development – EU funding	27.12%
Research and innovation – Horizon 2020	0.04%
Rural Development (total public expenditure) of which:	Share in total public expenditure:
Rural Development EU funding	66.8%
Rural Development national funding	33.2%
Priority 1: knowledge	*Allocated through other priorities*
Priority 2: competitiveness	20.9%
Priority 3: food chain organisations	9.6%
Priority 4: ecosystems	48.5%
Priority 5: resource efficiency	5.0%
Priority 6: social inclusion	13.6%

Source: OECD calculations based on European Commission, EUR-Lex budget 2021 (for EU funding) and EAFRD financial execution (for Rural Development and allocation to priorities). Total public expenditure comprises EU funding and Member States national funding of Rural Development.

The implementation of RDP 2014-20 was delayed, and by 2018 most payments for programmes within the RDP 2007-13 had terminated. At the same time, payments for farm restructuring under CAP 2007-13 were prolonged, including early retirement, conversion of arable land into grassland and afforestation of agricultural land.

Member States participate in the funding of Pillar 2 payments (also called co-financing) in accordance with RDPs that cover the entire duration of the CAP cycle. In their plans, Member States could choose from a menu of 19 measures to meet the six priority areas of Pillar 2.[16] Two conditions apply: (1) a minimum 30% of rural development funding from the EU budget must be spent on measures related to the environment and climate change adaptation, including forestry and investments in physical assets; and (2) another 5% must be spent on the LEADER approach.

At the aggregate, the greatest share of the new RDP budget is allocated to three measures: Investments; Agri-environment and Climate; and Areas with Natural Constraints. While Member States' choices vary, investment is one of the top three measures, receiving the highest shares of expenditure for the period 2014-20 in all but Austria, Germany and Sweden.

The launch of the European Innovation Partnership for Agricultural productivity and Sustainability (EIP-AGRI) in 2012 was followed by integrating the Horizon 2020 programmes specific to research and

innovation in agriculture into the CAP 2014-20. Horizon 2020 programmes relevant to agriculture focus on securing sufficient supplies of safe and high-quality food and other bio-based products. The Horizon 2020 budget under the agriculture and rural development title increased substantially since it was initiated in 2013, from EUR 1 million (USD 1.1 million) to EUR 257 million (USD 293 million) in 2019. A total of EUR 3.8 billion (USD 4.3 billion) is available for the period. Horizon 2020 is set to be replaced by Horizon Europe for 2021-27.

Programming for CAP 2014-20 ended in 2020. However, its structure remains in place for 2021-22 under transitional rules based on the principle of continuity while negotiations for the next CAP conclude (see next section).

Domestic policy developments in 2020-21

Overall spending

The EU budget for agriculture and rural development in 2020 declined 3% to EUR 55.4 billion (USD 63.1 billion), reflecting the withdrawal of the United Kingdom from the European Union.[17] Consequently, the share of total expenditures allocated to direct payments under Pillar 1 fell from 71% to 68%, the share spent on rural development measures under Pillar 2 rose from 24% to 27%, and the share devoted to market measures was unchanged at 5%.

EU budget and the next CAP

On 10 November 2020, the Council and European Parliament reached an agreement on the next **long-term EU budget for 2021-27** (the multiannual financial framework, or MFF) of EUR 1.21 trillion (USD 1.38 trillion) in current prices, with the Council adopting the regulation [Council Regulation (EU, Euroatom) 2020/2093] on 17 December 2020 following the consent of the European Parliament. They also agreed on an additional EUR 808 billion (USD 921 billion) funding package to support the European Union's recovery from the COVID-19 induced economic crisis, deemed **NextGenerationEU** (for further details on NextGenerationEU, see Domestic policy responses to the COVID-19 pandemic). With a view toward building a greener, more resilient and digital-friendly Europe, more than 50% of the combined total amount will be directed toward policies on research and innovation (Horizon Europe); fair climate and digital transitions (Just Transition Fund and the Digital Europe Programme); and preparedness, recovery and resilience (Recovery and Resilience Facility, rescEU and EU4Health).

Most of the budget for the future CAP is included in the MFF, with EUR 291.1 billion (USD 331.7 billion) in current prices allocated for Pillar 1 activities under the European Agricultural Guarantee Fund (EAGF) and EUR 87.4 billion (USD 99.6 billion) earmarked for Pillar 2 through the European Agricultural Fund for Rural Development (EAFRD). An additional EUR 8.1 billion (USD 9.2 billion) in funding for EAFRD will come from NextGenerationEU (intended to help rural areas make the structural changes necessary to achieve the goals of the European Green Deal and digital transition), bringing the total Pillar 2 allocation to EUR 95.5 million (USD 108.8 million). Additionally, some budgetary flexibility for Member States to implement the CAP is foreseen: Member States will have the option to transfer up to 25% of their CAP allocations between income support and rural development, and will be able to apply additional flexibilities for certain specific purposes, including supporting environment and climate objectives, supporting young farmers, and in cases of countries with below-average direct payments.

On 21 and 23 October 2020, the Council and the European Parliament respectively agreed on their negotiating positions on the **reform of the CAP,** based on the initial 2018 proposal from the Commission. Accordingly, trilogue negotiations between the Council, the Parliament, and the Commission are underway. Although the exact details of the final CAP 2021-27 are to be ironed out under the trilogue negotiations, some features of the reform are already agreed (Box 11.1).

Box 11.1. CAP 2021-27

The new CAP will feature changes in both the overall approach of the CAP, and the programming through which assistance is delivered. With respect to the policy approach, the European Commission has proposed to simplify and modernise how the CAP works, shifting the emphasis from rules and compliance towards results and performance.

The framework of the policy will be based upon nine specific objectives,[1] focusing on the social, economic, and environmental goals of the CAP. In order to achieve these objectives, the Commission will provide a toolbox of broad policy measures, which EU countries can shape around their own needs and capabilities.

The Commission will also provide a common set of result indicators as part of a new performance, monitoring and evaluation framework, which will be used to assess the progress of EU countries in reaching the CAP objectives. The selected indicators will be presented visually and interactively in the dashboard by theme, including farming income support, climate change and air quality, market orientation and organic production.

A main new feature of the CAP 2021-27 is the leading role of the EU member countries in designing and implementing their own national policy strategies. Each EU country will draw up its own CAP strategic plan, setting out how they will direct CAP funding towards specific targets and how these targets will contribute to the overall EU objectives. When drawing up their plans, each country will liaise with the Commission, hold consultations with experts and stakeholders, and undertake an extensive SWOT (strengths, weaknesses, opportunities, and threats) analysis of their specific needs. All strategic plans will be submitted to the European Commission for evaluation and approval before they are implemented. Additionally, EU countries will submit an annual performance report to show progress towards the targets that have been set.

Note: 1. The nine objectives are to ensure a fair income to farmers; to increase competitiveness; to rebalance the power in the food chain; climate change action; environmental care; to preserve landscapes and biodiversity; to support generational renewal; vibrant rural areas; and to protect food and health quality.
Source: (EC, 2020[13]).

In December 2019, the newly elected EU Commission adopted the European Green Deal as a main strategic policy document to transform the European Union into a zero net emissions economy. As part of this effort, the Commission approved in May 2020 two documents with direct implications for the CAP: the Farm-to-Fork (F2F) and the Biodiversity Strategies. While both strategies are multifaceted, they include various specific outcome objectives relevant for agriculture. For example, the F2F fixes specific targets on use of chemical pesticides, fertilisers and antimicrobials, and on nutrient losses and organic farming, while the Biodiversity Strategy fixes specific objectives on protected land, chemical pesticides and share of agricultural land under biodiversity landscape features (further details of the strategies are discussed below in the section on agri-environment, climate and sustainability).

Policy initiatives undertaken by Member States in the future CAP will be defined through country-specific strategic plans, which also provide the framework for countries to illustrate how they intend to work towards achieving the objectives outlined in the F2F and Biodiversity Strategies. Toward that end, on 18 December 2020, the Commission provided each EU Member State with country-specific recommendations for their **CAP strategic plans**. These recommendations are intended to assist in the drafting of the national plans by identifying the key areas on which each EU country should focus in order to ensure the achievement of the nine specific CAP objectives (i.e. environmental, social and economic challenges and a cross-cutting objective on knowledge and innovation), as well as compliance with Green Deal ambitions (in the form of

six Farm to Fork and Biodiversity strategy targets[18]). The Commission has asked Member States to determine specific national values for these targets and align their CAP strategic plans accordingly. Once plans are submitted by Member States, they will be subject to approval by the Commission according to criteria to be laid down in the future CAP strategic plan regulation. This process of devising country-level strategic plans was assisted by the 14 January 2021 publication of a list of potential agricultural practices that the new **eco-schemes** under the next CAP could support. In order to be supported by eco-schemes, these practices should cover activities related to climate, environment, animal welfare and antimicrobial resistance; be defined on the basis of the needs and priorities identified at national/regional levels in CAP strategic plans; have a level of ambition beyond the requirements and obligations set by conditionality; and contribute to reaching EU Green Deal targets. Practices eligible for support under the eco-schemes include agro-ecology practices such as crop rotation with leguminous crops; husbandry and animal welfare plans such as providing and managing regular access to open air areas; carbon farming, including conservation agriculture; protecting water resources by switching to less water intensive crops; and organic farming or integrated pest management practices as already defined in EU legislation.

Various activities related to these strategic plans were initiated in 2020 in the Member States as well. For instance, officials in the *Czech Republic* began to develop their plan in 2020, and public consultations on *Poland's* draft plan began in December 2020. Similarly, officials from the Ministry of Agriculture in *Spain* conducted preparatory meetings with regional governments and stakeholders on the proposed National Strategic Plan regulation.

While final provisions for the next iteration of the CAP have yet to be finalised, a political agreement between the European Parliament and the EU Member States in the Council was reached on **transitional rules for the CAP for 2021-22** on 27 November 2020. These transitional rules are based on the principle of continuity of the current CAP rules, while also including new elements to ensure a smooth transition. This agreement also covers the integration of the European Recovery Instrument (ERI) funds into the European Agricultural Fund for Rural Development (EAFRD), which is intended to facilitate the recovery of farming and rural economies in the aftermath of the coronavirus pandemic and reinforce their resilience toward future shocks. In addition, because trilogue negotiations between the Parliament, the Council and the Commission on the next CAP are ongoing, the provisional start date of the next CAP reform has been pushed back to 1 January 2023.

Markets and sector support

Much of the sector-specific support enacted in Member States in 2020 came as a result of market disruptions due to COVID-19 (see section Domestic policy responses to the COVID-19 pandemic), but some Member States carried out **sector-specific support** programmes not exclusively related to COVID-19. The government of *Bulgaria* increased their direct support levels for a variety of fruits, including deciduous fruits, apples, pears and table grapes.[19] Officials in *Estonia* announced that voluntary coupled support would be re-implemented from 2021 for ewes and mother goats, having last been provided in 2015-16. In *Italy*, the government announced the establishment of a fund for the protection and relaunch of the beekeeping, brewing, hemp and nut supply chains, with EUR 10 million (USD 11.4 million) allocated for 2021.

Under the provisions of the European Union's **wine sector** support programme, the government of *Austria* extended sales promotions for Austrian wine to third-country markets, in line with the framework of the national support programme. They also expanded investments in wine quality-enhancing measures that are increasingly necessary due to changing climatic conditions, including fermentation control, cooling investments, and conversion of vineyards (covering investments in irrigation, vineyard maintenance, and re-cultivation of slopes and terraces). Similarly, 2020 wine support programme expenditures in *Hungary* were dedicated to activities including restructuring and converting vineyards, carrying out information campaigns within the European Union, and promoting Hungarian wine outside of the European Union.[20]

On 31 March 2020, the European Commission published the budget for the EU **school scheme** for the 2020/21 school year.[21] The scheme supports the distribution of fruits, vegetables and milk to schoolchildren throughout the European Union. Under the budget, EUR 145 million (USD 165 million) was allocated for fruit and vegetable distribution, and EUR 105 million (USD 120 million) for milk and dairy products. These amounts can be topped up with national funds, however.

The implementation date of a new EU law on **organics,** originally published in 2018 (EU 2018/848), was pushed back by one year, until 1 January 2022. The regulation is designed to ensure fair competition for farmers, prevent fraud and maintain consumer trust by simplifying production rules, strengthening control systems, and allowing group certification possibilities for small farmers, among other provisions. Member States approved the delay in October 2020 in response to requests from MEPs grant additional time to draft and adopt national-level implementing legislation. Also related to organics, the government of *Luxembourg* took a number of actions in 2020 under its national action plan for the promotion of organic farming. First, the aid rate per acre for conversion to organic farming was increased, effective in the 2020/21 crop year. Second, the government has announced that by 2025, 50% of products served in collective catering establishments will come from Luxembourg – 40% of which will be organic, and the remainder will prioritise farms that are undergoing organic conversion. Pilot projects for at least one nursery, high school, hospital or elder care facility are foreseen for 2021.

Several **food labelling** initiatives were undertaken at EU and Member State level in 2020. On 21 December 2020, the European Commission launched the Food Labelling Information System (FLIS) – an online tool that facilitates business compliance with EU labelling requirements. Through the tool, firms can access mandatory labelling requirements by food product, with the information available in 23 languages. In August 2020 in *Bulgaria*, legislation was updated to reach compliance with EU regulations on fresh meat labelling, distinguishing products sourced from disease-free farms in regions where a contagious animal disease is detected from products sourced from disease-free regions. A new law came into effect in *France* in May 2020 that prohibits the use of food product names commonly used to designate animal origin from being used to promote foods containing vegetable proteins, including terms such as “burger”, “sausage” or “cheese”; requires all the countries of origin for blended honey to be listed on the label in descending order by weight; and mandates origin labelling for cocoa products. *Spain* approved a similar decree on quality standards for honey, which require blended honey products to identify all countries of origin on the label. Meanwhile in *Italy*, a new measure went into effect requiring country-of-origin labelling on processed pig meat products, including the country of animal birth, rearing and slaughter.

On 25 November 2020, the Commission launched a new search database for **geographical indications** in the EU (GIview[22]), which provides a single entry point for data on GIs registered in the European Union, as well as information on non-EU GIs protected at EU level through bilateral and multilateral agreements, and on EU GIs protected in non-EU countries.

Various **quality promotion** initiatives were launched in the Member States as well. Efforts in *France* focused on the promotion of local foods. In November 2020, a new national charter promoting fresh and local products was signed between the government and large national retailers. Activities covered under the charter include promotional events, long-term work on territorial food plans that link consumers and producers, and events educating consumers on food origins. *Italy* designated EUR 3 million (USD 3.4 million) over 2021-23 to promote Italian agro-food products and the Mediterranean diet. A new Grass Fed Beef Standard was launched for *Irish* beef producers through Bord Bia (the Irish Food Board) in 2020, requiring, among other provisions, that a minimum of 90% of an animal’s diet during their lifetime come from grass or grass-based forages in order to be eligible to use the “Grass Fed” logo.

Agri-environment, climate and sustainability

On 11 December 2019, the European Commission proposed a **European Green Deal (EGD)** to move toward a cleaner, circular EU economy and stop climate change, revert biodiversity loss and cut pollution

through a just and inclusive transition. The first climate action initiatives to be taken under the EGD, foreseen for the coming years, include:

- A European Climate Law to enshrine the 2050 climate-neutrality objective into EU law
- European Climate Pact to engage citizens and all parts of society into climate action
- 2030 Climate Target Plan to further reduce net greenhouse gas (GHG) emissions by at least 55% by 2030.

In addition, by June 2021, the Commission will also review and, where necessary, propose to revise all relevant policy instruments to deliver additional GHG emissions reductions.

As part of the EGD, on 20 May 2020, the Commission released the EU Farm to Fork and Biodiversity Strategies, outlining priority actions and commitments to halt biodiversity loss in Europe, transform EU food systems into global standards for competitive sustainability, protect human and planetary health, and safeguard the livelihoods of all actors in the food value chain. The **Farm to Fork Strategy** (F2F) adopts a food systems approach, encompassing production, processing and consumption of food. The strategy contains a 27-point Action Plan, with these initiatives divided into four primary policy domains:

1. Ensuring sustainable food production
2. Stimulating sustainable food processing, wholesale, retail, hospitality and food services' practices
3. Promoting sustainable food consumption, facilitating the shift towards healthy, sustainable diets
4. Reducing food loss and waste.

Preparations and consultations on the F2F continue, including on the implications of the F2F for international co-operation and trade policy. The F2F strategy includes several agriculture-specific targets to achieve by 2030: reduce chemical pesticides use by 50% and also use of the most hazardous pesticides by 50%; reduce nutrient loss by at least 50%; no more loss in soil fertility; reduce fertiliser use by at least 20%; reduce sales of antimicrobials for land and sea farmed animals by 50%; and increase the share of farmland under organic farming to at least 25%.

The **Biodiversity Strategy** is the second key component of the EGD with the most direct linkages to the agricultural sector. This strategy is a comprehensive long-term plan to protect nature, reverse the degradation of ecosystems, and build resilience to future threats (including the impacts of climate change, forest fires and disease outbreaks). Specific commitments to be delivered under the strategy by 2030 include reversing the decline of pollinators, establishing biodiversity-rich landscape features on at least 10% of farmland, and managing 25% of agricultural land under organic farming, while also promoting the uptake of agro-ecological practices (EC, 2020[14]). In addition to this EU-wide initiative, at the country level, *Austria* launched the Biodiversity Dialogue 2030 in 2019 with the intent of developing goals and measures amongst all relevant stakeholders. Toward this end, a public consultation was held in 2020, which will help inform the direction of future programming.

The F2F and Biodiversity Strategy targets are not yet codified in European regulations. Rather, Member States will work towards the goals set out in these strategies through their individual CAP strategic plans.[23] The Commission has analysed how the current proposals for CAP reform can contribute to the achievement of the EGD and its component strategies, including identifying the steps needed to make CAP fully compatible with these frameworks, such as a need to show increased ambition with regard to environmental and climate objectives, mandatory eco-schemes, ring-fenced spending for the environment and climate of 30% of the rural development budget, and assessment of coupled income support and interventions in light of its consistency with the need for overall sustainability (EC, 2020[15]).

Member States also put in place action plans or measures intended to help address **climate change**, by reducing emissions to meet obligations under the Paris Agreement or by mitigating the impacts of a changing climate. By mid-2020, national or sectoral climate plans from all Member States had been approved, with the Commission publishing a detailed EU-wide assessment of the final plans in

September 2020 (EC, 2020[16]). Actions in *Ireland* were particularly noteworthy, as they released a climate plan specific to the agricultural sector – the "National Climate & Air Roadmap for the Agriculture Sector." This roadmap sets a vision for a climate neutral Irish agricultural sector by 2050, including 29 actions with specific targets aimed at reducing the environmental footprint of the sector. The approach contains three prongs (reducing emissions, enhancing the development of sustainable land management, and contributing to sustainable energy), and includes a mixture of immediate actions to be taken, as well as more medium- to long-term initiatives. Specific actions outlined in the roadmap include reductions in nitrogen fertiliser applications, phasing out applications of unprotected urea[24] by 2023, and re-wetting carbon rich soils to convert them from carbon sources to carbon sinks.

In addition to work on national climate plans, the government of *Denmark* allocated DKK 100 million (EUR 13.4 million, USD 15.3 million) to establish the Danish Climate Forest Fund (private citizens and companies are also able to donate to the fund). The fund will be used to plant forests and re-establish natural hydrology on carbon-rich low-lying agricultural land. Donors to the fund will receive carbon dioxide units indicating their contribution to the fund. Outside of the fund, the Danish government has allocated an additional DKK 2 billion (EUR 268 million, USD 306 million) for setting aside carbon-rich low-lying agricultural land to restore natural hydrology over 2020-29. In *Greece*, the importation from other EU Member States of agricultural machinery that does not meet minimum engine emissions requirements was banned from 1 January 2020. The government of *Luxembourg* planned additional measures for 2020 and 2021, including the introduction of investment aid for low ammonia emission spreading machines and for covering outdoor slurry tanks. *Spain* spent EUR 8 million (USD 9 million) in 2020 on its "Plan Renove", which funds the replacement of old farm machinery with new machines that have lower emissions.

Other actions targeted improved overall environmental **sustainability**. In December 2020, the European Commission announced that EUR 86 million (USD 98 million) – nearly half of the total EUR 182.9 million (USD 208.4 million) EU budget for the promotion of agro-food products – would be dedicated to promoting products in line with Green Deal objectives, including campaigns promoting consumption of food produced under sustainable farming practices or organic production. In *Belgium*, the country's dairy sector implemented a sustainability monitor in 2020. The sustainability monitor follows sustainability initiatives throughout the value chain, including on farms, during transport, and in milk processing companies, and the industry has plans to develop it further in 2021. In June 2020, based on a midterm evaluation of the main measures in the Danish water management plan 2015-2021, the government of *Denmark* introduced more stringent measures in the country's Nitrates Action Programme, including higher requirements for nitrogen utilisation in organic fertiliser and lower nitrogen quotas on organic soils. *France* undertook several actions intended to reduce pesticide use, including more transparency through the publishing of monitoring indicators each year on their Ecophyto plan, a decree on supervising the use of pesticide products near homes and imposing safety distances, and a new EUR 30 million (USD 34 million) support programme for the purchase of pesticide-related equipment to reduce the risk of spreading pesticides outside of the field or increase the precision of applications. In *Greece*, a joint decision was issued in 2020 by the Ministry of Rural Development and Food, the Ministry of Health, and the Ministry of Environment and Energy regarding updating the national action plan for the sustainable use of pesticides. The government of *Italy* announced EUR 10 million (USD 11.4 million) in 2020 to improve the conditions of sustainability in livestock production and meat processing companies.

In line with EU efforts on sustainability, various initiatives were undertaken with respect to both the **bioeconomy** and **circular economy** in 2020. On 11 March 2020, the Commission adopted "A New Circular Economy Action Plan for a Cleaner and More Competitive Europe" as one of the main blocks of the EGD (EC, 2020[17]). While the action plan is economy-wide, "Food, water and nutrients" is one of the strategy's seven identified key product value chains. Actions in the strategy relevant to the agricultural sector include a legislative initiative on re-use to substitute single-use packaging, tableware and cutlery by reusable products in food services; the new Water Reuse Regulation, to encourage circular approaches to water reuse in agriculture; and an Integrated Nutrient Management Plan, with a view to ensuring more

sustainable application of nutrients and stimulating the markets for recovered nutrients (the Commission will also consider reviewing directives on wastewater treatment and sewage sludge and will assess natural means of nutrient removal such as algae). Then in October 2020, the European Investment Bank launched a new European Circular Bioeconomy Fund, with a target size of EUR 250 million (USD 285 million). The goal of the fund is to provide financing to early stage companies with proven technologies to help scale up operations and expand into larger markets. Target investments for the fund include circular and bioeconomy technologies, biomass/feedstock production to increase agricultural output or reduce environmental footprint, and bio-based chemicals or materials. The Commission also published a factsheet on 23 November 2020 outlining how the bioeconomy contributes to achieving the goals of the EGD (EC, 2020[18]). This publication emphasises how the bioeconomy, as a catalyst for systemic change, tackles the economic, social and environmental aspects of the Green Deal, seeking new ways of producing and consuming resources while respecting planetary boundaries and moving away from a linear economy based on extensive use of fossil and mineral resources

In the Member States, plans to improve the circular economy are also underway. In the Flanders region of *Belgium*, the Flanders Circular partnership set out in 2020 to develop a circular work programme for the food chain. Guidelines of the work programme were defined in 2020, and implementation will begin in 2021. In addition, a bioeconomy policy plan was developed by the Flemish Department of Economy, Science and Innovation and the Department of Agriculture and Fisheries in 2020. This plan includes a series of actions ranging from stimulating research and innovation, guiding new collaborations between industry and agriculture, and accompanying policy measures (such as monitoring, international co-operation, training and education). The government of *Estonia* in 2020 included the circular bioeconomy in the new Estonian Agricultural and Fisheries Strategy 2030 as a horizontal priority, with the strategy implemented through the CAP. Additionally, the government announced that EUR 23.8 million (USD 27.1 million) from the Recovery and Resilience Facility would be used for supporting the bioeconomy in Estonia. The *Netherlands* continued to develop its "Circular Agriculture" vision in 2020, and plans to announce more concrete measures and projects in 2021. In *Portugal*, the government introduced the National Strategy against Agricultural and Agribusiness Waste in September 2020, and also put into action the second phase of the Action Plan for the Circular Economy, targeting the revision of the waste management framework with a focus on the management and prevention of bio-waste.

Although typically considered part of circular economy initiatives, various policy measures specifically targeted **food waste** in 2020. At the EU-wide level, in December 2020, the European Food Safety Authority (EFSA) released a new decision tool to help food business operators decide when to apply the "use by" or "best before" date to their food products, as clear packaging information and appropriate date marking can help to reduce food waste.[25] In *Austria*, the "Food Is Precious" initiative was launched, including awareness and information campaigns, encouragement of donating food that is still edible, and the promotion of research activities. The government of *France* launched a new "anti-food waste" national label in 2020, which aims to valorise efforts and initiatives to reduce food waste. In addition in France, in January 2020 the law against food waste was extended to all private collective caterers, requiring all operators to have an agreement with an association authorised to accept food aid donations in order to donate all unsold food still fit for human consumption. *Germany* continued to implement its National Strategy on Food Waste Reduction by concluding an agreement with seven umbrella associations of the German agro-food industry and the hospitality sector in March 2020, setting reduction goals and strengthening co-operation. In *Italy*, social protection and food waste reduction were linked through an increase in funding of EUR 40 million (USD 45.6 million) for that country's Fund for the distribution of foodstuffs to vulnerable people for 2021, including securing food that is still edible but no longer saleable. The government of *Latvia* implemented a number of food waste-related regulations. In August 2020, a regulation on the requirements for the distribution of food after the end of minimum validity entered into force, specifying what types of food can be donated after having passed the "Best before" date, and for how long after said date. A second regulation allowing retail companies to donate animal origin products such as eggs to charitable organisations went into effect in March 2020. In *Romania* in July 2020, a new law clarified the country's

rules on food donations, including stipulating that donated food is not subject to VAT. Then in August 2020, Romania issued an implementing regulation that offered other tax incentives to companies which donate food products nearing their expiration dates. A number of activities took place under *Spain's* strategic framework "More Food, Less Waste" in 2020, including the first national quantification of waste from food consumption away from home, and the publication of a new report on food waste in the food chain.[26]

In conjunction with activities on sustainability, several countries undertook policy actions related to **water quality and availability**. *Greece* has several water-related actions planned for 2021, including completing the sector development programme 2021-25 (in accordance with the national policy for water management and the national strategy for adaptation to climate change, to include actions such as efficient usage of water resources and plans for the reconstruction of agri-environmental infrastructure); completing the second revision of river basin management plans according to the EU Water Framework Directive; updating the adopted code of good agricultural practices for the protection of waters against pollution by nitrates from agricultural sources; and signing Ministerial Decisions on sludge recycling from urban waste water, bio waste management for compost in agriculture, and a code of good agricultural practices for ammonia emissions control. In *Hungary*, the Act on Irrigation Farming came into force on 1 January 2020. The law outlines new responsibilities for the state in the area of irrigation development, designating irrigation districts as mid-level state planning units that must prepare irrigation development plans. The regulation also contains rules for the establishments of irrigation easements to allow farmers to use the lands of others for the purpose of water transfer. *Italy* announced in 2020 that it would dedicate EUR 630 million (USD 718 million) over the next seven years for investments in irrigation infrastructure to combat hydrogeological instability.

Animal health and welfare

Member States in particular enacted a variety of programmes in 2020 seeking to improve animal welfare. In *Austria*, from 2021, EUR 120 million (USD 137 million) will be made available for investments in animal welfare. In conjunction, the country will introduce new subsidy standards for piglet rearing, pig fattening and cattle farming, and from 2022, the country will no longer provide subsidies for the construction of new barns which meet only legal minimum standards. Instead, the subsidy rate for investments in animal-friendly housing for pigs and turkeys will be increased from 25% to 35% of the investment cost. Other foreseen animal welfare measures in Austria include a reduction in calf transports,[27] the establishment of the national-level Austrian Animal Health Service,[28] and rapid implementation of research results in animal husbandry practice by ensuring that research projects have a strong link to practical implementation options. In *Bulgaria*, subsidy rates to cattle farmers demonstrating compliance with animal welfare standards in their production practices were raised to EUR 20 (USD 23) per head for farms with up to 50 animals, and to EUR 30 (USD 34) per head for farms with more than 50 animals. Bulgaria also amended its Veterinary Medical Act to introduce more stringent registration and operation requirements for backyard farms.

On 28 January 2020, the Minister of Agriculture and Food of *France* announced 15 new measures for the protection of animal welfare, including phasing out certain breeding practices such as live castration of pigs and chick crushing, strengthening awareness and training in animal welfare, improving the quality of life of farm animals,[29] and improving animal transport conditions.[30] The measures were developed in consultation with the concerned sectors and animal rights associations, complementing and reinforcing measures already in place. An extension plan to fight against the abandonment of pets was subsequently presented on 21 December 2020. On 3 July 2020, the *German* Parliament agreed on a legislative proposal that bans mating stalls for sows by 2029 and reduces the period of time sows are allowed to be kept in farrowing crates by 2036. Farmers are supported in the transition. In *Poland*, 2020 marked the launch of the animal welfare measure under that country's Rural Development programme, beginning with financial support for introducing practices to improve the welfare of cows and pigs. The country plans to extend the measure to cover sheep in 2021. In line with this push towards animal welfare in Poland, on 26 June 2020,

the country's Minister of Agriculture and Rural Development appointed a special delegate (specifically a Plenipotentiary) for the protection of animals. This Plenipotentiary is tasked with promoting positive attitudes towards animals and with developing legal solutions concerning the protection of animals and the conditions in which they should be kept. Foreseen roles include identifying the most serious problems concerning the protection of animals and proposing appropriate solutions; co-operating with organisations of farmers, animal breeders and organisations whose objective is to protect animals; and analysing, evaluating and monitoring the functioning of provisions on the protection of animals. In *Spain*, the rules related to intensive pork farms were modified in 2020, including stipulations on the maximum productive capacity, minimum infrastructure conditions, equipment requirements, biosecurity and animal welfare.

Animal and plant disease

Member States faced an assortment of animal and plant disease outbreaks in 2020, and addressed them with specific policy measures. Cases of **African Swine Fever (ASF)** continue to be identified in some Member States, with subsequent policy responses. In response to the first case of ASF in wild boar detected in *Germany* in September 2020, the government of the state of Brandenburg announced that they would spend EUR 6 million (USD 7 million) to construct a permanent fence along the German-Polish border to limit the movement of wild boar and decrease the risk that the disease would cross into domestic pig populations. The State Veterinary Administration of the *Czech Republic* issued emergency veterinary measures defining the area near the border with Poland and Germany as an area of intensive boar hunting – from 16 November 2020, a hunting premium of CZK 2 000 (EUR 76, USD 86) will be paid for each wild boar caught. Also in November 2020, officials from the *Czech Republic*, *Germany* and *Poland* announced that they would create an African Swine Fever task force to more regularly exchange information and ensure better co-ordination of containment measures (including hunting). Programmes to compensate for ASF-related losses were put in place in some countries. The government of *Bulgaria* provided a support package of EUR 17 million (USD 19 million) to compensate for losses due to mandatory culls from an outbreak of ASF there in 2020. In addition, the Bulgarian Government launched two programmes with a combined budget of EUR 31 million (USD 35 million) in the summer of 2020 that aim to repopulate small farms affected by ASF by improving farm-level biosecurity and helping small farms to purchase new animals. Farmers in *Latvia* also faced an outbreak, with pig farmers there receiving EUR 1.1 million (USD 1.3 million) in compensation for culls in 2020. Exceptional assistance to pig producers as a result of ASF was also provided in *Lithuania*. Support was also given to farmers in *Poland* – producers in the areas covered by ASF restrictions were made eligible for compensation for lost income, with aid of up to PLN 118 000 (EUR 26 559, USD 30 265) available. Finally, in December 2020, *Belgium* regained ASF-free status from the OIE. Accordingly, the ban on repopulation of pig farms will be lifted from early 2021. At the same time, a variety of measures related to wild boar populations (including fencing, monitoring and destruction) will remain in place over the coming months to prevent new outbreaks of the disease.

Responses to other animal diseases were also noted. Different strains of **avian flu** were identified in various Member States in late 2020, including *Belgium*, *Denmark*, *France*, *Germany*, the *Netherlands* and *Poland*. Bird culls were ordered in *Denmark* and *Germany*. In *France*, an adaptive strategy was followed, allowing prefects to conduct preventative slaughters for all poultry species within 3 km of identified contaminated hotspot areas – through January 2021, 61 such hotspot areas had been identified in the Landes department. Officials in the *Netherlands* ordered bird culls for affected farms, banned transport of animals for farms located within 10 km of affected properties, and ordered free range poultry producers to move their birds indoors after the disease was discovered in wild bird populations. In May 2020, the government of *Bulgaria* allocated EUR 3.3 million (USD 3.8 million) for **bluetongue** vaccines following the last outbreak there in 2014. Meanwhile, poultry farmers in *Latvia* received nearly EUR 125 000 (USD 142 443) of compensation in 2020 in response to an outbreak of **salmonellosis** there.

Measures were also taken to combat **plant pests and diseases**. In August 2020, the Commission published a new plan to combat the further spread of *xylella fastidiosa*, a bacteria that attacks olive and fruit trees and other plants, including through increased surveillance, awareness building and monitoring. The plan also requires Member States to carry out annual surveys and develop contingency plans. Separately, on 7 August 2020, the government of *Italy* approved a EUR 68 million (USD 77 million) assistance package for olive farmers in the Puglia region who had been affected by *xylella* in 2016 and 2017. In addition, the Puglia region announced a further EUR 40 million (USD 46 million) to support investments to plant new olive varietals more resistant to *xylella*. Italy also provided an assistance package of EUR 80 million (USD 91 million) in 2020 to reimburse producers for damage caused by the Brown marmorated stinkbug. The government of *France* released a sugarbeet action plan in August 2020, as that country's sugarbeet production faced an outbreak of jaundice virus. The plan includes provisions to prevent pest infestation, research and development, de minimis compensation of losses, and plans for a bill to allow the use of certain pesticides on seeds under certain conditions.

Livestock, plant health, and plant genetic resources

Some Member States introduced regulations related to livestock, plant health, and plant genetic resources. The government of *Poland* passed a new Act on the Organisation of the Breeding and Reproduction of Livestock, which establishes the principles for breeding species classified as livestock, and introduces provisions for granting financial support for breeding livestock from the state budget. Poland also put in place the Act on the Protection of Plants against Pests and the Act on the Main Inspectorate of Plant Health and Seed Inspection (both of which are implementing statutes for EU regulations), which strengthen the phytosanitary requirements for plant trade and plant health, including by requiring that imported plants possess a phytosanitary certificate, and by distinguishing priority pests from quarantine pests. In *Spain*, a new regulation on plant genetic resources was approved in March 2020, which regulates access to Spanish genetic resources following the Nagoya Protocol. The regulation's objective is to improve plant genetics while also enhancing the participation and access of farmers to the management of these resources. *Estonia* announced the launch of its "Collection, Conservation and Utilisation of Plant Genetic Resources for Food and Agriculture in 2021-2027" programme in 2021, building on the country's network for the conservation of plant genetic resources for food and agriculture that was established in 2007.

Apiculture

Hungary reported various activities in support of apiculture in 2020. The Hungarian National Beekeeping programme for 2019-2022 already offered support for the acquisition of equipment by beekeepers, expansion of professional skills, initiatives to maintain bee health, and scientific research. In 2020, new aid schemes were offered to facilitate market access to beekeeping products and to strengthen consumer confidence. Further, support to maintain bee health was doubled in 2020. All told, in 2020 the government raised support for beekeeping to the maximum level that can be provided under national authority.

Digitalisation

Certain Member States enacted actions to improve **digitalisation** in their agricultural sectors and policy implementation in 2020. The *Belgian* region of Wallonia verified the validation of all farm payments using data from Copernicus Sentinel Satellites in 2020 following the testing phase initiated in 2019, completely replacing on-farm controls throughout the entire Wallonian territory. Similarly, the Belgian region of Flanders applied the same verification method to the whole territory in 2020. Officials in Flanders also began developing a geotagged photo app in 2020, in preparation for the implementation of the next CAP. In *Germany*, fourteen sites, located on farm holdings all over Germany, were established to test digital applications to protect the environment, improve animal welfare, promote biodiversity and reduce workloads in both crop production and animal husbandry. In July 2020, *Portugal* launched the Smart Farm

Colab – a collaborative laboratory for digital innovation in agriculture. The lab's objectives include to contribute to disseminating the use of digital technologies, as well as to generate innovative and automated digital solutions for the agricultural sector along the whole value chain, with a focus on the Western region of Portugal and products such as fruit, vegetables and wine. The laboratory covers the application of sensors in soil or in harvesting machines, as well as data collection through satellites and drones. In *Spain*, training and technical assistance were provided and improvements were made in the interoperability of data in 2020, all in the context of the country's 2019 strategy for the digitalisation of agro-food, forestry and rural sectors and to reduce the urban-rural digital gap. Further, the country reported that a new regulation facilitating the digitalisation of the monitoring and notification of emissions from livestock is forthcoming. And in the context of the European EIP-AGRI initiative, the country also issued its third call for innovative projects related to digitalisation under its National Rural Development Programme in 2020, with EUR 17 million (USD 19 million) available.

Food safety and traceability

Regulatory changes inside Member States touched on a number of areas in 2020. Regulatory actions related **to food safety and traceability** occurred at both the EU and Member State level. In January 2021, the European Food Safety Authority (EFSA) published its first opinion on insect-derived novel food products, concluding that foods derived from dried yellow mealworm are safe for human consumption (EFSA NDA Panel, 2021[19]). Also related to food safety, in October 2020, the European Commission adopted the new EU Chemicals Strategy for Sustainability, which includes initiatives such as phasing out the use of the most harmful substances (such as PFAS) in food contact materials and establishing a "one substance one assessment" process for the risk and hazard assessment of chemicals (EC, 2020[20]). In June 2020, the *Bulgarian* Parliament approved a revised Food Act that simplifies existing food legislation, strengthens food traceability and improves consumer protection. Among other provisions, the Act mandates the same labelling for food online as food sold in brick-and-mortar stores; bans advertisements for foods and drinks which are high in trans-fats, salt and sugar; and requires food banks to be approved and registered as non-governmental organisations.

Contracting

The government of *Romania* introduced several new regulations, including one in April 2020 that permits direct partnerships between commercial retailers and agricultural co-operatives, producer associations, and producers via 12-month contracts, and another in June 2020 that defines the conditions for natural persons or companies to be able to acquire agricultural land (including requiring the person or firm to have resided in or carried out agricultural activities in Romania for at least the past five years).

Risk management

Much of the risk management policy focus of 2020 was on putting in place measures to help producers cope with the impacts of COVID-19 (see Domestic policy responses to the COVID-19 pandemic). Several countries also offered ***ex post* assistance for natural hazards**. In June 2020, the government of the *Belgian* region of Flanders recognised the drought of the summer of 2019 as an agricultural disaster. In *Bulgaria* in November 2020, two aid packages were offered to farmers affected by summer and fall drought, totalling EUR 15.55 million (USD 17.72 million). In *Croatia*, the Ministry of Agriculture brought forward area payments amounting to HRK 35 million (EUR 4.6 million, USD 5.3 million) in response to earthquakes and floods in December 2020, and in January 2021, the ministry provided further area payments, bringing total payments to earthquake-affected farmers to HRK 93 million (EUR 12.3 million, USD 14.1 million). In the spring of 2020, the *Czech* State Agricultural and Intervention Fund received applications for assistance intended to mitigate the damage caused by spring frosts in 2019, and financial support was paid out during summer 2020 to eligible producers of affected fruit species. Due to the persistent drought, some *German*

Länder permitted animal grazing on areas laying fallow or cultivated with catch crops declared as ecological focus areas, or alternatively their use for fodder production. A variety of measures were put in place in *France* in 2020 to respond to that country's drought conditions. Throughout July, August and September 2020, livestock producers in a number of departments were permitted to use fallow land for animal grazing, while producers in other departments were permitted to report the planting of catch crops and declare those under their ecological focus area. Advance CAP payments were also increased, tax contributions for most affected farmers were postponed or reduced, a relief tax measure was instituted for unbuilt land, and disaster relief was made available for producers who exceeded the designated threshold of damages. *Lithuania* offered support in 2020 for horticultural and berry-producing holdings which suffered losses as a result of frosts in 2019. The government of *Romania* offered direct assistance to producers affected by drought, instituting a relief package of EUR 217 million (USD 247 million) for wheat and barley producers. A financial aid package of EUR 0.87 million (USD 0.99 million) was put in place in *Slovenia* in 2020 to compensate producers who experienced yield reductions in 2019 due to adverse weather conditions. *Spain* offered EUR 100 million (USD 114 million) in credit guarantees to farmers who had been affected by drought in 2020.

Other Member States made changes in their **risk management programming**. In the Belgian region of *Flanders*, the decree of 5 April 2019 removing the distinction between general and agricultural disasters came into effect on 1 January 2020. With this change, all damage caused by recognised exceptional weather conditions will be addressed through the Flemish Disaster Fund. The *Czech Republic*'s Support and Guarantee Fund for Farmers and Forestry (SGFFF) set up insurance support rates for 2020, providing subsidies for entrepreneurs in agriculture and forestry of between 50% and 65% of the premium. *Hungary* announced various changes in risk management programmes. First, the Ministry of Agriculture there announced that from 2021, the country's risk management system would be expanded to include a mutual risk management fund within the framework of the agricultural crisis insurance system. Participation in the fund will be voluntary, but participating producers must sign up for a minimum term of three years. Additionally, the annual budget for insurance premium support was increased from HUF 5 billion (EUR 14.2 million, USD 16.2 million) in 2019 to HUF 7 billion (EUR 19.9 million, USD 22.7 million) in 2020. In *Italy*, a budget of EUR 60 million (USD 68 million) was set for insurance interventions under the National Solidarity Fund for the period 2021-23, and EUR 70 million (USD 80 million) was designated for compensatory measures for farms damaged by weather and phytosanitary events under the National Solidarity Fund for 2021. In addition, EUR 20 million (USD 23 million) was returned to the Regions to repay advanced payment on relief credit to agricultural businesses damaged by disasters and adverse weather events. In *Poland*, new procedures were put in place to determine eligibility for applying for public aid in times of drought. These procedures involve the use of a designated public application to verify requests for aid using the level of harvest losses and data on the climatic water balance from the Institute of Soil Science and Plant Cultivation in Puławy. The application generates a protocol on quantifying the damage for the farmer, and on that basis, the farmer can apply for aid. The application is intended to standardise the process of quantifying damages caused by drought, eliminate errors, and reduce processing time for aid applications.

Support to and regulations on specific groups of farmers

Targeted policy initiatives are underway in various Member States to support particular groups of farmers. In *Hungary*, a new law on **family farms** entered into force on 1 January 2021. The law aims to develop a family-based agricultural model relying on small and medium-sized farms, encouraging the establishment of viable economic co-operation and supporting the strengthening of the agricultural middle class as one of the key tools of increasing agricultural economic efficiency. Hungary also revised the permitted legal organisations of family farms, which can now choose from three legal forms of operation: they can remain owner farmers, establish a family farm of owner farmers, or set up a family agricultural company. In the Belgian region of *Flanders*, two new **producer organisations** were officially recognised in 2020 – "milk.be"

for dairy producers, and "belpotato.be" for potato growers. Similarly in the Belgian region of *Wallonia*, two new producer organisations were recognised in 2020, both in the beef sector. In *Spain,* the Ministry has indicated that one of their priority actions for 2021 is strengthening producer organisations and associations, and in 2020 they supported activities to integrate farmers in co-operatives and associations, providing EUR 37 million (USD 42 million) for more than 30 projects. *Italy* has been providing incentives to **young farmers** in the form of the State paying social security contributions for the first 24 months for any agricultural business opened by an operator under 40 years old. EUR 44 million (USD 50 million) was designated for this programme in 2020, and EUR 55 million (USD 63 million) was budgeted in 2021. Specific programmes to support **women farmers** were instituted in Italy and Spain. In *Italy*, a revolving fund of EUR 15 million (USD 17 million) was established to guarantee zero-interest mortgages for female agricultural entrepreneurs – including those in production agriculture and the processing and marketing sectors – in 2020. An additional EUR 15 million (USD 17 million) was designated for the measure in 2021 for loans up to EUR 300 000 (USD 341 864) with a maximum duration of 15 years. The Ministry of Agriculture in *Spain* is working on the implementation and improvement of the Law of shared ownership of farms to ensure improved access of women to farm ownership as a means to strengthen the role of women in agriculture. Additionally, the ministry organised an innovation excellence competition for women in agriculture in 2020.

Taxation

Various Member States adjusted tax provisions relevant to their agricultural sectors in 2020. In *Austria*, the sparkling wine tax was abolished in 2020. Major tax cuts, including social contributions and small business taxes, were implemented in *Hungary* in 2020, with substantial implications for the country's agricultural sector. In addition, tax rates for cigarettes and smoking tobacco were increased in Hungary, bringing them in line with the EU mandatory minimum tobacco taxes. Elsewhere, on 1 January 2020 in *Latvia*, the excise tax rate on fuel for primary agricultural producers and aquaculture was raised from EUR 55.8 to EUR 62.1 (USD 63.6 to USD 70.8) per 1 000 litres of fuel, in line with an increase of the standard fuel tax rate.

Investment

Food and agriculture were supported through more targeted investment subsidies in some Member States in 2020. In *Bulgaria*, the Ministry of Agriculture introduced a subsidy programme for investments in small slaughterhouses amounting to EUR 1.28 million (USD 1.46 million). The programme will subsidise up to 50% of an eligible investment, up to a ceiling of EUR 45 000 (USD 51 280) per beneficiary. The *Czech Republic*'s Support and Guarantee Fund for Farmers and Forestry (SGFFF) in 2020 focused on providing support to small and medium-sized enterprises in the form of investment and operating loans, at a concessionary rate of 2.5% annually. A new interest rate subsidy programme was introduced in *Hungary* to incentivise investments in agricultural enterprises. The support will be made available for loans up to HUF 100 billion (EUR 285 million, USD 324 million), with interest subsidies set at 80% of the nominal interest rate, but not more than 2 percentage points annually. Other calls for investment were opened in Hungary to increase the competitiveness of livestock farms (HUF 50 billion) (EUR 142 million, USD 162 million), modernise horticultural farms (HUF 30 billion) (EUR 85 million, USD 97 million) and support small farms with turnover of EUR 3 000 – EUR 6 000 (USD 3 419 – USD 6 837) to develop production activities (HUF 2.5 billion) (EUR 7.1 million, USD 8.1 million). *Italy* enacted several agricultural investment packages in 2020, including EUR 29.5 million (USD 33.6 million) to strengthen the competitiveness of agro-food supply chains, EUR 30 million (USD 34 million) for wheat pasta supply chain contracts, and EUR 30 million (USD 34 million) to eliminate the cost of guarantees for agricultural entrepreneurs and to facilitate access to credit for investments in technological innovation, precision agriculture and product traceability. An additional investment programme was set up in 2021, with EUR 150 million (USD 171 million) designated for a Fund for the development and support of agricultural,

fisheries and aquaculture sectors to promote supply chains, increase competitiveness, improve the quality of products, and support quality employment, among other objectives.

Other investment packages were introduced with a specific focus on longer-term industry transformation. At EU level, the "Next Generation EU" plan under the "Recovery Plan for Europe" was introduced, both in response to COVID-19 and to orient longer-term strategic investment (covered in more detail in the Domestic policy responses to the COVID-19 pandemic). One Member State likewise enacted a policy package that contained long-term investment programmes not directly related to COVID-19. *Ireland* proposed the Future Growth Loan Scheme, which makes up to EUR 800 million (USD 912 million) in 7-10 year loans available under favourable terms to support strategic long-term investment. This scheme is available to eligible sectors in Ireland, including those in primary agriculture. Certain endeavours may qualify for Future Growth Loans, including investment in tangible and intangible assets on agricultural holdings linked to primary agricultural production (excluding purchases of livestock or of land other than site costs, or investment in connection with the processing and marketing of agricultural products. The programme is offered by the Government of Ireland, through the Department of Enterprise, Trade and Employment and the Department of Agriculture, Food and the Marine, and the Strategic Banking Corporation of Ireland, supported by the EIB Group's Guarantee Facility.

Innovation and knowledge

On 4 December 2020, the European Commission launched a new **EU Soil Observatory** (EUSO). The EUSO aims to support policymaking in the European Union by providing the Commission and the broader soil user community with the soil knowledge and data flows needed to safeguard soils; supporting EU Research and Innovation on soils; and raising societal awareness of the value of soils. In order to carry out this mission, the EUSO aims to collect high-resolution, harmonised and quality-assured soil information to track and assess progress by the European Union in the sustainable management of soils and restoration of degraded soils; support the outcomes of targeted research; foster networking, co-operation and partnerships among users of soil data and information; and underpin policy development through meaningful indicators and assessments (EC, 2021[21]). In particular, this work is expected to help with tracking country progress in meeting sustainability objectives of the next CAP and the F2F Strategy. At the Member State level, in January 2020, *France* launched their "Institut Agro" – the National Institute of Higher Education for Agriculture, Food and the Environment. The Institute is the result of a merger between two existing programmes (AgroCampus West and Montpelier SupAgro), with the joining of more institutions envisioned in the coming years. The Institute's goals include supporting the agricultural and food sectors with research and innovations to facilitate agroecological, digital and climate transitions, and its work will be closely linked to INRAE, the National Research Institute for Agriculture, Food and the Environment. *Portugal* launched the Innovation Network under the Agricultural Innovation Agenda 2020-30 in September 2020. The Innovation Network is composed of 24 research centres and focuses on products such as fruit and vegetables, wine, olive oil, and cereals, and aims to address aspects of digitalisation and sustainability in these agro-food sub-sectors, targeting in particular technology adoption.

Institutional changes

A handful of institutional changes were implemented at the country level. In *Austria*, in conjunction with a re-organisation of ministries in January 2020, the new Federal Ministry of Agriculture, Regions and Tourism (BMLRT) was established. BMLRT's agenda includes agriculture, domestic food production, regional value creation, forestry, water management, mining, tourism and regional policy. The Ministry will also be responsible for broadband expansion, telecommunications, postal services and the agendas for civil service. In *Poland*, inspection services for the merchantable quality of food were re-organised on 1 July 2020, consolidating the activities of the Trade Inspectorate and the Agricultural and Food Quality Inspectorate under the sole responsibility of the Agricultural and Food Quality Inspectorate.

Domestic policy responses to the COVID-19 pandemic

Policy responses to the COVID-19 pandemic took place at various levels, with some measures implemented for the whole of the European Union, while other initiatives were enacted within individual Member States. The European Union implemented three main types of policies in the agricultural sector in response to COVID-19: CAP flexibilities, exceptional market measures, and direct support to farmers and rural areas. Within this framework, Member States chose which measures to implement, based on their own specific circumstances. Member States also put in place their own regulatory flexibilities, tax concessions and social contribution measures, investment assistance, and allowances to farm households to help farmers and agro-food enterprises cope with the financial impacts of the COVID-19 emergency. At the same time, agricultural producers or firms in a number of countries were able to access more general economy-wide assistance packages (which are not covered here), including in *Austria*, *Belgium*, the *Czech Republic*, *Estonia*, *France, Germany*, *Hungary*, *Luxembourg*, the *Netherlands*, *Poland*, *Spain* and *Sweden*. Response measures also responded to labour concerns within the sector, ensured minimal interruptions to food supply chains, and helped to ensure that affected consumers had adequate access to food. Finally, some policies were put in place to facilitate longer-term recovery and sector transformation.

CAP and regulatory flexibilities

Regarding **CAP flexibilities**, the deadline for CAP payment applications was extended by one month, offering more time to farmers to fill in their application for both income support and rural development payments. This measure was taken up by several Member States, including *Czech Republic*, *France*, *Italy*, *Luxembourg*, *Slovenia* and *Spain*. Additionally, because it was necessary to minimise physical contact to reduce the transmission of the virus, on 16 April 2020, farm spot check requirements (to ensure compliance with eligibility conditions) were reduced as a means to reduce administrative burden and avoid unnecessary delays.[31]

Other flexibilities were introduced with respect to rural development included postponement of the submission of country-level annual reports by national authorities, lifting the requirement on seeking amendments to partnership agreement, and allowing Member States to amend their rural development programmes by using money still available under their rural development programme to finance relevant actions to face the crisis.

Outside of CAP flexibilities, Member States also introduced some of their own **regulatory flexibilities**. For example, in *Belgium*, the mandatory two-day collection period for AA milk was increased to three days. In *Estonia*, the “no tax debt” requirement was waved for payment applications to the Agricultural Registers and Information Board, and deadlines for the implementation of activities were extended. The government of *France* allowed veterinarians to use telemedicine services on a trial basis for 18 months, beginning in May 2020. The French Government also exceptionally authorised the remote sale of plants and plant products without a plant sanitary passport. *Romania* introduced an ordinance in mid-April 2020 that provided flexibility from biofuel mandates for local petroleum stakeholders. *Poland* put in place regulatory flexibilities on certain plant protection regulations (such as postponing the periodic re-inspection of plant protection product equipment) and organic farming inspections, and also put in place a possibility to conduct tenders for the leasing of properties by electronic communications. *Spain* extended the subscription period for agricultural insurance lines whose contract date ended before 16 April 2020, and also adopted flexibilities for the documentation required for the transport of animals and the rules on driving and rest periods for the transport of goods.

Exceptional market measures

Three **exceptional market measures** were adopted on 22 April 2020, allowing Member States to provide assistance to certain targeted sectors (EC, 2020[22]). First, a private storage aid scheme was proposed (as authorised in the Common Market Organisation (CMO) Regulation) for certain dairy (butter, cheese and

skimmed milk powder) and meat products (beef, goat and sheep meat), which would allow the temporary withdrawal of these products from the market for a period of between 2-3 and 5-6 months, depending on the product. Second, the Commission introduced further flexibility in the implementation of existing market support programmes for apiculture, fruits and vegetables, table olives and olive oil, wine and school schemes (covering milk, fruit and vegetables). This flexibility aimed to limit available supply in each sector to lead to a rebalancing of markets. In addition, it allowed the re-orientation of funding priorities towards crisis management measures. Finally, the proposal included an exceptional derogation from certain EU competition rules under Article 222 of the CMO regulation for the milk, flowers and potatoes sectors. This derogation allowed operators to self-organise and implement market measures at their level for a maximum period of six months.[32] Storage by private operators was also allowed, and consumer price movements were monitored closely to avoid adverse effects.

Member States uptake of these exceptional measures varied. The European Union reported in November 2020 that while private storage aid had been opened for cheese, butter, skimmed milk powder, sheep meat, and beef meat, quantities contracted in storage were in most cases less than half of initial allowances (WTO, 2020[23]).[33] Both *Belgium* and *Latvia* reported opening private storage aid (beef, butter and cheese in the case of Belgium, and beef only in the case of Latvia). *Belgium* authorised market stabilisation measures for potatoes, including encouraging free distribution, and use of potatoes for animal feed and anaerobic digestion. The government of Wallonia also supported the donation of potatoes to food bank platforms, encouraged supermarkets to extend the period of supply of local potatoes on supermarket shelves, and supported a promotion campaign to stimulate the consumption of fresh potatoes and processed products. The government of *Spain* put in place some operational flexibilities for fruits and vegetables and the national beekeeping plan.

Several Member States implemented **wine sector** support measures after the COVID-19 emergency substantially impacted wine demand – both due to a substantial decline in tourist arrivals, and due to lockdown-related restaurant closures. These wine support measures were first made available in the package of exceptional measures adopted on 22 April 2020, with additional wine sector support packages adopted on 7 July 2020 and 28 January 2021.[34] As provided for under these support packages, several Member States chose to redirect funds under national support programmes for wine to crisis management measures for the sector. These measures included crisis distillation of wine into other alcohols (reported in *Austria*, *France*, *Italy*, *Hungary*, *Portugal*, *Romania*, *Slovenia* and *Spain*), providing storage aid (for example, in *Bulgaria*, *France*, *Italy*, *Portugal*, *Slovenia* and *Spain*), and permitting green harvesting of grapes (including in *Bulgaria*, *Hungary*, *Slovenia* and *Spain*). One specific example of a wine support programme comes from *Luxembourg*. That country's Viti-vinicole Institute developed and implemented a wine distillation pilot project in close collaboration with Luxinnovation to obtain basic products used in the manufacture of disinfectants thru wine distillation. The project aimed to both assist in the fight against the pandemic by producing the disinfectants, and also provide economic assistance as an indirect aid programme for wineries and distilleries.

Flexibility was also introduced into the **school schemes** programme. With the spring lockdowns and widespread closures of schools, the implementation of the 2019/20 school scheme was severely impacted, as perishable fruit, vegetable and dairy products could not be delivered as originally intended. In response, the European Commission clarified that the crisis could be recognised as a case of "force majeure" to reimburse suppliers for perishable goods (fruit, vegetables and dairy products) that were meant to be distributed to schools participating in the scheme.

Direct support instruments

Various direct support instruments were permitted in response to COVID-19. The first of these was flexibility in the use of financial instruments under rural development. These included allowing farmers or other rural development beneficiaries to benefit from **loans or guarantees** to cover operational costs of

up to EUR 200 000 (USD 227 909) at favourable conditions, such as very low interest rates or favourable payment schedules. This provision was used in the *Czech Republic*, *Estonia*, and *Poland*, for example.

The second type of direct support was the development of a **new temporary rural development measure – Measure 21**[35] – introduced to allow countries with remaining rural development funds to pay farmers and small agro-food businesses in 2020. The measure was intended to be a vehicle to provide immediate relief to stakeholders most impacted by the crisis, allowing countries to offer support of up to EUR 5 000 (USD 5 698) per farmer and EUR 50 000 (USD 56 977) per small or medium enterprise. Through the fourth quarter of 2020, nine Member States had utilised this measure – *Bulgaria*, *Cyprus*, *Estonia*, *France*, *Greece*, *Italy*, *Poland*, *Romania* and *Spain*. In *Romania*, for example, funds under this measure were disbursed to farmers as lump sum payments based on farm size for cattle farmers, sheep and goat farmers, and fruit and vegetable producers. In addition to funds already disbursed in the countries mentioned above, *Slovenia* allocated EUR 3.5 million (USD 4.0 million) to this measure in its November 2020 amendment of that country's RDP.

The third direct support initiative was in the form of higher **advances of farm payments**. To increase farmer cash flow, the Commission allowed higher advances to farmers under CAP for income support through direct payments (advanced payments raised from 50% to 70%) and also for certain rural development payments (advanced payments raised from 75% to 85%). Countries taking advantage of the direct payment advance included *Italy* and *Poland*, while advanced RDP payments were applied in *Poland* and *Spain.*

The final direct support measure allowed higher **state aid** for farmers and food processing companies through the State Aid Temporary Framework, adopted on 19 March 2020 (originally set to expire on 31 December 2020, in October 2020 the provision was prolonged for an additional six months to 30 June 2021 and recapitalisation support provisions were extended through 30 September 2021 (EC, 2020[24])). Most prominently, this measure increased the payment limits for individual entities (to a maximum of EUR 100 000 (USD 113 955) per farm, or EUR 800 000 (USD 911 638) for food processing and marketing companies), and also raised the maximum total aid package limits for Member States. This amount can also be topped up by 'de minimis' aid – that is, national support specific to the agricultural sector that can be granted without prior approval from the Commission and has a ceiling of EUR 20 000 (USD 22 791)[36] per recipient. Member States took full advantage of these relaxed State Aid provisions, releasing dozens of support packages targeted toward agricultural industries whose sales had been most affected by the COVID-19 pandemic (Table 11.5). All told, through 31 March 2021, announced State Aid measures directed toward agriculture in response to COVID-19 totalled nearly EUR 6.2 billion (USD 7.1 billion) – equivalent to more than 11% of the annual CAP budget for 2020 – although it is not yet known exactly how much of the assistance has been paid out. Most of this additional support is coupled to specific production.

Table 11.5. State aid measures specific to agriculture in response to COVID-19

Member State	Date	Amount	Eligible Sectors	Aid Type
Belgium (Brussels-Capital)	April 2020 (SA 57056)	EUR 200 000	Firms active in primary production of agricultural products and in aquaculture for the food sector	Direct grants
Belgium (Flanders)	July 2020 (SA 58014)	EUR 35 million	Potato growers (EUR 10 million); Ornamental plant growers (EUR 25 million)	Direct grants
Belgium (Wallonia)	September 2020 (SA 58649)	EUR 10 million	Producers and stockers active in the potato sector	Direct grants
	March 2021 (SA 62393)	EUR 6.5 million	Pig farmers with breeding sows	Direct grants
Bulgaria	August 2020 (SA 58328)	EUR 29 million	Farmers breeding large and small ruminants; potato growers	Direct grants to cover principal and interest on loans provided by the State Fund for Agriculture
Croatia	December 2020 (SA 59815)	EUR 9.3 million	Cattle and sow breeders; producers of apples, mandarins and potatoes	Direct grants
	March 2021 (SA 62105)	EUR 400 000	Farmers in the pig fattening sector	Direct grants
Cyprus	June 2020 (SA 57587)	EUR 1.8 million	Farmers active in primary agricultural production (in particular, producers of vegetables, strawberries, herbs, Valencia oranges, flowers, producers who participate in farmers' markets, and producers without access to irrigation)	Direct grants
	August 2020 (SA 58340)	EUR 500 000	Owners or managers of pig farms in which breeding sows are reared	Direct grants
	December 2020 (SA 60263)	EUR 560 000	Producer groups and producer organisations active in the agricultural sector	Direct grants
	March 2021 (SA 62228) (successor to SA 57587, which expired 31 Dec 2020)	EUR 1.8 million	Farmers active in primary agricultural production (in particular, producers of vegetables, strawberries, herbs, Valencia oranges, flowers, producers who participate in farmers' markets, and producers without access to irrigation)	Direct grants
Czech Republic	June 2020 (SA 57475)	EUR 36.3 million	SMEs active in primary agriculture	Direct grants
	July 2020 (SA 57848)	EUR 370 million	Firms active in primary agriculture, food and feed production	Direct grants
	November 2020 (SA 59336)	EUR 110 million	Firms active in primary agriculture and food production	Direct grants
	March 2021 (SA 62044)	EUR 110 million	Firms active in primary agriculture and food production	Direct grants
Estonia	April 2020 (SA 57028)	EUR 200 million	Firms active in agriculture, fishery and food processing sectors, as well as companies in rural areas	Public guarantees and loans
	October 2020 (SA 58678)	EUR 1.5 million	MSMEs active in the food processing sector	Direct grants

Member State	Date	Amount	Eligible Sectors	Aid Type
	March 2021 (SA 60666)	EUR 15.8 million	Farmers active in dairy cow, pig, sheep and goat rearing, as well as in the potato, quail, strawberry and vegetable sectors (EUR 12 million); Farmers active in the beef cattle, organic cereals, and organic laying hens sectors (EUR 3.8 million)	Direct grants
Finland	May 2020 (SA 57231, SA 58794, SA 61959)	EUR 30 million initially, modified to EUR 78 million	Firms active in primary agriculture	Direct grants
France	March 2021 (SA 62255)	EUR 25 million	Horticultural producers	Direct grants
Greece	May 2020 (SA 57194)	EUR 10 million	Floriculture primary producers	Direct grants
	July 2020 (SA 58029, SA 58048, SA 58069)	EUR 51.23 million	Farmers active in primary agricultural and livestock sectors - primarily sheep and goat producers (EUR 31.7 million), asparagus farmers (EUR 4.7 million), and sellers in open air markets (EUR 14.8 million)	Direct grants
	October 2020 (SA 58929)	EUR 39.6 million	Producers in certain horticultural sectors (Kalamon table olives, early watermelon, spring potatoes, greenhouse growers of tomatoes, cucumbers and eggplants in Crete)	Direct grants
	March 2021 (SA 62095)	EUR 26 million	Firms active in primary agriculture in buffalo breeding, outdoor watermelon production, greenhouse crops (with the exception of Crete), and summer and autumn potatoes	Direct grants
Hungary	May 2020 (SA 57198, SA 61842)	EUR 283 million initially, modified to EUR 694.4 million, then to EUR 972.2 million	SMEs in the agro-food value chain	Loan guarantees
	May 2020 (SA 57329, SA 61842)	EUR 99 million initially, modified to EUR 198 million, then to EUR 278 million	Firms in the agro-food, fisheries, aquaculture, forestry and game management sectors	Direct grants
Ireland	August 2020 (SA 58387)	EUR 50 million	Farmers and companies active in the beef sector	Direct grants
	March 2021 (SA 62293)	EUR 45 million	Farmers and companies active in the beef sector	Direct grants
Italy	April 2020 (SA 57068, SA 58033, SA 59447 SA 59978, SA 61438)	EUR 100 million initially, modified to EUR 350 million	SMEs in the agricultural, forestry, fishery and aquaculture sectors	State guarantees on investment and working capital loans; direct grants
	April 2020 (SA 57005)	EUR 50 million	Firms in the agricultural, forestry and fishery sectors in the Friuli Venezia Giulia region	Loans with subsidised interest rates; direct grants
	May 2020 (SA 57185)	EUR 30 million	SMEs in the agriculture and fishery sectors	Zero-interest loans
	May 2020 (SA 57349)	EUR 70 million	Firms in the agricultural and fishery sectors in the Campania region	Direct grants
	May 2020 (SA 57439)	EUR 12 million	Firms in the agricultural sector	Direct grants

Member State	Date	Amount	Eligible Sectors	Aid Type
	July 2020 (modified Dec 2020) (SA 57947, SA 59509)	EUR 1.2 billion initially, modified to EUR 1.5 billion	Firms active in the agriculture, forestry, fishery, aquaculture and related sectors	Direct grants; loan guarantees; repayable advances; tax and payment advantages; reduction or cancellation of social security and welfare contributions; tax deductions; debt write-offs; other payment facilities
	October 2020 (SA 58418)	EUR 8.5 million	Agricultural co-operatives	Tax offset of up to 70% of losses on VAT calculations
Latvia	April 2020 (SA 56932, SA 57125, SA 57802, SA 58123, SA 58728, SA 59305, SA 59865, SA 62128)	EUR 35.5 million	Firms active in agriculture, fisheries, food and school catering	Direct grants
	May 2020 (SA 57287)	EUR 1.5 million	Primary agriculture producers	Zero-interest loans
	March 2021 (SA 62195)	EUR 3 million	MSMEs active in primary agricultural production	Direct grants
Lithuania	June 2020 (SA 57514, SA 58344, SA 60073))	EUR 30.5 million initially, modified to EUR 49.7 million	Bovine animal (EUR 12 million) and milk (EUR 37.7 million) producers	Direct grants
	June 2020 (SA 57529, SA 60073)	EUR 59 million	Firms in the agriculture, food, forestry, rural development and fisheries sectors	Direct grants; loan guarantees
	July 2020 (SA 57508)	EUR 20 million	Poultry and egg processors (estimated 25 firms)	Direct grants
	July 2020 (SA 57823, SA 60073))	EUR 47.5 million initially, modified first to EUR 90 million, then to EUR 135 million	Firms active in the production and processing of pig, vegetable and aquaculture products	Direct grants; interest rate subsidies
	October 2020 (SA 58856, SA 60073))	EUR 12 million	Poultry producers and poultry processing firms	Direct grants
	November 2020 (SA 59345)	EUR 5 million	Firms active in the fur farming sector	Direct grants
Luxembourg	December 2020 (SA 59726)	EUR 1.5 million	Beef, goat, pork and sheep meat producers	Direct grants
	December 2020 (SA 59945)	EUR 124 500	Winegrowers	Direct grants
	December 2020 (SA 59944)	EUR 500 000	Firms active in the processing and commercialisation of seed	Direct grants
	March 2021 (SA 62239)	EUR 1 million	SMEs active in the pig production sector	Direct grants
Netherlands	May 2020 (SA 57217)	EUR 650 million	Firms in the floriculture, horticulture and potato sectors, of which EUR 50 million is earmarked for potato growers	Direct grants
Malta	September 2020 (SA 58306, SA 60675)	EUR 1.5 million	Farmers	Direct grants
	October 2020 (SA 58297, SA 60675)	EUR 2.5 million	Animal farmers (Dairy, beef, swine, sheep, goat, laying hen, broiler, bee, and rabbit)	Direct grants

Member State	Date	Amount	Eligible Sectors	Aid Type
Poland	June 2020 (SA 57568)	EUR 9 million	Firms active in primary agriculture	Interest rate subsidies
	July 2020 (SA 58105)	EUR 95 million	MSMEs in the primary agricultural sector	Direct grants
	November 2020 (SA 59382)	EUR 40 million	Chrysanthemum flower producers	Direct grants
	December 2020 (SA 60060)	EUR 39.2 million	MSMEs active in pig breeding	Direct grants
Portugal	August 2020 (SA 58423)	EUR 5 million	SMEs active in the agricultural and agro-food sectors in the region of Madeira	Subsidised interest rates
Romania	September 2020 (SA 58450)	EUR 24.7 million	Firms active in the pig breeding sector	Direct grants
	September 2020 (SA 58452)	EUR 22.7 million	Firms active in the poultry breeding sector	Direct grants
	September 2020 (SA 58453)	EUR 7.4 million	Firms active in the bovine breeding sector	Direct grants
	November 2020 (SA 59520)	EUR 12.4 million	Winegrowers	Direct grants
Slovenia	October 2020 (SA 58887)	EUR 1.5 million	Farmers and SMEs active in the processing of agricultural products	Direct grants
	October 2020 (SA 59149)	EUR 378 million	Farmers and self-employed in additional sectors	Direct grants
	December 2020 (SA 60270)	EUR 197 000	Farmers and fishermen	Direct grants
	March 2021 (SA 62332)	EUR 3.7 million	Wine producers and grape growers	Direct grants
	March 2021 (SA 62223)	EUR 4 million	Apple growers	Direct grants
	March 2021 (SA 62118)	EUR 1.5 million	Enterprises active in ancillary farming activities (e.g. agro-tourism, catering)	Direct grants
United Kingdom	December 2020 (SA 60013)	EUR 1.1 million	A company active in Scotland in the processing of agricultural products in the poultry sector	Direct grant
TOTAL		**EUR 6.16 billion**		

Note: Measures reported in this table represent assistance packages specific to the agricultural sector approved under Articles 107(2)b, 107(3)b and 107(3)c TFEU, and under the State Aid Temporary Framework. Note that agricultural sector actors may also have benefitted from all-sector "umbrella" schemes in some countries. The table includes all measures reported as of 31 March 2021.
Source: (EC, 2021[25]; EC, 2021[26]).

Some Member States reported assisting sectors heavily affected by COVID-19 by reallocating existing support. In *Denmark*, authorities decided to boost the slaughter premium for producers of beef and veal – available through voluntary coupled support – by EUR 8.706 million (USD 9.921 million) to EUR 32.86 million (USD 37.45 million) in 2020, with the assistance financed by a transfer of funds from the Basic Payment Scheme. *Portugal* instead chose to fund an assistance package to its producers through an exceptional transfer of EUR 85 million (USD 97 million) from Pillar 2 to Pillar 1. The assistance included higher support to small-scale farmers [increased from EUR 600 (USD 684) to EUR 850 (USD 969) per beneficiary] and higher payment rates for specific products under voluntary coupled support – EUR 222 (USD 253) per hectare for rice producers, EUR 22 (USD 25) per animal for sheep producers, and EUR 94 (USD 107) per animal for milk cows.

A number of countries instituted assistance measures for their agricultural sectors that were funded under the state aid de minimis or other support mechanisms. *Austria* enacted the Hardship Fund Act on 27 March 2020 to partially compensate the economic losses of agricultural holdings significantly affected by the crisis

through monthly lump sum payments of a minimum of EUR 1 000 (USD 1 140). Austria also instituted a programme to reimburse fixed costs for Austrian enterprises if their turnover declined by at least 30% from the previous year, with reimbursements up to EUR 100 000 (USD 113 955) per primary agricultural enterprise. *Belgium* set up a nuisance premium programme, providing assistance of EUR 4 000 (USD 4 558) to companies whose physical facilities had to close due to COVID-19. Belgium also put in place a compensation premium of EUR 3 000 (USD 3 419) for firms that did not have to close, but suffered large losses in sales due to COVID-19 measures. *France* provided compensation for the destruction of horticultural products due to the lack of markets during the lockdown, and also provided support for equine services (principally pony clubs) that were also forced to close due to the crisis. *Spain* provided support in response to the difficulties to the market goat and sheep sectors, to reduce the oversupply of Iberian pork, and to assist the cut flowers sector.

COVID-related animal culls also took place in certain Member States. After a mutated strain of COVID was identified on several Danish mink farms, 17 million mink were culled in *Denmark*. The Danish Government was approved to pay out DKK 1.9 billion (EUR 255.5 million, USD 291.2 million) as compensation. Mink culls were also ordered in *Ireland*, the *Netherlands*, and *Spain* – all due to identifications of cases of COVID-19 in the animals, or as a preventative measure.

Taxation and social contribution measures

Some Member States used the tax system or amended social contribution schemes to reduce the impact of the crisis on the agricultural sector. *Austria* put in place a large tax relief package, including reductions of pension contributions; introduction of income smoothing; reduced tax rates for wage and income; and abolition of the eligibility conditions for the full flat tax rate with regard to agricultural area, livestock units and intensive orchards, with the last provision retroactive from 1 January 2020. In the *Czech Republic*, an amendment was adopted extending the deadline to claim a refund from excise taxes on oil used for agricultural primary production and forest management from 31 March 2020 to 12 May 2020. Lawmakers in the Czech Republic also revised the Act on Excise duties in 2020 to allow beer released to immediate storage (on which excise duty had already been paid) to be returned to conditional tax exemption status. *Germany* made available a tax deferral programme for businesses affected by COVID-19. *Hungary* offered reductions in outstanding tax liability by 20%, accelerated disbursement of the amount of reclaimed value added tax, and extended tax return filing deadlines. In addition, agricultural firms in Hungary in sectors particularly affected by the pandemic were exempted from paying certain employment-related taxes for a given period. In *Estonia*, the diesel fuel excise duty was reduced by 25% from 1 May 2020 to 20 April 2022. A variety of tax concessions were also enacted in *Italy*. Farmland and agricultural income were exempted from the tax base for income tax purposes in 2020 (with a similar provision put in place for 2021); VAT concessions for the sale of live animals, cattle and pigs, and a reduction on the VAT of ready and cooked meals down to 10% were extended from 2020 into 2021; a tax credit was given to agricultural and agro-food businesses belonging to the “Wine Roads” network; firms were given an exemption from paying the minimum registration tax from agricultural land in 2021, among other provisions; and horticultural firms were exempt from paying taxes, social security and welfare contributions through 15 July 2020. In *Poland*, farmers subject to pension insurance were released from their obligation to pay pension insurance contributions for the second quarter of 2020, with those contributions financed by the Agricultural Social Insurance Fund from the state budget. Farmers in *Slovenia* could also apply for a deferral or exemption from paying social security contributions.

Investment assistance

Other countries provided aid in the form of investment assistance, including loan guarantees, subsidised loans, or investment grants. **Loan guarantee** programmes were set up in a number of Member States, including *Austria*, *Belgium*, *Germany*, *Greece*, *Ireland*, and *Spain*. Other countries opened new **credit lines and loan schemes**. In *Hungary*, the Széchenyi Agricultural Card Overdraft loan product was launched,

providing flexible conditions and a credit line of HUF 200 million (EUR 569 395, USD 648 852) for working capital loans. The loans have include a 100% interest and guarantee fee subsidy to agricultural enterprises for the entire loan term, provided the loan was issued by 31 December 2020. Agricultural enterprises could also apply to the economy-wide Széchenyi Investment Loan Plus scheme, which offered loans of up to HUF 1 billion (EUR 2.8 million, USD 3.2 million) for terms of up to six years at concessionary interest rates of 0.5% annually. Other schemes were opened to support working capital funding of agricultural enterprises (through the MFB Hungarian Development Bank Ltd., MFB Agricultural Current Asset Loan Programme 2020, MFB TÉSZ Loan Programme 2020 and MFB Food Industrial Working Capital Loan Programme 2020). The country also launched the Crisis Agricultural Guarantee Programme through the AVHGA Rural Credit Guarantee Foundation, which provided HUF 60 billion (EUR 171 million, USD 195 million) for financing opportunities for micro, small and medium-sized enterprises for working capital loans, overdrafts and investment loans. *Portugal* set up a EUR 20 million (USD 23 million) credit line with interest rates subsidised at 80%, in order to cover losses faced by producers of cut flowers.

Other programmes provided **support for existing loans**. The *Czech Republic's* SGFFF announced their new "OPERATION 2020" programme in June 2020, which offered a reduction in loan principal for small and medium-sized primary agriculture enterprises negatively affected by the pandemic. *Italy* established a EUR 100 million (USD 114 million) fund under its "Cura Italia" Decree to cover interest on bank loans for agricultural and fishing companies. In *Poland*, a facility was set up to allow a deferral for debt repayment toward the Agency for Restructuring and Modernisation of Agriculture (ARMA).

Investment grants were offered in a few countries. *Austria* provided tax-free, non-repayable grants worth 7% of the cost of the investment in agricultural or forestry enterprises, with the maximum support raised to 14% of total costs for investments related to greening, digitalisation and health. The country also enacted a EUR 58 million (USD 66 million) "Processing of Agricultural Products" programme to support 26 firms. *Poland* offered up to PLN 1 500 (EUR 338, USD 385) specifically towards the purchase of a desktop or laptop computer, both to ensure that farmers were able to submit applications electronically to public administration entities, and to ensure that farm household children would be able to attend remote school.

Allowances to farms and farm households

Other allowances were provided related to the farm household. Farmers in the *Czech Republic* were eligible for a nursing allowance for the self-employed from 1 April 2020. Farmers in *France* who either suffered from COVID-19 or who were obliged to stay home due to their children not being in school could apply to receive compensation for work support of up to EUR 112 (USD 128) per day from the Mutual Agricultural Fund. In *Poland*, the right to receive a child-care allowance from the Agricultural Social Insurance Fund was extended for insured farmers and their household members due to constraints in the functioning of childcare and educational establishments. Also in Poland, a measure was established to provide an allowance for farmers or their household members during a period of obligatory quarantine or hospitalisation due to COVID-19. Farmers in *Slovenia* were also eligible to receive support for an inability to work due to COVID-19 infection, with the amount equal to the actual loss of income per month, but not more than 80% of the national minimum wage.

Labour

The bulk of policies put in place relevant to agro-food supply chains in the European Union and its Member States were to facilitate or accommodate the **agricultural labour force**. One of the first actions taken in response to border closures was the publication of practical guidelines to ensure the free movement of critical workers, including seasonal agricultural workers, within the European Union (EC, 2020[27]). Seasonal workers were considered critical to the agricultural sector if they were vital to harvesting, planting and tending functions – particularly with respect to the crop season already underway when restrictions were put in place.

Indeed, securing labour became a huge concern for many countries, and a number of them put in places measures to facilitate the **recruitment of agricultural labour**. In the *Czech Republic*, the Ministry of Agriculture set up an information hotline to answer questions on agricultural labour, and also set up several platforms to connect the supply and demand of seasonal workers (including by linking universities, labour offices, and information services for chambers of commerce and labour unions). The Czech Republic also put in place the priority processing of seasonal visas for the agriculture and food sectors, and programmes were set up to invite university students to participate in work in the agricultural, food and forestry sectors to address labour shortages. The government of *Estonia* provided support for the replacement of agricultural workers who had contracted COVID-19. *France* set up a support plan to ease rules governing access to employment for the agricultural and agro-food sector, including measures to simplify recruitment, a platform to match employment supply and demand, and incentives to the unemployed to join the sector temporarily. *Finland* doubled its quota of seasonal farm workers allowed into the country from outside of the European Union to 9 000 workers in order to cover domestic farm labour needs in light of other EU movement restrictions. *Germany* put in place a plan from April through June 2020 to ensure that seasonal workers were able to travel to the country, provided that travel occurred by air and to/from dedicated airports, under which employers paid all expenses for transportation, health checks and other costs due to social distancing requirements. Germany also extended eligibility for contracts that do not involve payments to the social security system to allow temporary workers to stay longer. Furthermore, several online platforms helped to connect producers in need of seasonal workers with people eligible for employment in planting and harvesting activities. *Hungary* extended the annual time limits for both occasional and seasonal workers from 120 to 180 days in order to ease labour shortages. In May 2020, *Italy* issued the "Relaunch" Decree, which addressed labour shortages in agriculture by encouraging recipients of social safety net programmes to sign agricultural contracts, and allowed some foreign workers to obtain a six month residency permit to increase the number of workers available for agricultural labour. The government of *Spain* established extraordinary measures to encourage recruitment of seasonal workers in the agricultural sector, including unemployed persons living near farms, migrants, and young people from third countries.

Some Member States put in place programmes or measures intended to ensure adequate **living and working conditions** for agricultural workers. *France* extended their accommodation plan for seasonal agricultural workers, providing EUR 150 (USD 171) per month, up to a total of EUR 600 (USD 684) for these workers. In the *Netherlands*, the COVID-19 pandemic brought to light the conditions of migrant agricultural labourers in the country. In response, the Dutch government set up a "Protection of Labour Migrants" Taskforce, which has recommended some actions to improve the labour conditions of agricultural migrant workers. *Spain* put in place rules to ensure the safety in transport and accommodation of farmworkers during the pandemic.

Food supply chains

At the national level, various initiatives were introduced that targeted the functioning of **food supply chains**. In May 2020, the government of *Bulgaria* authorised a temporary market regulation (through 31 December 2020) mandating that most dairy products sold in retail chains with over ten shops be produced from 100% Bulgarian milk. In a similar vein, in June 2020, the Bulgarian government adopted an additional temporary market regulation mandating that retail chains allocate designated store shelf space to locally-produced foods, including fruits and vegetables, through 31 December 2020. The Bulgarian Government also allocated EUR 2.56 million (USD 2.92 million) under the COVID-19 de minimis scheme to assist the marketing of greenhouse vegetables. The government of the *Czech Republic* prepared emergency plans for possible food supply disruptions, and reported that the vast majority of food businesses also had emergency plans in place. One preventative measure taken by Czech businesses, for example, was the fragmentation of the operations of larger bakeries, such that they were less integrated and could continue production in the event that one site needed to shut down operations due to quarantine.

In *Portugal*, the Ministry of Agriculture launched a digital marketplace (Prove Viseu Dão Lafões) in May 2020 for selected agro-food products (including wine, cheese, honey and jam) as part of the existing Elimenta Quem o Alimenta campaign that directly connects small producers to consumers.

Other countries instituted measures to ensure smooth supply chain functionality. Agricultural industry stakeholders in *France* held discussions with the government regarding measures to facilitate the continuation of the logistics chain for the transport of goods, with the government agreeing to grant regulatory derogations where needed to ensure the fluidity of transport operations, among other measures. In *Luxembourg*, the government instituted a "Food Policy Council" made up of stakeholders from the entire local/regional public and private food system to promote better co-ordination of local actors in the food system, their networking and the sharing of information on the activities of each.

Domestic consumer policies

Several COVID-19 response policies attempted to assist consumers in need, although many of these measures also benefitted producers. In both the *Czech Republic* and *Poland*, food originally intended for the school scheme was diverted to food banks after schools were closed by lockdown, and Poland also implemented a provision to make produce that would have been provided to schools available to pupils attending remote lessons instead. *Italy* spent EUR 20 million (USD 23 million) purchasing olive oil and EUR 21 million (USD 24 million) on Protected Designation of Origin (PDO) cheese using part of the EUR 300 million (USD 342 million) set aside for a food aid emergency fund, which comes from the European Fund for Aid to the Most Deprived. The olive oil was to be bought through public tenders and distributed to those in need. Italy also allocated EUR 250 million (USD 285 million) for its Food Emergency Fund, designed to ensure the distribution of food staples to destitute people. In *Poland*, the government put in place provisions to set maximum wholesale prices or retail trade margins for goods and services important for the protection of human health or safety or in terms of household living costs. These included agricultural goods, and the Agricultural and Food Quality Inspectorate, among other government ministries, was tasked with ensuring that enterprises adhered to the measure. *Portugal* put in place a payment of 40% of the average market value obtained in the past five years to producers of selected fruits (raspberry, blackberry, blueberry and strawberry) who delivered their products to social solidarity non-profit associations or food banks in lieu of having the products go to waste.

Other measures were taken to improve consumer safety. In the *Czech Republic*, for example, new rules were adopted in April 2020 allowing farmers' markets to resume, provided that more space was provided between stalls, hand sanitisers were available, and snacks for immediate consumption were prohibited.

Long-term recovery and transformation

Aside from the immediate crisis response and sector support measures, the European Union also proposed a broad, longer-term response and recovery effort, which will have implications for agricultural policy as well. This "Recovery Plan for Europe" is comprised of two major initiatives: "Next Generation EU", and a reinforced EU budget (the Multiannual Financial Framework or MFF), both approved in December 2020 for 2021-27. **Next Generation EU** is a proposed temporary recovery instrument with a budget of EUR 750 billion (USD 855 billion), with three primary objectives, each with their own supporting initiatives:

- Supporting Member States in recovering, repairing and emerging stronger from the crisis, including:
  - The European Recovery and Resilience Facility [EUR 560 billion (USD 638 billion), of which EUR 310 billion (USD 353 billion) will be available for grants and EUR 250 billion (USD 285 billion) for loans]

  - REACT-EU recovery assistance for cohesion and EU territories [EUR 55 billion (USD 63 billion) of additional cohesion policy funding from 2020-22]
  - Supporting Member States in accelerating the green transition to a climate-neutral economy through the "Just Transition Fund" of up to EUR 40 billion (USD 46 billion)
  - Reinforcing the European Agricultural Fund for Rural Development (EAFRD) with and addition EUR 15 billion (USD 17 billion) in funding, to support rural areas in making structural changes in line with the European Green Deal, Biodiversity and Farm-to-Fork strategies
- Kick-starting the economy and help private investment:
  - An enhanced InvestEU Programme, [EUR 15.3 billion (USD 17.4 billion)], combined with a new Strategic Investment Facility to be equipped with EUR 15 billion (USD 17 billion)
  - A new solvency Support Instrument to support the equity of viable companies [EUR 31 billion (USD 35 billion)]
- Learning the lessons of the crisis and addressing Europe's strategic challenges:
  - The establishment of EU4Health, a new health programme to strengthen health security and prepare for future health crises [EUR 9.4 billion (USD 10.7 billion)]
  - Reinforcing rescEU, the EU's Civil Protection Mechanism, to better respond to large-scale emergencies [EUR 3.1 billion (USD 3.5 billion)]
  - Reinforcing other programmes that aim to make the European Union more resilient in addressing challenges brought along by the pandemic and its consequences, including Horizon Europe, the Neighbourhood, Development and International Cooperation Instrument (NDICI), Humanitarian Aid Instrument, Digital Europe Programme, Connecting Europe Facility, and the Instrument for Pre-Accession Assistance (IPA)

Individual countries also announced ambitious **long-term sector recovery and transformation plans** in response to the COVID-19 crisis. In September 2020, *France* announced an agriculture and forestry plank of the French recovery plan, allocating EUR 1.2 billion (USD 1.4 billion) to reinforce food sovereignty; accelerate the transition to agro-ecological practices while ensuring consumer access to healthy, sustainable and local food; and support agriculture and forestry's adaptation to climate change. Specific measures under the plan include:

- A National Strategy on Vegetal Proteins to increase French production of protein-rich feeds (such as soybeans) and pulses by 40% over the next three years, with EUR 100 million (USD 114 million) in support, as a means to reduce import dependency for animal feed.
- EUR 346 million (USD 394 million) to accelerate the agro-ecological transition.
- EUR 200 million (USD 228 million) to improve access to healthy, sustainable and local food.
- EUR 300 million (USD 342 million) to adapt French agriculture and forestry to climate change, including by improving resilience to drought through investments in water resource management and more drought-tolerant crop varieties.

In the same vein, *Luxembourg* set up an "Innovation Hub" to facilitate the networking of different actors from different sectors to jointly develop innovative solutions to challenges related to agricultural policy, the need for a sustainable production system and the climate emergency. The Ministry of Agriculture of Luxembourg has also requested the building of a digital agricultural platform for information, communication and data exchange for farms, to provide more holistic agricultural advice in the face of a multitude of future challenges.

Trade policy developments in 2020-21

The European Union's simple average **MFN applied tariff** rate for agricultural products was 11.4% in 2019, down from 12% in 2018 (WTO, 2020[28]). This applied tariff rate for agricultural products remains

nearly three times the average applied tariff rate for non-agricultural products, calculated at 4.2%. This higher average for agriculture is partially a result of applied duties above 15% for a number of product categories, including for animal products, dairy, sugars and confectionary, and beverages and tobacco. EU import duties for durum wheat, common wheat, rye, maize and grain sorghum are based on the difference between European reference prices and world benchmark prices. Duties on rye, maize and grain sorghum were adjusted seven times in 2020[37] due to both changes in relative prices and exchange rate movements, rising to a high of EUR 10.40 (USD 11.85) per tonne from 5 May 2020 to 22 June 2020. From 27 August 2020, these duties were set at EUR 0 (USD 0) per tonne (EC, 2020[29]). Prior to the fluctuations in 2020, duties on these products had been set at EUR 0 (USD 0) per tonne since 3 March 2018 (EC, 2020[30]).

During the 2019 calendar year and 2018/19 marketing year, the European Union administered 124 **import tariff rate quotas** (TRQs). During that time period, nearly a third of the quotas (38) were filled at 80-100%, including those for fresh or frozen chicken cuts, tomatoes, almonds, grain sorghum, cane or beet sugar and pasta. However, nearly half of TRQs (60) had a fill rate of less than 10%, with 21% of quotas registering no import volumes (WTO, 2020[31]).

The price-based **special safeguard system** was operationalised in marketing year 2019/20 for certain frozen chicken carcasses, boneless chicken cuts, and some preparations of poultry meat. During the same period, the volume-based special safeguard action was not invoked. However, the system was made operational at the level of calculation of figures for the trigger volumes for some fruit and vegetable products, including tomatoes, cucumbers, artichokes, courgettes, oranges, clementines, mandarins, lemons, table grapes, apples, pears, apricots, cherries, peaches and plums (WTO, 2020[32]).

Duties on Indica rice imported from Cambodia and Myanmar were reduced from EUR 175 (USD 199) per tonne to EUR 150 (USD 171) per tonne on 1 January 2020, and then further reduced to EUR 125 (USD 142) per tonne on 1 January 2021. These tariffs were introduced following a 2018 safeguard investigation that determined that duty-free rice imports from the two nations under the European Union's "Everything But Arms" tariff preference regime caused economic damage to the rice sector in Europe. These safeguard tariffs are scheduled to no longer be applied in 2022.

On 9 September 2020, EU tariffs on **imports of certain husked rice** were revised up to EUR 65 (USD 74) per tonne from EUR 42.50 (USD 48.4) per tonne as a result of EU imports of rice greater than 650 000 tonnes from 1 September 2019 to 31 August 2020. This tariff revision was carried out in accordance with Commission Regulation No. 1549/2004 regarding the arrangements for importing rice. Prior to this revision, rice tariffs were last adjusted in March 2020, after imports over the previous six months fell below the triggering threshold, and duties were revised downward accordingly.

The European Union also undertook various additional trade policy initiatives in 2020. Related to **trade policy enforcement**, the European Commission appointed its first Chief Trade Enforcement Officer, (CTEO) created as a new Deputy-Director General within the Directorate-General for Trade on 24 July 2020. The CTEO will be tasked with ensuring that the provisions of EU trade agreements (including sustainable development and labour rights commitments) are implemented and enforced. Then on 22 September 2020, the Commission undertook a new **responsible business conduct** initiative towards more sustainable cocoa production, by establishing a new multi-stakeholder dialogue comprised of representatives from Côte d'Ivoire, Ghana, the European Parliament, EU Member States, cocoa growers and civil society. This dialogue aims to deliver concrete recommendations to advance sustainability across the cocoa supply chain through collective action and partnerships, and will be supported by technical assistance for cocoa-producing countries. Finally, on 13 October 2020, the Commission launched a new **trade facilitation** initiative in the form of a new Access2Markets portal designed to support trade by small businesses either exporting from, or importing into, the European Union (EC, 2020[33]). The portal provides product-by-product information on tariffs & taxes, customs procedures, rules of origin, trade barriers,

product requirements and statistics for all EU countries and for more than 120 export markets around the world.

Trade Agreements

The European Union released its fourth annual **report on the implementation of EU Free Trade Agreements** on 12 November 2020 (EC, 2020[34]). The report noted that, in 2019, EU agro-food exports and imports under FTAs grew 8.7% and 8.3%, respectively, rising in value and growing faster than overall agro-food trade. In fact, EU agro-food trade with FTA partner countries as a share of total agro-food trade has been rising over the past ten years, reaching 40% of total agro-food imports, and 30% of total EU agro-food exports in 2019. The report also offered examples of how trade agreements have helped to provide a forum to address potential or existing trade barriers due to sanitary and phytosanitary measures. The European Union currently has 45 applied trade agreements in force, and negotiations are underway with additional trading partners (EC, 2020[35]). In July 2020, the European Commission also published Sustainability Impact Assessments for two additional agreements that have yet to be finalised – the EU-Mercosur Association Agreement and the EU-Indonesia Agreement. Both assessments include sectoral analyses and recommendations for agriculture.

On 31 January 2020, the United Kingdom left the EU Single Market and Customs Union, ending the free movement of people, goods and services with the European Union. The rules governing trade and movement between the two are laid down in the draft **EU-UK Trade and Cooperation Agreement**, which was agreed on 24 December 2020 and approved by the Parliament and Council on 30 December 2020. The Agreement has three pillars: a free trade agreement; a partnership framework for law enforcement and judicial co-operation; and a horizontal governance agreement. Terms of the free trade agreement include duty and quota free imports on all goods that comply with rules of origin provisions (EC, 2020[36]).

Effective on 1 January 2021, EU **trade preferences for the Western Balkans**[38] were extended for five years (through 31 December 2025) (EC, 2020[37]). These preferences are in the form of Autonomous Trade Measures (ATMs), including the suspension of customs duties otherwise applied to fruit and vegetables exported to the European Union and an additional wine quota. These preferences have been in force since 2000.

The **European Union and China signed the *Agreement on Cooperation on, and Protection of, Geographical Indications (GIs)*** on 14 September 2020. The agreement, which was concluded in November 2019, commits both parties to protecting 100 of the other's GI products upon entry into force, with lists of an additional 175 GIs from both parties to be registered within four years. European products gaining protection under the agreement include Cava, Gorgonzola, Irish cream and Prosciutto di Parma, while the list of Chinese products includes Anhua Dark Tea, Cangshan Garlic, Xixia Mushroom and Wuchang Rice (EC, 2020[38]). The agreement entered into force on 1 March 2021.

The **EU-Viet Nam Free Trade Agreement** entered into force on 1 August 2020. Under the terms of the agreement, the European Union will progressively phase out duties for most products over a period of seven years, while Viet Nam will reduce tariffs on EU goods over ten years. The European Union established duty-free tariff rate quotas for a variety of Vietnamese agricultural imports under the agreement: 30 000 tonnes of milled rice; 20 000 tonnes of husked rice and 30 000 tonnes of fragrant rice, as well as quotas for sweet corn, garlic, mushrooms, sugar and manioc starch. The tariff on broken rice will be phased out over five years, starting with a 50% cut. Viet Nam will progressively eliminate duties for EU products –beef and olive oil will be liberalised over three years; dairy, fruit and vegetables will be liberalised over five years; frozen pork meat, food preparations and wine will be liberalised over seven years; and chicken and beer will be liberalised after ten years. At the end of the implementation period, an average tariff of 1.1% will apply to agricultural goods originating in Viet Nam and 2.1% to processed agricultural products while the average tariff for EU agricultural exports will be 2.6%. Viet Nam will also

recognise and protect 169 EU GIs, while 39 Vietnamese GIs will be recognised and protected in the European Union (EC, 2019[39]).

On 28 April 2020, the European Union and Mexico finished negotiations on a new **EU-Mexico trade agreement**, which will supersede the EU-Mexico Global Agreement that has been in force since 2000. The new agreement will fully liberalise more than 85% of the agricultural tariff lines that were left out of the original accord. For the remaining lines (with the exception of sugars and sweeteners), market access was negotiated in the form of TRQs. The European Union established TRQs for imports of various Mexican products, including beef, chicken breast, egg yolks, and frozen ham. In turn, Mexico established TRQs for imports of certain European products, including mature cheeses, fresh cheeses, skimmed milk powder, pork and poultry. In addition to improved market access on agricultural products, the agreement promotes co-operation on issues related to animal welfare and antimicrobial resistance (EC, 2018[40]). The agreement is awaiting signature and conclusion from the European Council and Parliament.

Disputes

On 17 February 2020, the European Union requested that a panel be established in the dispute over anti-dumping duties imposed by Colombia on imports of certain preserved or frozen potatoes originating in Belgium, the Netherlands and Germany. Subsequently, a panel was composed to consider the dispute on 24 August 2020 (WTO, 2020[41]).

Trade policy responses to the COVID-19 pandemic

The European Union put in place some trade measures in response to COVID-19, but most were unrelated to agriculture.[39] One measure that did impact agricultural supply chains was the designation of Green Lanes to ensure that trans-European trade in goods under a functioning single market could continue even in the presence of internal border controls erected to protect public health (EC, 2020[42]). These Green Lanes, based on designated key border crossing-points, had border crossing checks not exceeding 15 minutes. Passage was granted for all goods, including agro-food products. Provisions were also made to accept e-certificates or copies of original documents to facilitate trade, through 1 February 2021.[40] For example, authorities in *Germany* reported accepting these e-certificates.

Contextual information

The European Union is the largest economic region covered in this report, accounting for 21% of the economic activity of all countries covered herein. While the contribution of agriculture to both GDP and employment has declined since 2000, the share of agriculture in the region's exports increased (Table 11.6). More than 40% of the region's landmass is dedicated to agriculture, accounting for nearly 60% of arable land use. Crops (including cereals, oilseeds, fresh fruit and vegetables, and plants and flowers) predominate in agricultural output, accounting for 57% of total production. Livestock products – including dairy, beef and veal, pig meat, sheep meat, poultry and eggs – account for the remainder.

Table 11.6. European Union: Contextual indicators

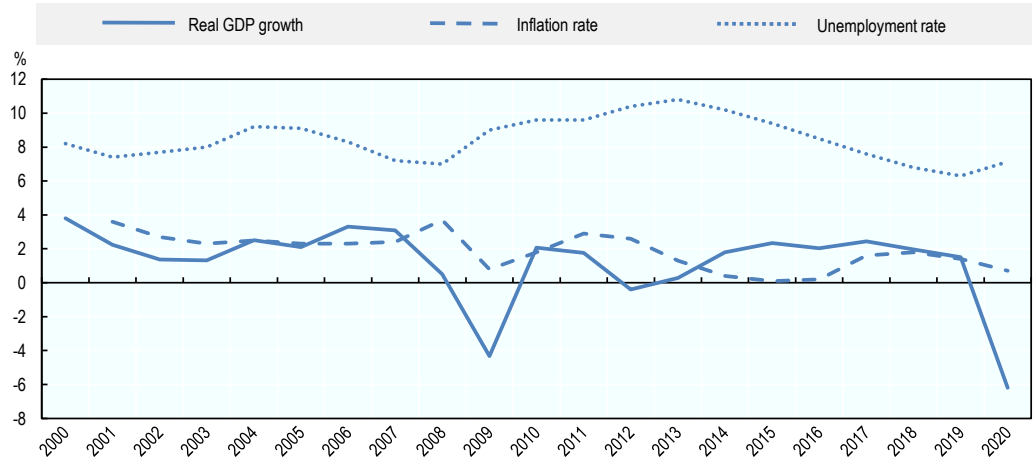
	European Union		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	9 928	24 082	24.9%	21.1%
Population (million)	378	513	8.8%	9.9%
Land area (thousand km²)	3 127	4 242	3.7%	5.0%
Agricultural area (AA) (thousand ha)	140 572	181 102	4.6%	5.9%
			All countries[1]	
Population density (inhabitants/km²)	114	116	53	63
GDP per capita (USD in PPPs)	26 288	46 776	9 265	21 975
Trade as % of GDP	11	12	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	1.8	1.4	2.9	3.5
Agriculture share in employment (%)	4.3	3.9	-	-
Agro-food exports (% of total exports)	6.0	7.2	6.2	7.3
Agro-food imports (% of total imports)	5.8	6.3	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	57	57	-	-
Livestock in total agricultural production (%)	43	43	-	-
Share of arable land in AA (%)	53	58	32	34

Notes: *or closest available year. EU15 for 2000 and EU28 for the most recent year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

GDP growth in the region fell 6.2% in 2020, reflecting the fallout of the COVID-19 emergency. Prior to 2020, GDP growth had been positive since 2013 (Figure 11.5). Despite the economic contraction, the unemployment rate increased only marginally to 7.1% in 2020 – likely due to government rescue packages intended to blunt the economic impact of the crisis. In fact, in spite of the crisis, the unemployment rate in 2020 was reported as more than three points lower than the 10.8% reported in 2013. Inflation declined in 2020 to 0.7%, remaining under 2% since 2013. While these indicators reflect the EU aggregate, economic conditions vary widely among the different Member States.

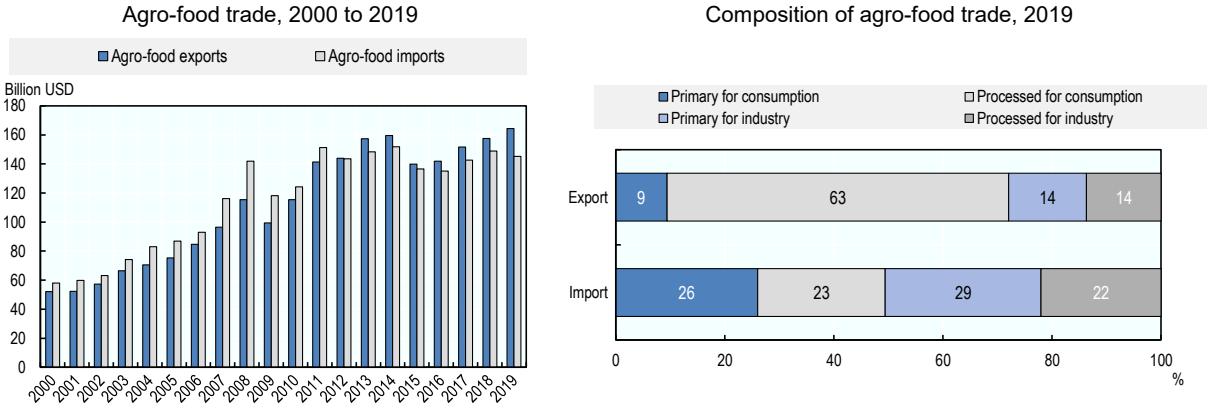
The European Union has been the world's largest agro-food exporter since 2013, and remains one of the largest importers as well (Figure 11.6). The region is a net food exporter, with agro-food products accounting for 7.2% of all EU exports and 6.3% of all EU imports. The region's agro-food exports are overwhelmingly comprised of processed goods for final consumption (63%), while imports are more evenly distributed among the four categories, with primary goods for industry accounting for the largest share of imports (29%).

Figure 11.5. European Union: Main economic indicators, 2000 to 2020



Note: EU28. Information regarding 2020 refers to European Union – 27 countries, excluding the United Kingdom
Sources: OECD statistical databases; World Bank, WDI; ILO estimates and projections and Eurostat.

Figure 11.6. European Union: Agro-food trade

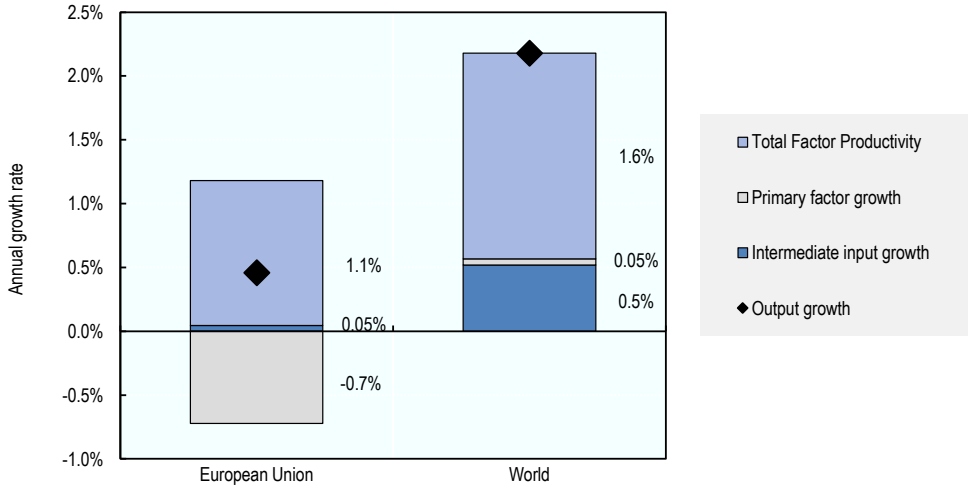


Note: Numbers may not add up to 100 due to rounding. Extra-EU trade: EU15 for 2000-2003; EU25 for 2004-06; EU27 for 2007-13 and EU28 from 2014.
Source: UN Comtrade Database.

At 0.5%, agricultural output growth in the European Union over the period 2007-16 was far below the world average of 2.2% (Figure 11.7). Total Factor Productivity (TFP) grew over the period by 1.1% on average, driven by a reduction in primary factor inputs including labour, land, livestock and machinery.

Rising TFP has been achieved in the sector along with a reduction of certain environmental pressures, as illustrated through various environmental indicators (Table 11.7). From 2000 to 2019, the region's nitrogen balance fell by nearly one quarter, the phosphorous balance declined by more than 70%, and the share of agriculture in water abstractions fell by 36%. At the same time, although the European Union has achieved reductions in these indicators, some still remain high by comparison. For example, the region's nitrogen balance is nearly double the OECD average. And while the region achieved improvements in most environmental indicators, agriculture's contribution to greenhouse gas (GHG) emissions worsened over the period, rising by 14% from 2000 to 2019.

Figure 11.7. European Union: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery. EU28.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 11.7. European Union: Productivity and environmental indicators

	European Union		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	0.8%	1.1%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	71.7	54.2	33.2	28.9
Phosphorus balance, kg/ha	7.5	2.0	3.4	2.6
Agriculture share of total energy use (%)	2.0	2.5	1.7	2.0
Agriculture share of GHG emissions (%)	9.0	10.3	8.4	9.5
Share of irrigated land in AA (%)	..	..	-	-
Share of agriculture in water abstractions (%)	41.3	26.5	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Note: * or closest available year. TFP annual growth rate: EU28. Environmental indicators: EU15 for 2000 and EU28 for the most recent year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Notes

[1] For 2020, estimates include the United Kingdom. Although the United Kingdom withdrew from the European Union on 31 January 2020, the UK budget for agricultural expenditures in 2020 continued to be sourced largely from the European Commission, and the United Kingdom remained part of the Common Market in 2020.

[2] Also referred to as the June 2003 reform or the 2003 “Luxembourg” reform.

[3] Co-financing rates vary by measure and by Member State.

[4] Member States commonly have one national RDP, while some countries have regional RDPs. Belgium and Finland each have 2 RDPs, France has 30, Germany 15, Italy 33, Portugal 3, Spain 19 and the United Kingdom 4.

[5] Member States with average direct payment per hectare below 90% of the EU average can transfer up to 25% of rural development funds to direct payments.

[6] The following Member States have opted for transfers of funds from Pillar 1 to Pillar 2 throughout the CAP 2014-20 exercise: Belgium, the Czech Republic, Denmark, Estonia, France, Germany, Greece,

Latvia, Lithuania, the Netherlands, Romania and the United Kingdom. In turn, Croatia, Malta, Hungary, Poland and the Slovak Republic chose to transfer funds from Pillar 2 to Pillar 1.

[7] The SAPS applies to all Member States joining since 2004 except Slovenia, Malta and Croatia, which implement the BPS with the EU15.

[8] The BPS is "regionalised" in five Member States – Greece (3 regions), Spain (50 regions), France (2 regions), Finland (2 regions) and the United Kingdom (separate regions within Scotland and England) – meaning that a different payment rate per hectare applies depending on the region. In Germany, regionalisation by Länder ceased to apply in 2019.

[9] Member States can choose their preferred method to calculate their SFS payments: lump-sum payment (an equal amount to all farmers in the scheme); payment due each year (individual farmers receive a single payment equivalent to what would have been due under other payment schemes); and payment due in 2015 (individual farmers receive a single payment that depends on the amount that would have been due in 2015). Member States that opt for the "payment due each year" method are not subject to the 10% maximum, provided they do not round up lower payment amounts to EUR 500 (USD 570). For more information, see (EC, 2017[44]).

[10] The criteria are low temperature, dryness, excess soil moisture, limited soil drainage, unfavourable texture and stoniness, shallow rooting depth, poor chemical properties, and slope.

[11] Payments are granted on a maximum number of hectares, which varies by country or region: Belgium (Wallonia), 30 ha; Bulgaria, 30 ha; Croatia, 20 ha; France, 52 ha; Germany, 46 ha with a higher per hectare payment rate for the first 30 ha; Lithuania, 30 ha; Poland, from 3 to 30 ha (with no payment below 3 ha); Portugal, 5 ha as from claim year 2017; Romania, 30 ha with a smaller per hectare payment rate for the first 5 ha; and the United Kingdom (Wales), 54 ha.

[12] Belgium (Wallonia), Croatia, France, Germany, Portugal and Romania.

[13] The Czech Republic, Denmark, Cyprus, Estonia, Finland, Latvia, Luxemburg, Malta, the Netherlands, Slovenia, Slovakia, Spain, Sweden and the United Kingdom (England).

[14] If the average market price in an EU country or in a region of an EU country drops below EUR 2 224 (USD 2 534) per tonne over a representative period, the European Commission may use public intervention to support beef prices (EC, n.d.[43]).

[15] In addition to the EAFRD, these include the European Regional Development Fund (ERDF), Cohesion Fund, European Social Fund (ESF), and the European Maritime and Fisheries Fund (EMFF).

[16] In 2020, an additional measure was added, M21: Exceptional temporary relief to farmers and SMEs active in processing, marketing and/or development of agricultural products particularly affected by the COVID-19 crisis.

[17] While the United Kingdom was included in PSE estimations for 2020, this section discusses only the EU budget for 2020. Note that for PSE purposes, the Pillar 1 budget for budget year 2021 is counted in 2020.

[18] These are quantified EU level targets on use and risk of pesticides, sales of antimicrobials, nutrient loss, area under organic farming, high diversity landscape features and access to fast broadband internet.

[19] For fresh deciduous fruits, aid was raised to EUR 925 (USD 1 054) per ha for farms up to 30 ha and to EUR 617 (USD 703) per ha for larger farms of apples and pears, while for table grapes, the rate was set at EUR 448 (USD 511) per ha for farms up to 30 ha, and at EUR 354 (USD 403) per ha for larger farms.

[20] Funds were also spent on green harvesting measures and crisis distillation of wine by-products. These measures are covered separately in the section on COVID-19 response.

[21] Commission Implementing Decision (EU) 2020/467.

[22] Available at: https://www.tmdn.org/giview/.

[23] Indeed, the Agriculture and Fisheries Council's Conclusions of 19 October 2020 reflected the overall support of Agricultural Ministers for the F2F Strategy, and their endorsement of its goal of developing a sustainable European food system while also stressing the importance of taking national specificities and different starting points into account, in particular for the quantitative targets set in the strategy.

[24] The strategy mandates that nitrogen fertiliser be applied in a form that is coated with a urease inhibitor to reduce nitrous oxide losses – so-called "protected" urea.

[25] See https://www.efsa.europa.eu/en/news/use-or-best-new-tool-support-food-operators.

[26] Available (in Spanish) at https://www.menosdesperdicio.es.

[27] Three measures are foreseen to achieve a reduction in calf transports, by fostering growth in regional sales: a new quality standard to be included in the existing AMA quality label, including promotion and marketing strategies; extension of support for quality beef to include calf fattening; and extension of the support programme for animal welfare in stables to include calf fattening

[28] Previously there had not been a national animal health service – only services available at the Länder level.

[29] Through conditioning CAP funding for investments in livestock buildings on meeting animal welfare standards, and ensuring that state funding henceforth goes toward buildings that promote the natural expression of livestock behaviour.

[30] By increasing loading checks by officials and private veterinarians, strengthening sanctions for non-compliance with EU regulations, and imposing a register and temperature recording conditions for shipping.

[31] Commission Implementing Regulation (EU) 2020/532.

[32] For example, the milk sector would be allowed to collectively plan milk production and the flower and potatoes sector would be allowed to withdraw products from the market.

[33] Specifically, 100 000 MT was offered for cheese, while only 43 669 MT was contracted; 140 000 MT was offered for butter but only 65 004 MT was contracted; 90 000 MT was offered for SMP but only 18 300 MT was contracted; 140 MT was offered for sheep meat but only 15 MT was contracted; and 2 215 MT was offered for beef, but only 1 959 MT was contracted.

[34] Provisions from the last package are applicable through 15 October 2021 and retroactive from 16 October 2020.

[35] M21: Exceptional temporary relief to farmers and SMEs active in processing, marketing and/or development of agricultural products particularly affected by the COVID-19 crisis (art 39b).

[36] This can be raised to EUR 25 000 (USD 28 489) in some specific cases.

[37] See EU 2020/573 of 24 April 2020, EU 2020/615 of 4 May 2020, EU 2020/864 of 22 June 2020, EU 2020/959 of 2 July 2020, EU 2020/1192 of 11 August 2020, EU 2020/1218 of 25 August 2020.

[38] These preferences apply to products originating in Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia.

[39] For example, exports of personal protective equipment such as masks, gloves and face shields were temporarily subject to an export authorisation beginning on 15 March 2020.

[40] Implementing Regulation (EU) 2020/466.

12 Iceland

Support to agriculture

Iceland has seen limited reform to agricultural policies, and support remains among the highest in the OECD. At 57% of gross farm receipts, the producer support estimate (PSE) was more than three times the OECD average in 2018-20. Market price measures form most agricultural support, principally tariffs that maintain high domestic prices relative to world prices and lead to a large transfer from consumers to agriculture producers. Market price support is complemented by payment entitlements directly or indirectly coupled with production factors. Market price support accounted for 51% of support to farmers in 2018-20. Output payments for milk producers introduced in 1992 and largely decoupled payments to sheep meat producers introduced in 1996 represent most of the remaining support to farmers. Consequently, 71% of farm support is potentially most-distorting to production and trade.

Effective prices received by farmers declined over time on average, but remain almost twice as high as world markets. Sectors with the largest divergence between domestic and world prices in 2018-20 are poultry and eggs. Market price support accounts for more than 70% of single commodity transfers (SCT) for milk and poultry. Overall, SCT represent 96% of the total PSE.

Expenditures for general services (GSSE) relative to agricultural value-added decreased from around 3% in 1986-88 to 1% in 2018-20. Half of these are for inspection and control, with much of the rest devoted to stockholding. Total support to agriculture (TSE) as a share of GDP declined significantly over time.

Recent policy changes

The main policy changes in 2020 stem from revised agreements on the operating environment for horticulture and the framework agreement (horizontal support) for agriculture. For horticulture, the revision promotes development and innovation, and sets the stage to achieve carbon neutrality by 2040. The revised framework agreement includes the goal of carbon neutral agriculture before 2040 and emphasises environmental issues along with other technical or minor changes. All revised changes of existing agreements entered into force on 1 January 2021.

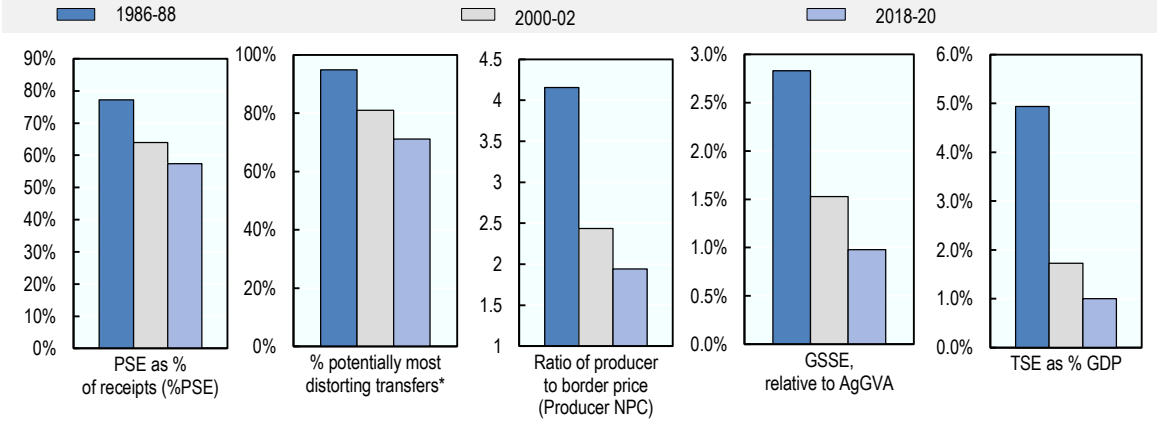
The Climate Action Plan was updated. Actions to reduce greenhouse gas (GHG) emissions from agriculture include reduction of the use of non-organic fertilisers and improvement of manure management.

Assessment and recommendations

- With the continued application of multi-year agreements between the government and Farmer's Association, changes to overall agricultural policy are limited and Iceland's support to farmers remains well above that of most other OECD countries. Moreover, most support to farmers continues to be in forms that are potentially most production- and trade-distorting, and contribute to environmental degradation, soil erosion in particular.

- Despite progress in reducing border protection of some agricultural products, tariffs on several groups – particularly meat, dairy, plants and flowers – remain high, often applied in the form of complex non-ad valorem duties. Slow progress in this area perpetuates the burden on consumers and the distortions to markets associated with border protection.
- Although the revisions of agreements on the operating environment for horticulture aim to promote development and innovation, progress is needed to support innovation, including encouraging a well-functioning agricultural knowledge and information system.
- Agriculture plays a central role in Iceland's climate policy and efforts to reach carbon neutrality. Emphasis on environmental issues, including measures to gradually reduce GHG emissions from agriculture are a welcome shift towards a low-carbon economy and will contribute to Iceland's challenging goal of carbon-neutral agriculture before 2040. However, support to producers that is only partly conditional on meeting environmental performance standards should be reviewed. Emissions from agriculture are high, reflecting the important role of sheep raising. Producer support should be decoupled from agricultural production and favour less economically distorting and environmentally damaging forms, linking support to sustainable land management and production of environmental amenities.
- The development of a food policy involving various stakeholders provides an opportunity to address food security, productivity and sustainability of the agro-food sector in Iceland in a coherent and integrated framework.
- The new Agreement on the European Economic Area's (EEA Agreement) changes to the regulatory framework for agricultural trade – mainly in the system of tariff quota allocation and the elimination of tariff duties on certain agricultural products – will reduce import costs and increase transparency with regard to imports.
- Establishment of the Antibiotic Immunity and Zoonosis Fund – based on an action plan on food safety and protection of livestock, and a joint effort by the ministers to reduce the spread of antibiotic-resistant bacteria in Iceland – is a welcome development towards a holistic and inter-sectoral approach to antibiotic resistance.

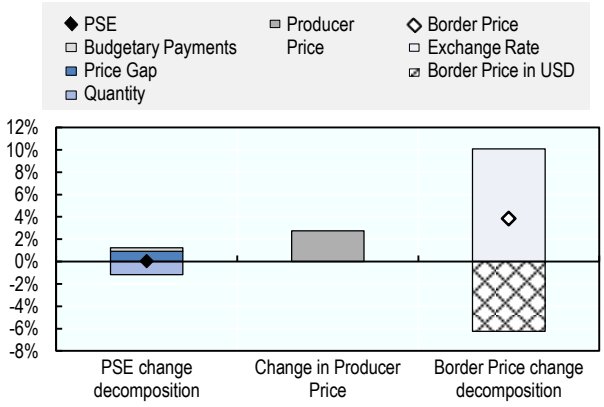
Figure 12.1. Iceland: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/j3th2s

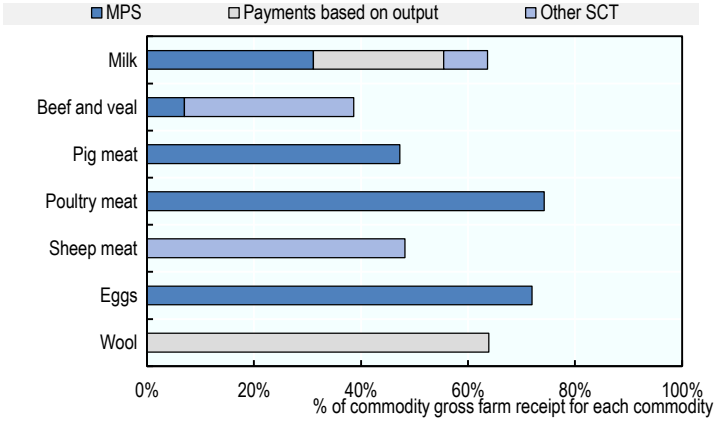
Figure 12.2. Iceland: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/tg03yq

Figure 12.3. Iceland: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/9ac0ib

Table 12.1. Iceland: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**236**	**150**	**284**	**316**	**280**	**256**
***of which:** share of MPS commodities (%)*	80.3	82.1	84.0	83.9	84.0	84.1
Total value of consumption (at farm gate)	**205**	**136**	**255**	**281**	**259**	**224**
Producer Support Estimate (PSE)	**193**	**139**	**226**	**246**	**227**	**205**
Support based on commodity output	180	113	159	181	155	140
Market Price Support[1]	179	72	116	133	114	102
Positive Market Price Support	179	72	116	133	114	102
Negative Market Price Support	0	0	0	0	0	0
Payments based on output	2	40	42	48	41	37
Payments based on input use	13	4	23	16	28	26
Based on variable input use	3	0	3	3	2	3
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	6	2	16	8	21	19
with input constraints	0	0	0	0	0	0
Based on on-farm services	4	2	5	5	5	4
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	-1	-3	11	13	12	10
Based on Receipts / Income	-1	-3	0	0	0	0
Based on Area planted / Animal numbers	0	0	11	13	12	10
with input constraints	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	20	33	36	32	29
Payments based on non-current A/An/R/I, production not required	1	5	0	0	0	0
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	1	5	0	0	0	0
with commodity exceptions	1	5	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**77.2**	**64.0**	**57.4**	**57.3**	**57.6**	**57.2**
Producer NPC (coeff.)	**4.16**	**2.44**	**1.94**	**1.99**	**1.93**	**1.91**
Producer NAC (coeff.)	**4.38**	**2.78**	**2.35**	**2.34**	**2.36**	**2.34**
General Services Support Estimate (GSSE)	**18**	**11**	**10**	**11**	**10**	**9**
Agricultural knowledge and innovation system	5	5	1	1	1	1
Inspection and control	1	2	5	6	5	5
Development and maintenance of infrastructure	2	1	1	1	1	0
Marketing and promotion	1	1	0	0	0	0
Cost of public stockholding	9	2	3	4	3	3
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**6.9**	**7.4**	**4.4**	**4.4**	**4.3**	**4.4**
Consumer Support Estimate (CSE)	**-112**	**-65**	**-110**	**-126**	**-110**	**-94**
Transfers to producers from consumers	-157	-66	-110	-126	-110	-94
Other transfers from consumers	-1	-2	0	0	-1	0
Transfers to consumers from taxpayers	46	3	0	0	0	0
Excess feed cost	0	0	0	0	0	0
Percentage CSE (%)	**-70.4**	**-48.3**	**-43.1**	**-44.9**	**-42.5**	**-42.1**
Consumer NPC (coeff.)	**4.38**	**1.98**	**1.76**	**1.82**	**1.74**	**1.73**
Consumer NAC (coeff.)	**3.38**	**1.93**	**1.76**	**1.81**	**1.74**	**1.73**
Total Support Estimate (TSE)	**257**	**153**	**237**	**258**	**237**	**215**
Transfers from consumers	158	68	110	126	110	94
Transfers from taxpayers	100	87	126	131	127	121
Budget revenues	-1	-2	0	0	-1	0
Percentage TSE (% of GDP)	**4.9**	**1.7**	**1.0**	**1.0**	**1.0**	**1.0**
Total Budgetary Support Estimate (TBSE)	**78**	**81**	**120**	**124**	**124**	**113**
Percentage TBSE (% of GDP)	**1.5**	**0.9**	**0.5**	**0.5**	**0.5**	**0.5**
GDP deflator (1986-88=100)	**100**	**263**	**580**	**556**	**582**	**603**
Exchange rate (national currency per USD)	**40.94**	**89.37**	**122.10**	**108.27**	**122.64**	**135.38**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Iceland are: milk, beef and veal, sheep meat, wool, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Iceland's agricultural policy focuses on food security, safety and quality; strengthening rural activity; environmental sustainability; and maintaining farm income.

Iceland supports agriculture heavily; reforms over time have been limited. Support consists mainly of price support sustained with border measures and quotas. Dairy producers receive payments based on output. In 1996, support to sheep meat producers changed from price support to direct payments based on historic entitlements. A regional scheme for sheep farmers implemented in 2008 provides additional direct payments based on historic entitlements. Individual non-transferrable quotas for milk producers were introduced in 1980 based and went through a number of reforms. In 1992, the current system of freely transferable quotas was introduced, and production-based payments were linked to the quota, paid directly to the farmer.

Since the mid-1990s, tariffs on agricultural products were reduced. However, tariffs on several agriculture product groups, particularly meat, dairy and flowers, remain high and complex. A large number of compound duties with both ad valorem and specific duties apply. Export subsidies for agricultural products were not provided since the early 1990s.

Table 12.2. Iceland: Agricultural policy trends

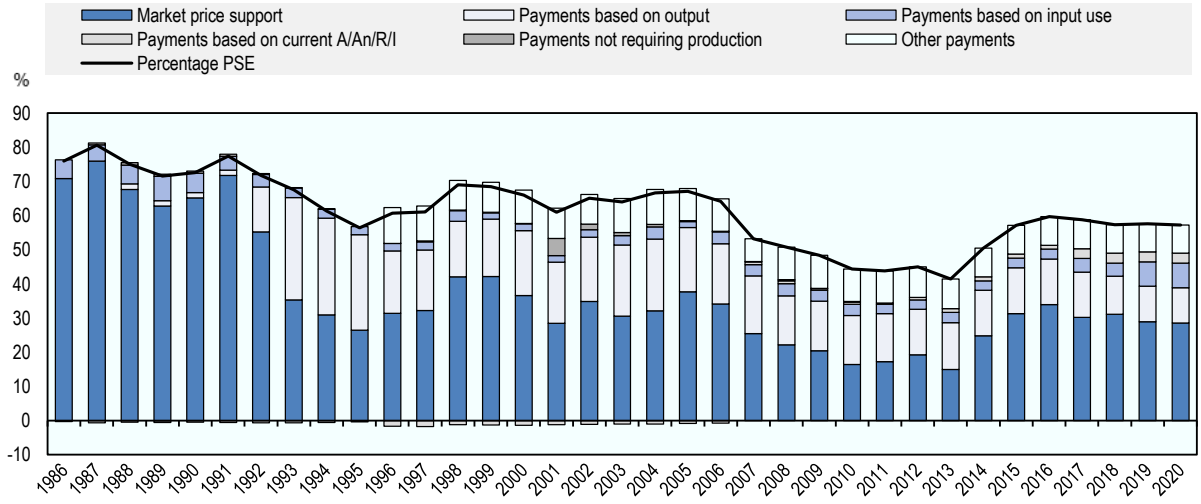
Period	Broader framework	Changes in agricultural policies
Prior to mid-1990s	Closed economy	Minimum prices Agricultural tariffs and non-tariff measures Consumer subsidies
Mid-1990s-2016	Gradual reforms to open market	EFTA, EEA Phase out of administered prices (except milk) Decoupled payments introduced to substitute price support measures Act Production, Pricing and Sale of Agricultural Products No. 99/1993 Act on Agriculture No. 70/1998
2017-present	Continuation of gradual reforms	Revisions of agreements for sheep and cattle farmers Several FTAs signed EEA agreement enhanced Reduction of agricultural tariffs

The policy mix remains dominated by production- and trade-distorting measures. Iceland continues to provide agricultural support through market price support maintained by border measures, and through direct payments based on payment entitlements directly or indirectly coupled with production.

Support to producers declined since the mid-1980s. An important reduction in market price support took place at the beginning of the 1990s. However, since the mid-1990s, around half of total support to agriculture comprises market price support, the other half being budgetary support. More than two-thirds of producer support continues to be provided through price support (Figure 12.4). TSE has declined over time, averaging 1% of the country's GDP in recent years, with PSE being the dominant component at 95%. The remaining TSE is financing for GSSE, almost half of which comprises expenditures for inspection, with public stockholding expenditures responsible for much of the remainder.

Figure 12.4. Iceland: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The objective of Iceland's agricultural policy is to maintain and strengthen a diverse agricultural sector to the extent that physical and marketing conditions allow. The key goals are to: meet domestic demand where realistically possible; maintain sustainable production of high-quality, healthy products; improve efficiency and competitiveness; improve farmers' incomes; improve creativity and create job opportunities; and sustain livelihoods in rural areas.

Agricultural policies in Iceland are based on two legal instruments. First, the policy concerning production and marketing of agricultural products (laid out in the Act on the Production, Pricing and Sale of Agricultural Products No. 99/1993) establishes objectives for Iceland's agricultural policy and provides the framework for Icelandic agriculture and its regulation. Second, policies on the provision of support to farm construction projects, livestock improvement and extension (advisory) service (laid out in Act on Agriculture No. 70/1998).

The government negotiates with the Farmers' Association concerning the general framework for support and production control in the cattle, sheep and horticultural sectors. There is also an agreement on so-called horizontal support, such as advisory services, breeding, animal welfare, environmental protection, sustainable land management, organic farming and land cultivation. The current agreements cover 2017-2026, with extensive reviews in 2019 and again in 2023. Changes in 2019 to the agreements for sheep farming and cattle entered into force on 1 January 2020. In 2020, the agreements on horticulture and the framework agreement (horizontal support) of agriculture were revised. All entered into force on 1 January 2021.

Iceland's agricultural support comes through price support (maintained by border measures), and direct payments based on payment entitlements coupled with production factors. Price support is provided for all livestock products and some horticultural products. Direct payments are provided to cattle (mainly dairy) and sheep producers, and on a smaller scale, to certain greenhouse producers.

For dairy, direct payments depend on the size of a producer's quota and the current number of animals. Headage payments are provided for up to 180 dairy cows and 260 beef cows per farm, with full payment for each of the first 50 dairy cows and 200 beef cows, then at a declining rate for each additional cow. The Ministry of Fisheries and Agriculture sets a national dairy production quota divided among producers based on their annual quotas for the preceding year. Annual dairy quotas also determine entitlements for direct payments. Production in excess of quotas is permitted, provided all such production is for export. Wholesale prices are regulated for approximately half of all dairy products based on the volume of raw milk required. A government-chaired committee representing both the Farmers' Association and the labour union (acting on behalf of consumers) determines guaranteed minimum prices for milk delivered within production quotas on an annual basis. Trade in support entitlements (basic payments to all active dairy and cattle farmers) between entitlement holders is allowed with quantity limitations and takes place in a market operated by the government. Dairy producers also benefit from support for breeding, land cultivation and development programmes.

For sheep, direct payments link to entitlements based on historical production. However, eligibility to receive full payments requires keeping a minimum number of winter-fed sheep on the farm. Additional payments to sheep farmers relate to a quality-control scheme for lamb meat based on animal welfare, product quality, traceability and sustainability criteria. Premium payments are provided at the wholesale level for purchasers of wool, and to farmers to co-operate in increasing added value for sheep products.

Imports of meat, dairy products, and some vegetables that compete with domestic production are subject to tariffs, often compound duties with an ad valorem component of 30% and a specific duty that varies from ISK 5/kg (USD 0.04/kg) to ISK 1 462/kg (USD 2/kg). However, products originating in partner countries of the European Economic Area (EEA) or in one of the 41 countries with which Iceland has free trade agreements may carry lower tariffs. The agreement for the cattle sector includes a provision to change the specific duties for certain cheese and milk powder products based on changes in the SDR/ISK[1] exchange rate from 1995 to 2016, effective 1 March. Since then, the specific component was adjusted annually to the 12-month evolution of SDR/ISK.

Concerning Iceland's commitments under the Paris Agreement on Climate Change, according to its Nationally Determined Contributions (NDC) submitted to the UNFCCC, Iceland aims to be part of European countries' collective 40% reduction in GHG emissions compared to 1990 levels by 2030. A precise commitment for Iceland within this collective delivery is yet to be determined and depends on agreement with the European Union and other countries. Iceland's participation in the EU Emissions Trading System will be key in this regard, considering that almost half of Iceland's emissions would be regulated through this scheme. In December 2020, Iceland's prime minister introduced a new target of 55% reduction in GHG emissions by 2030. The government plans to make the economy largely carbon neutral by 2040.

Iceland is a member of the European Economic Area (EEA) and of the European Free Trade Association (EFTA). While the EEA Agreement does not apply to most trade in agricultural goods, it opens trade in several processed agricultural products and encourages bilateral agreements on primary commodities.

As a member of EFTA, Iceland is also party to several free trade agreements, including with countries in Southeast Europe, North Africa and the Middle East, Latin America, and Asia, as well as with the South African Customs Union. In addition, Iceland has bilateral Free Trade Agreements with the Faroe Islands, Greenland, and the People's Republic of China.

Domestic policy developments in 2020-21

Revisions of the agreement on the operating environment for **horticultural** producers and the **agricultural framework agreement** (horizontal support) of agriculture took place in 2020.

As part of the revision in the horticultural agreement, the government's annual contribution has increased by 29% or ISK 200 million (USD 1.6 million) in 2020 and is valid until the year 2026. Increased funding was

secured for adaptation to organic production in horticulture and for subsidising electricity transmission and distribution costs. Objectives were set that Icelandic vegetable production will increase by 25% over the next four years to increase the market share of domestic production and that Icelandic horticulture will be carbon neutral by 2040. In addition, an agricultural dashboard is to be established to provide an overview of production, sales and supplies in the country.

The revision of the agricultural framework agreement includes a goal of carbon neutral agriculture by 2040 and increased emphasis on environmental issues and climate change. The agreement states that elements of a new agriculture policy for the future would be the foundation for fundamental changes in the next revision process anticipated in 2023.

In Iceland's 2020 **Climate Action Plan** five actions are planned for agriculture. The actions include improved utilisation and handling of fertilisers by reducing the use of mineral fertilisers, improved livestock feeding to reduce enteric fermentation, increased domestic vegetables production, carbon neutrality in cattle breeding and implementing a project called Climate-Friendly Agriculture where farmers receive comprehensive advice and education with the aim of reducing GHG emissions from agriculture and from land use. The project started in February 2020 and continues with new participants in 2021.

In October 2019, the European Union, Iceland and Norway formally agreed to extend, for the period 2021-30, their climate co-operation by including the Effort Sharing Regulation and the Regulation on greenhouse gas emissions (GHG) and removals from land use, land use change and forestry (the LULUCF-regulation), into the EEA Agreement. According to the agreement, Iceland is to fulfil its respective GHG emission reduction target for the period 1 January 2021 to 31 December 2030 in accordance with the ETS-directive, LULUCF-Regulation and the Effort Sharing Regulation.

The Minister of Fisheries and Agriculture and the rector of the Agricultural University of Iceland signed an agreement in February 2020 for the years 2020-23. According to the agreement, the university will work on projects concerning research, development, and innovation in the field of agriculture and food production. The university also advises the Ministry and conducts research, innovation and development activities in agriculture and environmental sciences in the fields covered by the agreement.

The Minister of Fisheries and Agriculture and *Matís* (Icelandic Food and Biotech R&D) signed two new agreements in 2020: i) a service agreement to ensure security services in the field of food research for the benefit of Icelanders; and ii) an agreement to strengthen *Matís* operations in rural areas.

Matvælasjóður (The Food Fund) was established in 2020 by merging the Agricultural Productivity Fund and the AVS Fisheries Research Fund. Its main objective is to strengthen development and innovation in production and processing of food from agriculture and fisheries. The fund will support value creation in the production, processing and marketing of food, with due emphasis to be placed on innovation, sustainability and the competitiveness of Icelandic food sector. An amount of ISK 480 million (USD 3.7 million) was allocated from the fund in December 2020 to 62 different projects.

Work is underway to formulate a comprehensive agricultural policy for Iceland for the years 2021-2040. The agricultural policy will be formulated in collaboration between the government, farmers and other stakeholders.

A ten-year food policy for Iceland was introduced in December 2020. The policy is intended to guide public decision-making to promote increased value creation in food production in Iceland, strengthen competitiveness of the Icelandic food sector, ensure food safety and security and increase people's well-being in harmony with the environment and nature.

The Minister of Fisheries and Agriculture and the Minister of Health established an Antibiotic Immunity and Zoonosis Fund in 2020. The purpose of the fund is to provide financing for projects related to the fight against antibiotic resistance. The fund is set up in accordance with an action plan on food safety and

protection of livestock and is a joint effort by the ministers to reduce the spread of antibiotic-resistant bacteria in Iceland.

Additional funding of ISK 500 million (USD 3.9 million) was provided to the *Bjargráðssjóður* Fund in 2020 due to unusual cold and fence damage during the winter of 2019-20. Its role is to provide financial assistance to individuals and companies to compensate for direct damage caused by natural disasters, including damage to fences and crop failure caused by unusual cold and drought.

Domestic policy responses to the COVID-19 pandemic

On 11 March 2020, the government presented an ISK 230 billion (8% of GDP) response package to the COVID-19 pandemic. Key measures to support households and firms include tax cuts, tax deferrals, increased unemployment benefits, one-off child allowances, support to companies whose employees have been quarantined, and state-guaranteed bridge loans to companies. Most of the larger measures presented by the government are applicable to the agro-food sector as well as other sectors.

More specific measures related to the agro-food sector include the following:

- Increased funding for the development of the horticultural sector.
- Specific one-time support for sheep farmers and cattle farmers during income decrease related to fall in demand.
- Increased advisory services provided to farmers to meet the challenges faced due to COVID-19.
- Ensuring salaries for temporary workers to assist farmers who are unable to take care of their farms due to COVID-19 illness.
- Transfer of funds in accordance with existing agricultural agreements to specifically address domestic food producers currently facing temporary difficulties due to COVID-19.
- Development of a dashboard for agriculture to improve the presentation of data on agricultural production, stocks and production forecasts.
- Authorisation for cultivating industrial hemp in order to increase value creation in Icelandic agriculture.

Trade policy developments in 2020-21

Following the new Agreement on the European Economic Area (EEA Agreement) on trade in agricultural products and the gradually increasing tariff quotas, the Minister of Fisheries and Agriculture appointed a committee to work on proposals for changes of the regulatory framework for agricultural trade in order to reduce costs for importers of agricultural products and to simplify the system. As a result, several legal changes – mainly in the system of tariff quotas allocation and the elimination of tariff duties on certain vegetables, flowers, wild game and fertile eggs for the year or a certain period during the year, depending on the product – took effect at the beginning of 2020.

A Contingency Trade Agreement between Iceland and the United Kingdom entered into force on 1 January 2021. The aim of the agreement is to maintain current tariff preferences for trade in goods, including agro-food between the parties as previously applicable according to the EEA Agreement and other related trade agreements. The Contingency Agreement is intended to serve as a bridge arrangement until a new and comprehensive Free Trade Agreement can enter into force between the parties. Iceland is currently negotiating a comprehensive free trade agreement with the United Kingdom along with EEA EFTA partners Norway and Liechtenstein. The negotiations are expected to be completed in 2021. As a member of EFTA, Iceland is also engaged in negotiations with several other countries regarding free trade agreements. Iceland and its EFTA partners revised their chapter on trade and sustainable development, which now includes an article on trade and sustainable agriculture and food systems

According to new legislation that entered into force on 1 January 2020 on the protection against animal diseases, imports of fresh meat and meat products, raw eggs and raw egg products, and unpasteurised milk and dairy products processed from unpasteurised milk from EEA member states, do no longer require the permission of the Food and Veterinary Authority.

Contextual information

Iceland is a small, sparsely populated country with a GDP per capita above the OECD average. Agriculture (excluding fish) is a relatively small part of the economy, representing 1% of GDP and of employment, and it remains small compared to fishing and aquaculture. Conditions for agriculture in Iceland are limited by the country's geographical conditions. The growing season is short – around four months – yields are low, and production and transport costs are high. The range of agricultural products is limited and meets approximately 50% of total domestic food requirements. Approximately one-fifth of the total land area of Iceland is agricultural land, mostly suitable for fodder production and livestock raising. Only around 6% of agricultural land area is arable land.

Livestock-rearing is the main farm activity, with milk and sheep meat being the most important products. Traditional livestock production is grassland-based and most farm animals are native breeds. The main crops are hay, cereals for animal feed and vegetables – the latter are cultivated primarily in greenhouses heated with geothermal energy. The main agricultural exports are pure-bred horses for breeding, sheep meat products and fur skins. Iceland is a net importer of agricultural products (excluding fishery goods), mainly for final consumption. Imports are more diversified than exports, and have increased steadily in recent years.

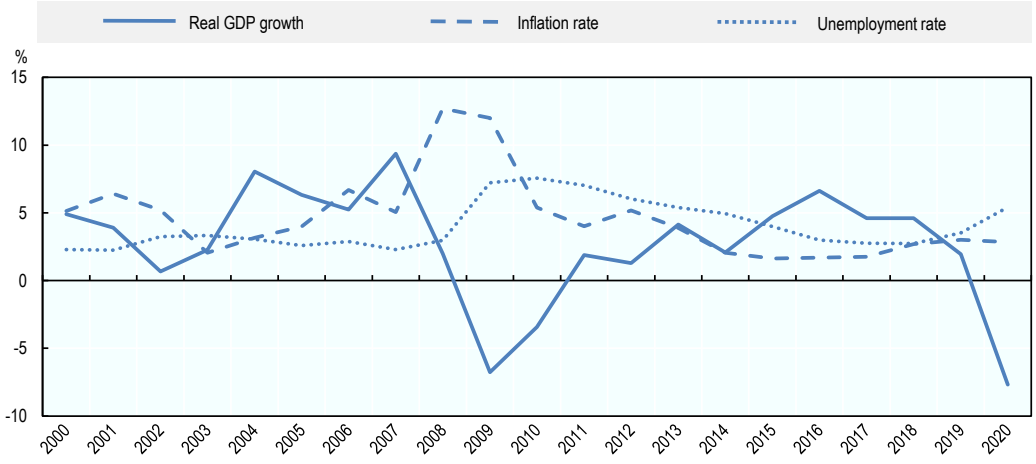
Iceland's economy is set to contract by almost 8% in 2020 (OECD, 2020[1]). The unemployment rate remains low, at around 3%, and the country is one of the most egalitarian economies of the OECD. Iceland's prosperity has been built on the sustainable management of its abundant natural resources, including the comprehensive fisheries management system based on individual transferable quotas, renewable energy (geothermal and hydro) and carbon sequestration opportunities (afforestation, revegetation).

Table 12.3. Iceland: Contextual indicators

	Iceland		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	8	22	0.02%	0.02%
Population (million)	0.3	0.4	0.01%	0.01%
Land area (thousand km²)	100	101	0.12%	0.12%
Agricultural area (AA) (thousand ha)	1 889	1 872	0.06%	0.06%
			All countries[1]	
Population density (inhabitants/km²)	3	4	53	63
GDP per capita (USD in PPPs)	29 718	60 180	9 265	21 975
Trade as % of GDP	25	24	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	8.1	5.0	2.9	3.5
Agriculture share in employment (%)	8.3	4.0	-	-
Agro-food exports (% of total exports)	7.9	4.5	6.2	7.3
Agro-food imports (% of total imports)	7.3	9.9	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	13	15	-	-
Livestock in total agricultural production (%)	87	85	-	-
Share of arable land in AA (%)	7	6	32	34

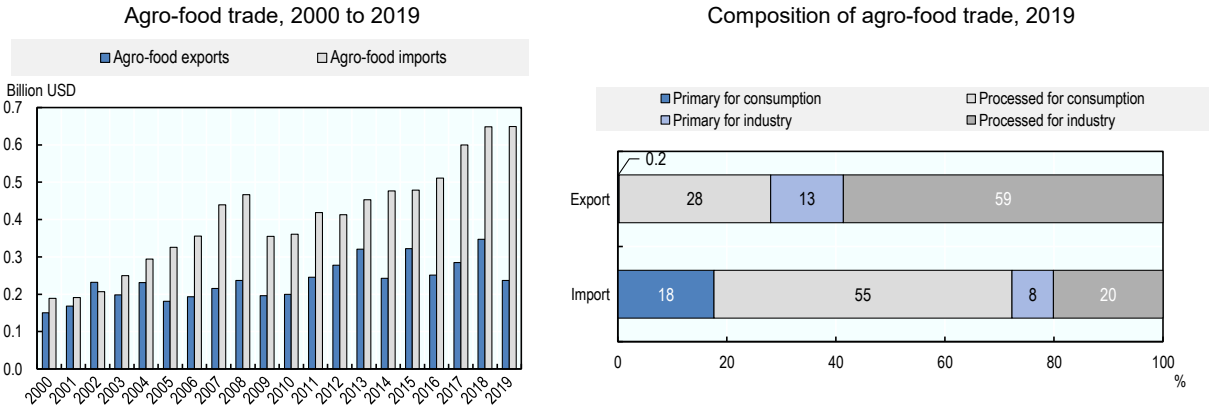
Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Figure 12.5. Iceland: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

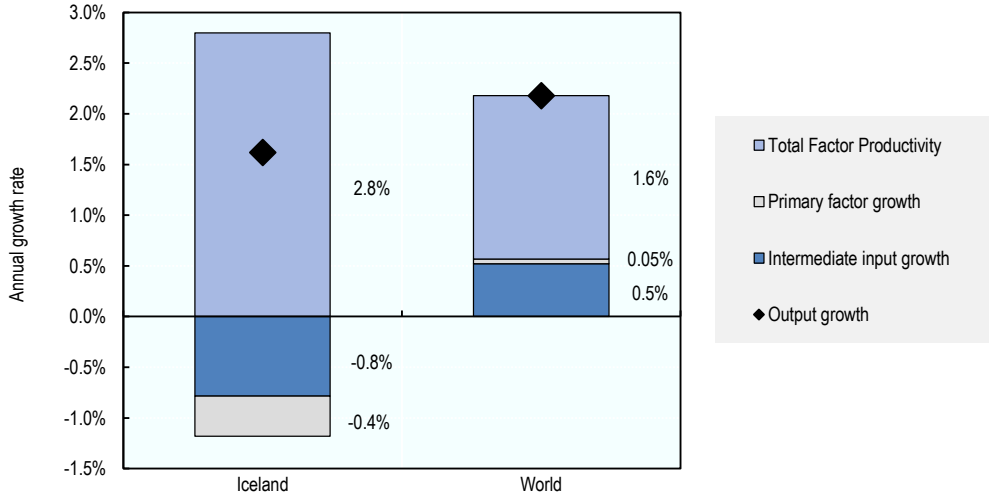
Figure 12.6. Iceland: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

While output growth in agriculture has been below the global average over the 2007-16 period, according to the estimates on agricultural TFP, agricultural total factor productivity has grown by 2.8% per year – higher than the global average rate of 1.6%. A harsh climate, lack of suitable land, small average farm size, and the narrow genetic base for traditional livestock present significant constraints to the sector. Due to relatively low livestock densities, Iceland's nutrient balances show a comparatively low surplus of both nitrogen and phosphorous. Iceland has the lowest pesticide sales per hectare in the OECD area and the sector's share of energy use has fallen over time. Agriculture continues to represent a significant share in the country's total GHG emissions – well above the OECD average – mainly due to the importance of the livestock sector. Emissions of CH_4 emissions from enteric fermentation and manure management, and N_2O emissions from manure management and fertilisers have historically accounted for over 99% of the total emissions from agriculture, with less than 1% arising from CO_2.

Figure 12.7. Iceland: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

The sector's share in water consumption has increased over the past twenty years and is higher than the OECD average. The water stress indicator has also increased, but is substantially lower than the OECD average. Water shortage is not a major concern and policy issue.

Table 12.4. Iceland: Productivity and environmental indicators

	Iceland		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	0.1%	2.8%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	8.0	7.7	33.2	28.9
Phosphorus balance, kg/ha	1.8	1.8	3.4	2.6
Agriculture share of total energy use (%)	1.9	1.3	1.7	2.0
Agriculture share of GHG emissions (%)	15.1	13.1	8.4	9.5
Share of irrigated land in AA (%)	..	..	-	-
Share of agriculture in water abstractions (%)	42.9	22.3	46.0	43.4
Water stress indicator	0.1	1.8	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

Reference

OECD (2020), *OECD Economic Outlook, Volume 2020 Issue 2*, OECD Publishing, Paris, https://dx.doi.org/10.1787/39a88ab1-en. [1]

Note

[1] SDR= Special drawing rights exchange rate.

13 India

Support to agriculture

Support to producers in India comprises budgetary spending corresponding to 8.6% of gross farm receipts, positive market price support (MPS) of +2.0% of gross farm receipts for supported commodities, and negative MPS of -17% for those that are taxed. Overall, this led to negative net support of -6.4% of gross farm receipts in 2018-20. Support to producers was negative throughout the last two decades but fluctuated markedly. The negative producer support estimate shows that domestic producers on average have been implicitly taxed, as budgetary payments to farmers did not offset the price-depressing effect of complex domestic marketing regulations and trade policy measures. Virtually all gross producer transfers (whether positive or negative) come in forms that are potentially most production- and trade-distorting, a consistent pattern since 2000-02.

Single commodity transfers (SCT) follow the MPS pattern and vary by commodity. Most commodities were implicitly taxed between 7.1% and 81.5% of commodity receipts in 2018-20. Commodities with positive SCTs – ranging between 0.3% and 36% of commodity receipts in the same period – include wheat, maize, sugar, chickpeas, other pulses and poultry meat.

Budgetary transfers to producers are dominated by subsidies for variable input use, such as fertilisers, electricity, and irrigation water. However, budgetary allocations to the direct income transfer programme, PM-KISAN, have increased since its implementation in 2018.

In turn, public expenditures financing general services to the sector (GSSE), principally for infrastructure-related investments, are only half the level of subsidies for variable input use. At 4% in 2018-20, expenditure for GSSE relative to agriculture value-added increased compared to 2000-02.

Mirroring the farm-price-depressing effect on producers throughout the period covered, policies provide implicit support to consumers. Policies that affect farm prices, along with increased food subsidies under the Targeted Public Distribution System during the COVID-19 pandemic, reduced the costs for consumers with a consumer support estimate of 28.8% of expenditure on average across all commodities in 2018-20. Total budgetary support (TBSE) is estimated at 3.3% of GDP in 2018-20, contributing to an overall positive total support estimate (TSE) of 0.6% of GDP.

Recent policy changes

The most important new programmes and reforms came in the context of the COVID-19 economic support package of May 2020. New programmes include several schemes to support credit, on-farm services, infrastructure and other general services. The new Agriculture Infrastructure Fund supports farmers, farmer producer organisations (FPO) and agri-businesses, mainly through interest subsidy to credits for the set-up of post-harvest infrastructure such as cold storage, collection centres, and processing units.

Key reforms relate to three acts allowing farmers to sell their products outside of government-regulated markets. These remove limits on private stocking, trading or buying of commodities to promote barrier-free

inter and intra-state trade of agricultural commodities: (1) the Essential Commodities (Amendment) Act; (2) the Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act; and (3) the Farmers' (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act. However, in mid-December 2020, India's Supreme Court suspended implementation of the acts and mandated the creation of an expert committee to consult with farmer groups before proceeding.

Support to consumers in response to COVID-19 included distribution of an additional 5 kg of food grains per person and 1 kg of pulses per household per month between April and November 2020, targeting urban and rural poor, including migrant workers.

In May 2020, the state government of Haryana restricted cultivation of rice in eight district blocks with severe water scarcity. Under a crop diversification programme, the state government decided to shift 100 000 ha of rice area to other crops, primarily maize, millet and pulses, to be procured at minimum support prices.

India banned exports of all varieties of onions between 13 September and 31 December 2020 to curb domestic supply shortages. In October 2020, India also imposed stock holding limits for retailers and wholesalers until end-2020.

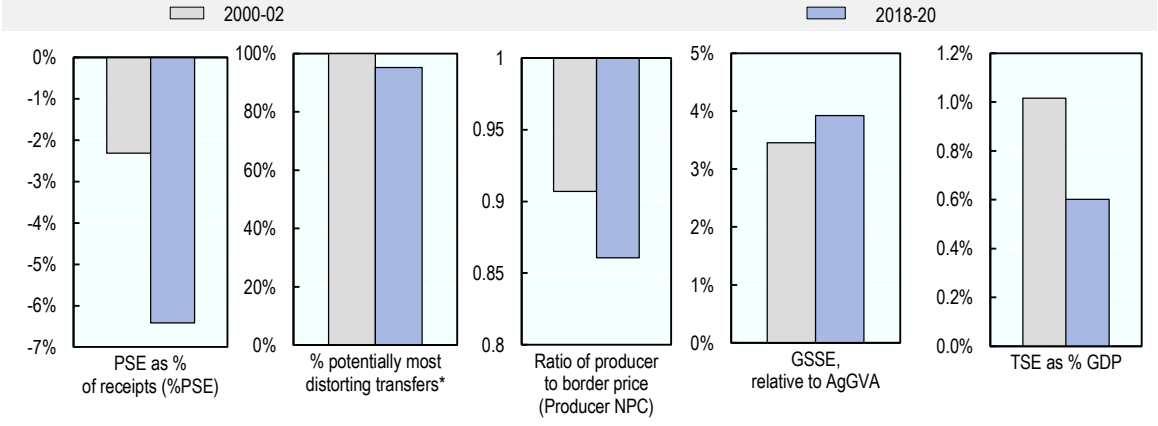
Starting in May 2020, the Animal Quarantine and Certification Services (AQCS) in the Ministry of Fisheries, Animal Husbandry and Dairying, and in co-operation with the Customs authority, relaxed certain requirements in sanitary certificates and promoted processing of trade documents through the trade Single Window. This aimed to streamline border processes for imports of selected agro-food products, including milk and dairy products.

Assessment and recommendations

- Due to a combination of restrictive domestic marketing policies and border measures, for many products and over most of the period reviewed, Indian farmers have been receiving prices lower than those prevailing on international markets. The central government should work closely with states and Union Territories (UTs) in implementing the domestic marketing reforms initiated in 2020 in the context of COVID-19. This can build on progress already made by many states through the electronic National Agricultural Market (e-NAM) set up in 2016 and the 2017 model Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act. Marketing reforms should be adopted in a harmonised and consistent way across states and synchronise through coherent plans with reforms to the minimum support price system. Marketing reforms can foster more efficient markets and competitive agro-food supply chains across states. They need to be complemented, however, with investments in infrastructure, marketing, training and other general services to agriculture for farmers to reap the benefits in productivity and income. Several programmes initiated during the COVID-19 pandemic, and the earmarked budgetary allocations for rural infrastructure in the 2021 Union Budget, are positive steps in this direction.
- The large share of employment in agriculture compared to its GDP contribution reflects the persistent productivity gap with other sectors and translates into low farm incomes. In the short to medium term, direct cash transfers to incomes of the poorest farmers can support their livelihoods as well as the adjustment to new market conditions. Such developments were enhanced through the direct income transfer programme PM-KISAN. In the long term, significant structural adjustments need to occur in a post-COVID-19 environment, including the transition of farm labour to other activities and consolidation towards sufficiently large farm operations to benefit from economies of scale. Policies need to facilitate this transition and continued reforms in land regulations need to be complemented by investments in key public services to the sector (such as education, training and infrastructure) and the broader enabling environment (including financial services).

- India is an important exporter in a number of agro-food markets. The Agricultural Export Policy (AEP) framework adopted in 2018 was important to reduce uncertainty and transaction costs throughout supply chains, as it helps avoid export restrictions on organic and processed agricultural products. However, recent export restrictions on products such as onions directly affect India's reliability as a supplier and exacerbate farm revenue losses. An extension of the AEP to avoid export restrictions on any agro-food products should be considered to create a stable and predictable market environment.
- Further reducing tariffs and relaxing other import restrictions is also key for a predictable market environment, to exploit imports' potential to contribute to diversification of diets, and to improve food security across all its dimensions. Together with domestic marketing reforms, moving away from export and import restrictions can provide farmers and private traders with incentives to invest in supply chains.
- India's Nationally Determined Contribution (NDC) includes an economy-wide emission intensity reduction target, but no sector-specific targets. Policy efforts to mitigate greenhouse gas (GHG) emissions in agriculture concentrate around pilot projects for lower methane emission rice production, increased fertiliser efficiency, and soil health improvement. Possible savings from continued back-scaling of variable input subsidies (fertiliser, irrigation water and electricity) could be applied to train farmers to use such inputs more efficiently and sustainably by ensuring that extension systems focus on climate change, sustainability and digital skills. Rebalancing the support portfolio towards more investments in the agricultural knowledge system and knowledge transfer through FPOs is also needed to ensure sustained and sustainable productivity growth.
- India made significant progress in recent years in eliminating inefficiencies in the food distribution system, and these efforts should continue. The government of India should continue the experimental replacement of physical grain distribution by direct cash transfers, and expand and adjust in light of experiences gained.

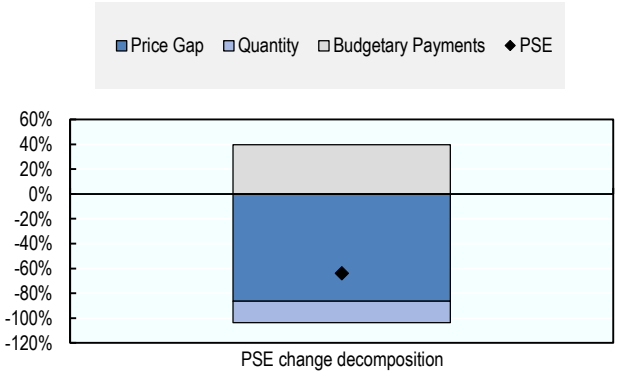
Figure 13.1. India: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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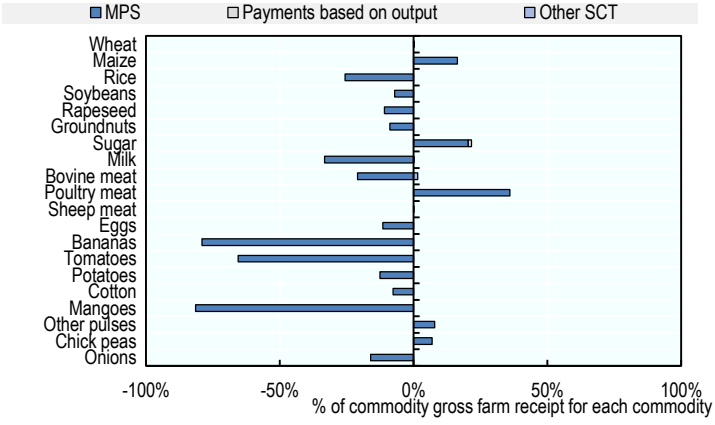
Figure 13.2. India: Drivers of the change in PSE, 2019 to 2020



Note: The producer price change and the border price change are not calculated when the negative price gap occurs at the commodity level for the current or previous year.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/czmitd

Figure 13.3. India: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/n7egi0

Table 13.1. India: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**112 282**	**444 342**	**451 265**	**451 094**	**430 666**
***of which:** share of MPS commodities (%)*	64.8	72.8	69.6	72.7	76.1
Total value of consumption (at farm gate)	**109 060**	**365 980**	**372 836**	**372 928**	**352 176**
Producer Support Estimate (PSE)	**-2 709**	**-31 021**	**-33 128**	**-23 460**	**-36 477**
Support based on commodity output	-11 243	-71 569	-65 552	-64 676	-84 481
Market Price Support[1]	-11 243	-71 737	-65 606	-64 967	-84 639
Positive Market Price Support	3 583	9 286	7 871	13 092	6 896
Negative Market Price Support	-14 827	-81 023	-73 476	-78 059	-91 535
Payments based on output	0	168	54	292	158
Payments based on input use	8 519	34 776	31 324	33 922	39 082
Based on variable input use	8 519	34 277	30 766	33 457	38 609
with input constraints	0	0	0	0	0
Based on fixed capital formation	0	432	450	426	419
with input constraints	0	0	0	0	0
Based on on-farm services	0	67	107	38	54
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	0	0	0	0
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	0	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	5 285	178	6 930	8 747
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	5 285	178	6 930	8 747
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	15	487	923	364	174
Percentage PSE (%)	**-2.3**	**-6.4**	**-6.8**	**-4.8**	**-7.6**
Producer NPC (coeff.)	**0.91**	**0.86**	**0.87**	**0.88**	**0.83**
Producer NAC (coeff.)	**0.98**	**0.94**	**0.94**	**0.95**	**0.93**
General Services Support Estimate (GSSE)	**3 526**	**16 405**	**16 260**	**16 110**	**16 846**
Agricultural knowledge and innovation system	402	1 310	1 326	1 354	1 251
Inspection and control	25	387	340	429	391
Development and maintenance of infrastructure	2 021	13 626	13 516	13 204	14 158
Marketing and promotion	14	80	85	59	94
Cost of public stockholding	1 044	994	989	1 049	945
Miscellaneous	21	8	4	14	6
Percentage GSSE (% of TSE)	**..**	**..**	**..**	**..**	**..**
Consumer Support Estimate (CSE)	**14 692**	**95 848**	**79 094**	**76 040**	**132 410**
Transfers to producers from consumers	10 856	64 804	60 792	58 570	75 050
Other transfers from consumers	-224	734	2 279	-78	0
Transfers to consumers from taxpayers	4 222	30 380	16 061	16 932	58 148
Excess feed cost	-163	-70	-37	615	-788
Percentage CSE (%)	**14.1**	**28.8**	**22.2**	**21.4**	**45.0**
Consumer NPC (coeff.)	**0.91**	**0.85**	**0.86**	**0.86**	**0.82**
Consumer NAC (coeff.)	**0.88**	**0.78**	**0.82**	**0.82**	**0.69**
Total Support Estimate (TSE)	**5 040**	**15 764**	**-807**	**9 581**	**38 516**
Transfers from consumers	-10 632	-65 538	-63 071	-58 493	-75 050
Transfers from taxpayers	15 896	80 568	59 985	68 152	113 567
Budget revenues	-224	734	2 279	-78	0
Percentage TSE (% of GDP)	**1.0**	**0.6**	**0.0**	**0.3**	**1.5**
Total Budgetary Support Estimate (TBSE)	**16 283**	**87 501**	**64 799**	**74 549**	**123 155**
Percentage TBSE (% of GDP)	**3.3**	**3.3**	**2.4**	**2.6**	**4.9**
GDP deflator (2000-02=100)	**100**	**272**	**266**	**274**	**278**
Exchange rate (national currency per USD)	**47.26**	**71.56**	**69.85**	**70.48**	**74.37**

.. Not available

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for India are: wheat, maize, rice, soybean, rapeseed, groundnuts, chick pea, other pulses, potatoes, onion, tomatoes, mango, bananas, sugar, cotton, milk, bovine meat, sheep meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Food security was an important objective of agricultural and trade policy since India's independence in 1947. Food shortages in the early 1960s made crop productivity and farm output a key policy ambition. Although scope to further expand the area under cultivation was limited, the advent of the "green revolution" in the mid-1960s raised crop productivity through improved technologies and seed varieties. This was accompanied by expanded extension services and increased use of fertilisers, pesticides, and irrigation.

The government of India introduced several marketing regulations affecting the sale, stocking and trading of agricultural commodities. The Essential Commodities Act (ECA) introduced in 1955 provided for the control of production, supply, distribution, and pricing of essential commodities. During the 1960s and 1970s, most states also enacted and enforced Agricultural Produce Markets Regulation (APMR) Acts, with the first point sale of agriculture produce occurring at regulated market yards (*mandis*) under the ambit of Agricultural Produce Market Committees (APMC). Two institutions key to prices and distribution of wheat and rice were set up in 1965, namely the Food Corporation of India (FCI) and the Agricultural Prices Commission, later renamed the Commission for Agricultural Costs and Prices (CACP). The complex domestic marketing regulations and border measures increasingly penalised producers through gaps between international prices and those received by Indian farmers.

In the 1970s, government programmes encouraged increased production and processing of milk at three different levels: (1) at the farm-level, dairy farmers were organised into co-operatives and provided with advanced technologies, such as modern animal breeds that produced more milk; (2) at the district level, co-operative unions formed, which owned and operated milk processing plants as well as storage and transport equipment, and also provided animal health services; (3) at the state level, state federations conducted and co-ordinated the nation-wide marketing of milk. Government funding for agricultural research and extension increased, and many State Agricultural Universities (SAU) were set up. Institutional lending to farmers expanded by directing commercial banks (nationalised from 1969) to provide credit to agriculture. New financial institutions were established, such as the National Bank for Agriculture and Rural Development (NABARD) in 1982 and regional rural banks. Import competition was highly restricted in order to allow domestic agricultural production to increase.

In the 1980s and 1990s, yield-enhancing "green revolution" techniques expanded to additional regions and crops such as pulses, oilseeds and coarse grains. Policy reforms were carried out in the rest of the economy, such as delicensing[1] and deregulation in the manufacturing sector, but they largely bypassed agriculture, partly because of the prevalence of state regulations in agriculture. From 1980 to 1999, budgetary support to agriculture increased more than tenfold.

The National Agricultural Policy (NAP), formulated in 2000, set a priority on cropping intensity on existing agricultural land, developing rural infrastructure that supports all rural activities and developing and disseminating agricultural technologies. The National Policy for Farmers (NPF), approved in 2007, identified a need to focus more on the economic well-being of farmers rather than just on production.

The eleventh five-year plan, covering 2007-12, focused on bringing technology to farmers, improving the efficiency of investments, and improving access for the poor to land, credit and skills as well as addressing water management concerns. The twelfth five-year plan, for 2012-17, was articulated around expenditure on agriculture and on infrastructure along with an aim to improve the functioning of markets, more efficient use of natural resources, and governance in terms of institutions delivering services such as credit and animal health.

The 2012-17 plan took forward the Targeted Public Distribution System (TPDS) reforms that started in 1997. The plan recognised the need to reduce TPDS leakages (the grain released from government stocks for distribution under the PDS that did not reach beneficiaries) and suggested redirecting some food

subsidies to other welfare schemes in order to achieve better targeting towards the poor, moving towards policies that are specific to individual states or areas, and redefining "poor" for the purpose of the TPDS. The 2013 National Food Security Act (NFSA) further addresses these concerns.

As of 2018, five-year plans were replaced by a framework of three-year action agendas, prepared by the National Institution for Transforming India (NITI Aayog, the erstwhile Planning Commission of India) a policy think-tank of the government of India). In 2016, the central government set the target of doubling farmers' income by 2022-23. The central government approved the Agriculture Export Policy framework in December 2018 with the objectives of doubling agricultural exports by 2022-23 and boosting the value-added of agricultural exports.

Concerns around highly fragmented markets, inadequate physical marketing infrastructure, insufficient remuneration to farmers and high intermediation costs led the central government to suggest gradual amendments to marketing regulations under the Agricultural Produce Market Committee (APMC) Acts in 2003, 2007 and 2017. While shared with state governments as a recommendation for adoption, implementation of agricultural marketing reforms remained highly differentiated across India's states. In June 2020, the government initiated reforms to domestic agricultural marketing regulations as part of the COVID-19 support package.

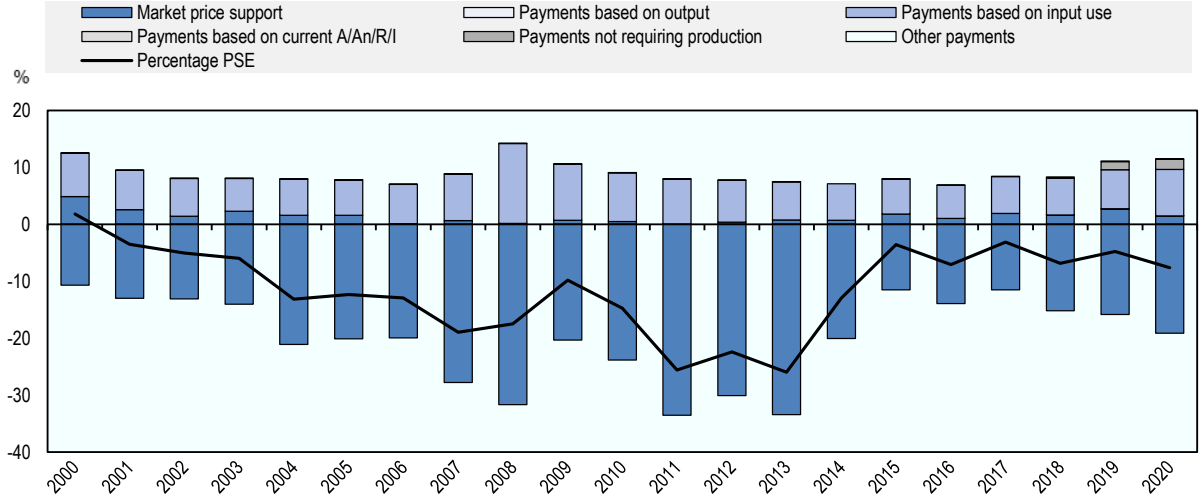
Table 13.2. India: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
1950-1965	Expansion of agricultural area main source of output growth	Agrarian reforms (abolition of intermediary landlordship, imposition of land ceiling acts) Strengthening of co-operative credit institutions Essential Commodities Act 1955
1965-1980	Increase in productivity main source of growth	Develop pathways for the adoption of technological breakthroughs in rice and wheat production Policy support for marketing, research and credit Introduction and formalisation of lending to priority sectors, including agriculture New institutions, e.g. State Agricultural Universities, Food Corporation of India, Agricultural Prices Commission Programmes to increase production and processing of milk (support to breeds producing more milk, producer organisations, and processing and transport equipment) Minimum support prices
1980s	Widespread use of technology in major crop areas	Some delicensing and deregulation Increase in subsidies to agriculture
1990s	Economic and trade liberalisation in agriculture lags behind general economic reforms	Cautious relaxation of trade protection in some products, e.g. sugar, cotton, edible oils, wheat, rice Increases in input subsidies Targeting of beneficiaries of public distribution system of food grains
2000s	Demand-driven shift towards producing more fruit, vegetables and livestock Increasing price gaps between international and domestic prices for producers	Alternate tightening and loosening of market and trade regulations (including export restrictions) Agricultural marketing regulations influencing pricing, procuring, stocking, and trading of commodities Large increases in input subsidies, including credit Support to high productivity seeds particularly cotton
Since 2010	Major participant in world markets for some commodities Remaining price gaps between international and domestic prices taxing producers Increasing support to consumers	More structured interaction between central and state level authorities Expansion of food subsidies Agriculture Export Policy framework aimed at ensuring processed and organic products are not subject to export restrictions Direct income transfer programme PM-KISAN Changes to domestic agricultural marketing regulations initiated as part of COVID-19 economic support package

Over the past two decades, producer support was composed of negative market price support (MPS), and budgetary allocations, including almost exclusively input subsidies. India's percentage PSE fluctuated markedly, registering a high of zero in 2000, a low of -31% in 2007, followed by large swings before stabilising in recent years (Figure 13.4). These variations were driven primarily by changes in the relative levels of domestic and international prices underlying MPS, while input subsidies followed a more steadily increasing trend. The particularly large absolute size of negative MPS in 2011-13 (and to some extent in 2007 and 2008) coincides with periods of high international commodity prices not or only partially transmitted to the domestic market, due at least in part to India's use of export-impeding measures. (For example, export restrictions or export bans applied in several of those years to wheat, non-basmati rice, certain chickpeas, sugar and milk.) The negative value of the PSE reflects that, on average, domestic producers were implicitly taxed, as the increasing budgetary payments to farmers did not offset the price-depressing effect of complex domestic regulations and trade policy measures. Absolute levels of producer support became less negative since 2018, largely driven by higher budgetary allocations to the direct income transfer programme PM-KISAN.

Figure 13.4. India: Level and PSE composition by support categories, 2000 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Policies directly relating to agriculture and food in India consist of six major categories: (1) managing prices and marketing channels for many farm products; (2) making variable farm inputs available at government-subsidised prices; (3) providing general services for the agricultural sector as a whole; (4) making certain food staples available to selected groups of the population at government-subsidised prices; (5) regulating border transactions through trade policy; and more recently, (6) a farmer welfare focus through the income support scheme PM-KISAN. In addition, environmental measures concerning agriculture have gained prominence (OECD/ICRIER, 2018[1]; ICRIER, 2020[2]; Gulati, Kapur and Bouton, 2020[3]).

States have constitutional responsibility for many aspects of agriculture, but the central government plays an important role developing national approaches to policy and providing the necessary funds for implementation of programmes at state level. The central government (Union Cabinet) is responsible for some key policy areas, notably international trade policies, and for implementation of the National Food Security Act (NFSA) of 2013.

Policies that have been governing the **marketing of agricultural commodities** in India – from the producer level to downstream levels in the food chain – include the national Essential Commodities Act (ECA) and the state-level APMC Acts. Through these acts, producer prices are affected by regulations influencing pricing, procuring, stocking, and trading of commodities. Farmers bring their produce to sell in regulated wholesale markets (or *mandis*). This infrastructure is also used by governments to procure under the minimum support price system. Differences exist among states in the status of their respective APMC Acts and in how these acts are implemented.[2] The electronic portal (electronic National Agricultural Market, e-NAM) set up in 2016 and the 2017 model Agricultural Produce and Livestock Marketing (Promotion and Facilitation) Act were shared with state governments as a recommendation for adoption.[3] In June 2020, changes to domestic agricultural marketing regulations were initiated as part of the COVID-19 economic support package.

Based on the recommendations of the CACP, the central government establishes a set of **minimum support prices (MSP)** for 23 commodities each year. The CACP recommends the MSPs based on the India average costs of production at two levels: actual paid out costs of production (A2); and the imputed value of family labour. State governments can also provide a bonus payable over and above the MSP for some crops. National and state-level agencies operating on behalf of the Food Corporation of India (FCI) can buy wheat, rice and coarse grains as well. A number of other agencies can buy pulses, oilseeds and cotton at MSP – including through the *Pradhan Mantri Annadata Aay Sanrakshan Yojna* (PM-AASHA) programme introduced in 2018 – and some horticulture commodities without MSP are also procured. However, procurement under the price support scheme effectively operates mainly for wheat, rice and cotton, and only in a few states.

The only **payments** based on output concern the sugar sector and were introduced in 2018. The payments support clearing of arrears for sugar cane delivered and are directly provided to sugar cane farmers.

On the input side, major policies enable agricultural producers to obtain farm inputs at subsidised prices. Policies governing the supply of fertilisers, electricity and water provide the largest **input subsidies**. Other inputs are also supplied at subsidised prices, including seeds, machinery, credit, and crop insurance. In recent years, state-level loan debt waivers increased significantly, with local governments compensating lending institutions for forgiving debt to farmers. More than 70% of agricultural loans are from financial institutions such as commercial banks, with the rest stemming from non-institutional sources (e.g. moneylenders) (Reserve Bank of India, 2019[4]).

The *Pradhan Mantri Kisan Samman Nidhi* (PM-KISAN) scheme provides an annual **direct income transfer** of INR 6 000 (USD 84) per farmer to all farmers with land titles. The unconditional payment does not require farmers to produce, and targets farmers' broad needs, from the purchase of inputs to needs unrelated to farming.

Programmes targeting the development and maintenance of infrastructure, particularly related to irrigation, attract the largest financial support within **general services** to agriculture. Budgetary support is also significant for public stockholding and for agricultural knowledge and innovation.

Public distribution of food grains operates under the joint responsibility of the central and state governments. The Targeted Public Distribution System (TPDS) operates under the NFSA in all states and UTs. Other Welfare Schemes (OWS) also operate under the NFSA. The central government allocates food grains to state governments and the FCI transports food grains from surplus states to deficit states. State governments are then responsible for distributing the food grain entitlements: allocating supplies within the

state, identifying eligible families, issuing ration cards, and distributing food grains mainly through Fair Price Shops.

India's **Foreign Trade Policy**, formulated and implemented by the Directorate General of Foreign Trade (DGFT), is announced every five years, but reviewed and adjusted annually in consultation with relevant public agencies. Amidst the COVID-19 outbreak, in March 2020 the central government extended the application of the current Foreign Trade Policy 2015-20. India's Basic Customs Duty (BCD), also known as the statutory rate, is agreed at the time of the annual budget approval.

For several decades, India managed its agricultural exports through a combination of **export restrictions**, including export prohibitions, licensing requirements, quotas, taxes, minimum export prices,[4] and state trading requirements. The application or elimination of such restrictions can change several times per year, taking into account concerns about domestic supplies and prices.

Regarding export subsidisation in agriculture, the Agricultural and Processed Food Products Export Development Authority (APEDA), under the responsibility of the Ministry of Commerce and Industry (MOCI), in recent years provides financial assistance to exporters in the form of transport support.[5]

The 2018 **Agriculture Export Policy** framework includes three main areas for action. First, ensuring that processed agricultural products and organic products not be subject to export restrictions. Second, undertaking consultations among stakeholders and Ministries in order to identify the essential food security commodities to which export restrictions could still be applied under specific market conditions. Third, reducing import barriers applied to agricultural products for processing and re-exporting.

India ratified the **Paris Agreement on Climate Change** on 2 October 2016, with its Intended Nationally Determined Contribution (INDC) submitted a year earlier becoming its NDC. The NDC includes a commitment to reduce the emissions intensity of GDP by 33-35% below 2005 levels by 2030, but specifies that this commitment does not bind India to any sector-specific mitigation obligation (Climate Action Tracker, 2018[5]).

With regard to agriculture, India's NDC has a strong focus on climate change adaptation, as addressed in several of the central government's main programmes for agriculture (entitled "missions"). These include, among others, the National Mission for Sustainable Agriculture; the *Paramparagat Krishi Vikas Yojana* mission promoting organic farming practices; the *Pradhan Mantri Krishi Sinchayee Yojana* mission promoting efficient irrigation practices; and the National Mission on Agricultural Extension & Technology.

Domestic policy developments in 2020-21

The most important domestic policy development during 2020 relates to the reforms initiated to domestic **marketing regulations** as part of the May 2020 COVID-19 economic support package (see details below in '*Domestic policy developments relating to COVID-19*').

The central government has been fast tracking the integration of the e-National Agriculture Market (e-NAM) with Farmer Producer Organisations (FPOs) and warehouses. Starting August 2020, e-NAM connects farmers, FPOs, traders and warehouses with the mobile application *Kisan Rath* listing transporters available for moving products from farm gate to wholesale markets. The new *E Gopala* app provides livestock farmers with information relating to cattle health and diet (ICRIER, 2021[6]).

The government set up a high-level committee in September 2020 to prepare a roadmap for improving the legal framework on land leasing, headed by the Secretary of the Department of Land Resources within the Ministry of Rural Development. The roadmap focuses on formalising lease arrangements and addressing ceiling restrictions on landholdings to allow small farmers to expand the size of their operational holdings. In addition, it aims to ensure that direct income transfers and other welfare benefits reach farm workers who do not own any land[6] (Economic Times, 2020[7]).

In June 2020, the central government increased the **minimum support price** (MSP) for several *kharif* crops (spring sown, winter harvested): for instance, the MSP was increased by 3% for paddy rice to INR 18 680 (USD 256) per tonne, by 5% for maize to INR 18 500 (USD 245) per tonne, and by 5% for soybeans to INR 38 800 (USD 514) per tonne. The MSPs for cotton medium and long staple were also increased by 5% to INR 55 150 (USD 756) per tonne and INR 58 250 (USD 798) per tonne, respectively.

In August 2020, the Fair and Remunerative Price for sugarcane was also increased for marketing year 2020/21 by 4% to INR 2 850 (USD 40) per tonne for a recovery rate of 10%. There was also an approved premium of INR 28.8 (USD 0.4) per tonne for higher productivity[7] (Government of India, 2020[8]).

In addition, in September 2020 the government raised MSPs for six *rabi* crops (winter sown, spring harvested). To encourage planting of pulses and oilseeds, the highest increases in the MSP were introduced for lentils by 6.3% to INR 5 100 (USD 70) per tonne, by 4.6% for chickpeas to INR 5 100 (USD 70), and by 5% for rapeseed and mustard to INR 4 650 (USD 64) per tonne. The MSP for wheat was increased by 2.6% to INR 1 925 (USD 26) per tonne (Government of India, 2020[9]).

In November 2020, the Ministry of Finance earmarked an additional INR 1.34 trillion (USD 18 billion) for **fertiliser** subsidies for 2020-21[8], in spite of a prior February 2020 government decision to reduce the fertiliser subsidies (AMIS, 2020[10]).

The government of India allocated in 2020 INR 2.8 billion (USD 38 million) for the formation and training of 10 000 FPOs. The 2021 Union Budget for the agricultural sector presented in February 2021 an amplified focus on **infrastructure**, with a 33% increase in the allocation to rural infrastructure development for 2021.

On **agri-environmental** policies, in May 2020, the state government of Haryana restricted the cultivation of rice in eight district blocks with severe water scarcity. Under its crop diversification programme, the state government decided to shift 100 000 hectares of rice area to other crops, primarily maize, millet and pulses that will be procured at MSP. Farmers shifting their production are provided with a payment of INR 7 000 per acre (USD 237 per hectare) of area under new crops (Down to earth, 2020[11]).

As of March 2021, 32 states and UTs implement the "**One nation, one ration card**" programme under the Targeted Public Distribution System. The "One nation, one ration card" programme aims to address the difficulties of migrant beneficiaries who often cannot access the subsidised food grain quota due to the change in residence for employment purposes. Other objectives of the programme are to better target beneficiaries and reduce leakage by biometric authentication of beneficiaries, as well as automation of Fair Price Shops (FPS) (Government of India, 2021[12]).

The **food subsidy** allocation increased from INR 1.15 trillion (USD 13 billion) in the 2020-21 budget estimate to INR 4.22 trillion (USD 48 billion) in the revised budget estimates, reflecting the additional cost of free food grain distribution in the wake of the COVID-19 pandemic (see details below), as well as the government's decision to pay the Food Corporation of India's (FCI) loans[9] and return to budgetary transfers to fund the food subsidy cost. The 2021 Union Budget also proposes to discontinue the National Small Savings Fund (NSSF) loan to FCI for food subsidy (The Hindu, 2021[13]).

On 30 November 2020, India announced it plans to achieve 20% ethanol-blending with gasoline (E20, i.e. 20% of ethanol mixed with 80% of gasoline) by 2025, five years ahead of its previous target set in 2019, to reduce its dependence on oil imports. To meet the new 2025 target, the government announced that 12 billion litres of ethanol would be needed, with 7 billion litres of ethanol produced from 6 million tonnes of surplus sugar and 5 billion litres of ethanol from excess grain. In addition, the government introduced an interest subsidy scheme of INR 45 billion (USD 626 million) to enhance the domestic ethanol distillation capacity from rice, maize, sorghum, wheat, and barley (Reuters, 2021[14]; AMIS, 2021[15]).

The government of India is setting up a common data infrastructure with information on all farmers in the country, integrating data from food subsidies recipients, the direct income transfer programme PM-KISAN, and the Soil Health Card (ICRIER, 2021[6]).

The National Bank for Agriculture and Rural Development (NABARD) earmarked INR 50 billion (USD 683 million) for 2021 for transforming Primary Agricultural Credit Societies (PACS) into multi-service centres or one-stop shops for receiving technical assistance (ICRIER, 2021[6]).

Domestic policy responses to the COVID-19 pandemic

In March 2020, the Ministry of Agriculture and Farmers' Welfare (MAFW) launched new features of the electronic National Agriculture Market (e-NAM) platform to address difficulties with physically travelling to APMC *mandis* markets for selling crops. The features included: (i) a warehouse-based trading module to facilitate trade directly from warehouses based on e-Negotiable Warehouse Receipts (e-NWR); (ii) a Farmer Producer Organisation (FPO) trading module whereby FPOs can trade their produce from their respective collection centre without bringing the produce to APMC markets (Government of India, 2020[16]).

Several measures were aimed at limiting transportation disruptions and delays in supply chains. For instance, on 25 March 2020, the Ministry of Home Affairs issued a notice information to states and UTs that transportation of animal feed and fodder was considered an essential service and would thus be exempted from any inter-state restriction under the 2005 Disaster Management Act (Government of India, 2020[17]). The relaxed norms for agriculture-related activities under the lockdown also allow for the inter-state movement of harvesting and sowing machinery (Times of India, 2020[18]). In addition, Indian Railways set up special railway parcel trains for the transportation of essential items, including food products, in small parcel sizes (Government of India, 2020[19]).

Central and state level governments have been making efforts to maintain the operation of distribution channels for fruit and vegetables. States such as Odisha set up 'vegetable counters' as an alternative channel of distribution in addition to providing support to small farmers for selling their produce in district and urban centres (Deccan Herald, 2020[20]).

In March 2020, the central government granted the 3% prompt repayment incentive (PRI) to all farmers for all short-term crop loans of maximum INR 300 000 (USD 3 938) which are due up to 31 May 2020, even if farmers fail to repay loans until this date (Government of India, 2020[21]).

Support to agriculture is also part of the May 2020 INR 18.3 trillion[10] (USD 250 billion) special **economic package** to recover from the COVID-19 pandemic and achieve a 'self-reliant' India. First, several of the economy-wide measures within the package such as easing the liquidity pressure for small enterprises or Non-Banking Financial Institutions (NBFI) also concern agri-businesses. Second, the specific **agro-food support package** within the overall May 2020 package has several components:

- fiscal support to migrant workers returning to rural areas
- fiscal support to consumers
- fiscal support to credit for farmers
- fiscal support to infrastructure and other general services programmes
- reforms to domestic **agricultural marketing regulations** to provide farmers with a better price discovery mechanism and to enhance private sector investment in supply chains.

The fiscal support to migrant workers backs the creation of new public works for migrants returning to rural areas from urban areas affected by the COVID-19 lockdown. The programme allocated INR 1.15 trillion (USD 16 billion) to the *Mahatma Gandhi National Rural Employment Guarantee Act* (MNREG), including payments covering working hours in rural infrastructure projects such as micro-irrigation systems.

Fiscal support for enhancing financial services includes INR 300 billion (USD 4 billion) for 30 million farmers, within the *Additional Emergency Working Capital for Farmers* implemented by the National Bank for Agriculture and Rural Development (NABARD). It also includes INR 2 trillion (USD 26.3 billion) of credit for 25 million farmers under the *Kisan Credit Card* (KCC) scheme.

Funds destined to on farm services, agricultural infrastructure and other general services projects include several programmes (Ministry of Agriculture and Farmers' Welfare, 2021[22]):

- The *Agriculture Infrastructure Fund* ten-year programme to support post-harvest infrastructure such as cold storage, collection centres, and processing units. Support (INR 2.1 billion (USD 29 million) in 2020) is to be provided as interest subsidy to credits for the set-up of these types of infrastructure. Beneficiaries include farmers, farmer producer organisations (FPOs), and agri-businesses.
- INR 100 billion (USD 1.32 billion) scheme to assist 200 000 micro agro-food enterprises to upgrade food standards and product marketing.
- INR 133.4 billion (USD 1.75 billion) outlay for the *National Disease Control Program* to address foot and mouth disease and brucellosis by vaccinating 530 million animals (cattle, buffalos, sheep, goats, and pigs).
- INR 150 billion (USD 1.97 billion) for the *Animal Husbandry Infrastructure Development Fund* to support private investment in dairy processing and cattle feed infrastructure.

With the objective to avoid COVID-19 spread in *mandis* after India entered lockdown in March 2020, APMC laws were suspended and transactions could be undertaken in places outside the *mandi* system. This encouraged the central government to initiate reforms to **domestic agricultural marketing regulations** in June 2020 as part of the May 2020 COVID-19 support package, under the strategy 'One India, one agriculture market' (ICRIER, 2021[6]). The proposed reforms included a set of ordinances aiming to: deregulate major food crops from the 1955 ECA; allow farmers to sell their agricultural products outside of government-regulated markets; and allow barrier-free inter and intra-state trade of agricultural commodities. The government also proposed providing a legal framework for farmers to facilitate contract-farming schemes with processors and other market actors in supply chains in order to reduce price risk.

On 20 September 2020, the Indian Parliament passed the following Acts in support of the proposals:

- The *Essential Commodities (Amendment) Act*, which would remove limits on private stocking, trading or buying of several commodities, including cereals and oilseeds.
- The *Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act,* which would allow farmers to sell their produce in other places in addition to markets notified under state Agricultural Produce Market Committee (APMC) Acts (*mandis*). The act proposes to set up an electronic trading platform and a dispute resolution mechanism. It would also promote barrier-free inter-state and intra-state trade.
- The *Farmers' (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act,* which would create a national framework for contract farming through an agreement between a farmer and a private sector buyer (i.e. processor, wholesaler, retailer, exporter) for the sale of future farm produce. The act provides for a three-level dispute settlement mechanism by the conciliation board, Sub-Divisional Magistrate, and Appellate Authority as the highest level of appeal.

Major protests of farmers from several states demanding the repeal of the bills[11] led the central government to consider potential amendments.[12] In mid-December 2020, India's Supreme Court suspended the implementation of the bills and mandated the creation of an expert committee to consult with farmer groups before proceeding with their implementation (Business Standard, 2021[23]).

The central government introduced **support to consumers** in March and June 2020. On 18 March 2020, the government of India decided to distribute a six-month quota of subsidised food grains in one go to beneficiaries under the TPDS, with the objective to prevent eventual panic buying under the COVID-19 lockdown and potential price increases (Economic Times, 2020[24]). On 26 March 2020, the government approved the free distribution of an additional 5 kg of food grains per person[13] and 1 kg of pulses per household (according to regional preferences) per month for three months under the programme *Pradhan Mantri Garib Kalyan Ann Yojana* (Prime Minister's Food Security Scheme for the Poor) targeting urban and rural poor, including migrant workers (Government of India, 2020[25]). In June 2020, the programme was extended until November 2020 (AMIS, 2020[26]).

In addition, in March-April 2020, specific state- or UT-level initiatives also targeted distribution of grains and other food products. Some of these include the following (IFPRI, 2020[27]):

- States such as Andhra Pradesh, Chhattisgarh, Delhi, Gujarat, Karnataka, Maharashtra, Manipur, Odisha, Punjab, Uttar Pradesh, Tamil Nadu, Telangana, and West Bengal are providing additional quantities of wheat and rice (between 1 kg and 10 kg per month for varying periods and for different categories of households).
- States such as Andhra Pradesh, Gujarat, Haryana, Karnataka, Odisha, Punjab, and Tamil Nadu are also providing other agro-food products such as pulses, oil, salt, or sugar.

Trade policy developments in 2020-21

On 28 March 2020, the Ministry of Commerce and Industry (MOCI) extended the existing quantitative import restriction for dried peas until end March 2021. Restrictions include an import quota of 150 000 tonnes per year, Minimum Import Prices (MIPs) of INR 200 (USD 2.7) per kg[14] and a requirement of clearing all pea imports only through the port of Kolkata. On 16 April 2020, MOCI fixed the quantity of peas by type that can be imported under the quantitative restriction at 75 000 tonnes for green peas and 75 000 tonnes for other peas (but setting the quantity allowed for yellow peas at 0 tonnes, imposing a de facto import ban) (DGFT, 2020[28]) (WTO, 2020[29]).

In turn, the most favoured nation (MFN) tariff for lentils,[15] from all origins except the United States, was reduced between June and December 2020 from 30% to 10%. The tariff on lentils from the United States was reduced from 50%[16] to 30%.

The government also allowed imports of 0.2 million tonnes of pigeon peas and other pulses from Mozambique outside the quota limits for these pulses in 2020-21, under the existing Memorandum of Understanding between the two governments.

In April 2020, India notified the WTO that it exceeded its limit on rice support for marketing year 2018/19, invoking for the first time the 'peace clause'.[17]

The Ministry of Commerce and Industry (MOCI) banned exports of all varieties of onions between 13 September and 31 December 2020 to curb domestic supply shortages[18] (Hindustan Times, 2020[30]; Economic Times, 2020[31]). In mid-October 2020, the MOCI also imposed stock holding limits, in place until 31 December 2020: 2 tonnes for retailers and 25 tonnes for wholesalers (Economic Times, 2020[32]). In turn, to facilitate imports of onion and address domestic shortages, the government relaxed the requirements for fumigation and related declarations on the Phytosanitary Certificate (PSC) necessary for importation, for the period October 2020 to January 2021.

In May 2020, the central government launched the Rice Export Promotion Forum (REPF). The Forum seeks to help traders boost rice exports under the supervision of the Agricultural and Processed Foods Export Promotion Development Authority (AMIS, 2020[33]).

In October 2020, the Gujarat state government approved, export subsidies for skimmed milk powder (SMP) until 30 April 2021. The programme provides a total of INR 1.5 billion (USD 20 million) for six months and

for a maximum amount of 30 000 tonnes of SMP to the Gujarat Cooperative Milk Marketing Federation Ltd. The export subsidy provides INR 50 (USD 0.7) per kg of SMP exported if the FOB price is above INR 180 (USD 2.5) per kg (GAIN IN2020-0153, 2020[34]).

In December 2020, the central government approved a subsidy of INR 35 billion (USD 480 million) to sugar mills for the export of 6 million tonnes of sweetener during the marketing year 2020/21, as part of the efforts to help mills clear outstanding dues to sugar cane farmers (Times of India, 2020[35]).

In December 2020, the government launched a digital interface for foreign investors to connect directly with farmers (Economic Times, 2020[36]).

The Union Budget 2021 presented early February 2021 introduces the Agriculture Infrastructure and Development Cess (AIDC) (i.e. levy) on selected imported goods for financing agricultural infrastructure programmes, including the following agro-food products: 17.5% on crude palm oil; 35% on apples; 5% on cotton; 40% on peas; 20% on lentils; and between 30% and 50% on selected types of chickpeas. Also in February 2021, the MFN tariff for cotton was raised from 0% to 5%.

Trade policy responses to the COVID-19 pandemic

The Ministry of Shipping issued specific guidelines to main ports applying from 22 March to 14 April 2020 on exemptions and reductions of penalties, demurrages charges, and other port fees for traders in relation to any potential delay in cargo port operations (Government of India, 2020[37]). At the same time, port protocols were adjusted, ranging from quarantine measures to additional documentation requirements and examinations, while at the end of March 2020 ports were advised by the Ministry of Shipping that they could consider the COVID-19 pandemic as grounds for invoking 'force majeure', a clause absolving companies from meeting their contractual commitments for reasons beyond their control (Bloomberg, 2020[38]).

On 27 March 2020, the central government extended the 2015-20 Foreign Trade Policy that was due to expire and be replaced by the Foreign Trade Policy 2020-25 (Business Standard, 2020[39]).

Starting May 2020, the Animal Quarantine and Certification Services (AQCS) in co-operation with the Customs authority relaxed certain requirements in sanitary certificates and promoted processing of trade documents through the trade Single Window. This has the objective of streamlining border processes for imports of selected agro-food products (including milk and dairy products) (GAIN IN2020-0126, 2020[40]).

Contextual information

India is the seventh largest country by land area and the second most populous after the People's Republic of China with over 1.3 billion people (Table 13.3). While the share of urban population continued to increase over the past decade, about two-thirds of the population still live in rural areas. At just 0.15 hectare per capita, agricultural land is very scarce.

Agriculture accounts for an estimated 42.4% of employment, but its 16% share in GDP indicates that labour productivity remains significantly lower than in the rest of the economy. The productivity gap is also reflected in the evolution of farm incomes, which correspond to less than one-third of non-agricultural income. Agriculture's weight in the economy has gradually declined, mostly in favour of services which led economic growth over the last two decades and played a more important role in India's economic development than in most other major emerging economies.

Indian agriculture is continuing to diversify towards livestock and away from grain crops. While grains and milk remain dominant, there has been a gradual change in the composition of production to other crops – such as sugar cane, cotton, fruit and vegetables – as well as certain meat sub-sectors. The livestock sector has seen faster and less volatile growth than the crop sector. The agricultural sector continues to be

dominated by a large number of small-scale farmers, as the national average operational holding size has been in steady decline.

Table 13.3. India: Contextual indicators

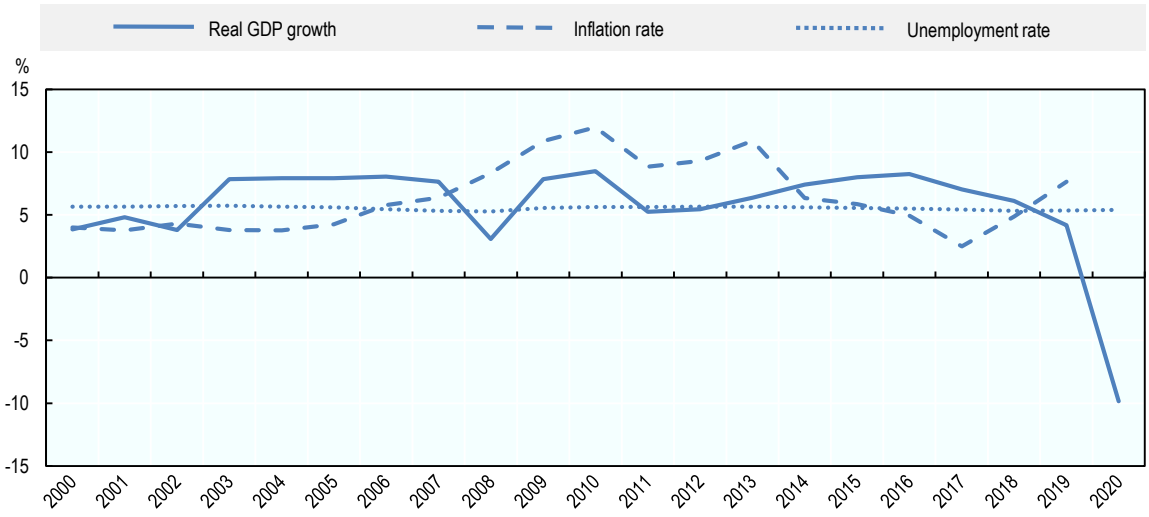
	India		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	2 214	9 612	5.6%	8.4%
Population (million)	1 057	1 366	24.5%	26.3%
Land area (thousand km^2)	2 973	2 973	3.6%	3.5%
Agricultural area (AA) (thousand ha)	180 975	179 674	5.9%	5.9%
			All countries[1]	
Population density (inhabitants/km^2)	355	460	53	63
GDP per capita (USD in PPPs)	2 096	7 034	9 265	21 975
Trade as % of GDP	10	14	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	21.6	16.0	2.9	3.5
Agriculture share in employment (%)	59.6	42.4	-	-
Agro-food exports (% of total exports)	10.9	9.5	6.2	7.3
Agro-food imports (% of total imports)	5.6	4.7	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	73	63	-	-
Livestock in total agricultural production (%)	27	37	-	-
Share of arable land in AA (%)	89	87	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Real GDP growth was decelerating prior to 2020 (5.8% in 2019), highlighting remaining structural bottlenecks in areas such as labour markets or the business environment. The COVID-19 pandemic and related restrictions led to a drop in GDP of about 10%. The low unemployment figures (averaging 5.4% in 2018-20) hide significant degrees of informal employment. Against the background of higher prices for selected food items, inflation increased to 9% in 2019 (Figure 13.5).

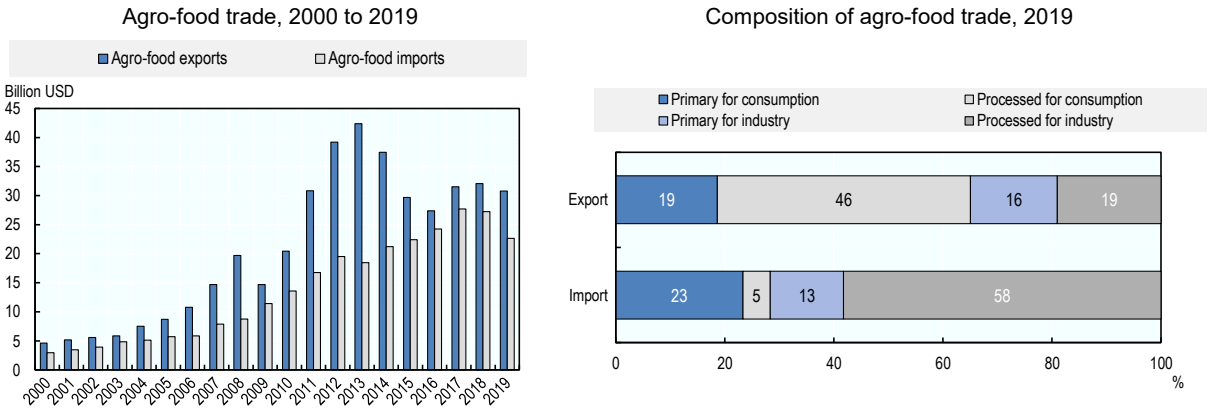
India has consistently been a net agro-food exporter over the last two decades, but agro-food imports have been increasing since 2007, while exports have declined from the peak of 2013. Products for direct consumption – of low value, raw or semi-processed, and marketed in bulk – dominate agro-food exports, representing 65% of the total in 2019. Processed products for further processing by domestic industry are the main import category, accounting for 58% of total agro-food imports (Figure 13.6).

Figure 13.5. India: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 13.6. India: Agro-food trade

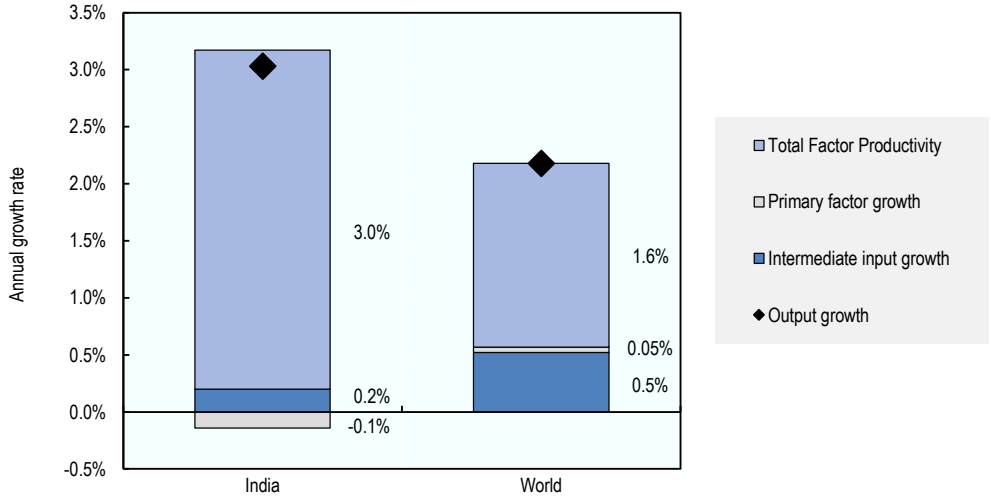


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Agricultural output growth in India averaged 3% in 2006-15, well above the world average (Figure 13.6). This has been driven mainly by a significant increase in total factor productivity (TFP) at 3% per year, backed by technological progress in the form of improved seeds and better infrastructure (including irrigation coverage, road density, and electricity supply).

However, the sustained growth in agricultural output has been exerting mounting pressures on natural resources, particularly land and water. This is reflected in the nutrient surplus intensities at the national level, which are much higher than the average for OECD countries. The share of agriculture in total greenhouse gas (GHG) emissions is also higher than the OECD average, partly due to the weight of the agricultural sector in the Indian economy. Livestock rearing is the main source of GHGs (Table 13.3).

Figure 13.7. India: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 13.4. India: Productivity and environmental indicators

	India		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	1.0%	3.0%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	103.8	134.2	33.2	28.9
Phosphorus balance, kg/ha	20.7	23.9	3.4	2.6
Agriculture share of total energy use (%)	4.9	4.8	1.7	2.0
Agriculture share of GHG emissions (%)	23.3	18.6	8.4	9.5
Share of irrigated land in AA (%)	34.3	39.2	-	-
Share of agriculture in water abstractions (%)	91.5	..	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Notes

[1] Under the industrial licensing policies in place until the early 1990s, private sector firms needed to secure specific licenses to start operating.

[2] In the seven states or UTs that do not have an APMC act, procurement can take place outside *mandis*.

[3] Agriculture marketing also covers the futures market governed by the Securities and Exchange Board of India (SEBI), with the largest value of agricultural commodity trade taking place through the National Commodity Derivative Exchange (NCDEX). In addition, the Negotiable Warehouse Receipt System (NWRS) – established under the Warehousing Development and Regulatory Authority (WDRA) – aims to support farmers by storing products in warehouses. However, farmers, especially small and marginal, do not directly trade in agri-futures market in India.

[4] This represents the price below which exporters are not allowed to export a specific commodity. A minimum export price is set taking into consideration concerns about domestic prices and supply of that specific commodity.

[5] A Ministerial Decision on Export Competition at the WTO Ministerial Conference held in Nairobi in 2015 put an end to the subsidisation of agricultural exports, which for India would occur at the end of 2023 (https://www.wto.org/english/thewto_e/minist_e/mc10_e/l980_e.htm).

[6] Only landowners or farmers with legal rights to operate on land are eligible for nearly all of the existing programmes for farmers, thus excluding tenant farmers from benefitting from such schemes. The average India tenancy rate is approximately 10% of rural households, with wide regional differences.

[7] INR 2.75 per quintal (USD 0.4 per tonne) for every 0.1% increase above the basic 10% recovery rate (i.e. defined by the Cabinet Committee on Economic Affairs as the amount of sugar produced by crushing a given amount of sugarcane by weight).

[8] Since 2015, the government has been postponing disbursements under food and fertiliser subsidies and the steep increase in 2020 is linked to accounting clearance of past dues.

[9] For several years, the budgetary allocation for PDS has not been sufficient to cover FCI's subsidy costs, forcing it to borrow from the NSSF at a rate of about 8%. Its outstanding loans are now above INR 2 trillion (USD 23 billion) (The Hindu, 2021[13]).

[10] The total economic package of INR 20 trillion (USD 263 billion) includes the INR 1.7 trillion (USD 22.3 billion) relief package introduced in March 2020 and designed to provide a safety net to India's most economically vulnerable citizens affected by the COVID-19 lockdown.

[11] The Kerala state Assembly passed a resolution on 31 December 2020 demanding the bills withdrawal (The Hindustan Times, 2020[42]).

[12] One of such considerations is for applying the same taxes to the private wholesale markets outside APMC as in the existing regulated markets. Under the *Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act*, private players would be allowed to set up wholesale markets where transactions would not attract any kind of tax. An additional consideration is that in case of a dispute between sellers and buyers, the government could also allow farmers to appeal to a higher court than what would be permitted under the new legislation (Economic Times, 2020[41]). On 21 January 2021, farmers' unions rejected a central government proposal to suspend the implementation of the bills for a period of 18 months while the expert committee would conduct the consultations.

[13] This is in addition to the regular food ration quota (5 kg of wheat or rice per person per month with wheat at INR 2/kg, and rice at INR 3/kg) under the National Food Security Act (NFSA) 2013.

[14] MIP is around six times higher than the domestic price.

[15] HS code 07134000.

[16] The Ministry of Finance introduced tariff increases in June 2018 on various products imported from the United States, in retaliation to the duty increases introduced by the United States on steel and aluminium.

[17] The peace clause protects a developing country against dispute action by WTO members in case it exceeds its support ceiling because of acquisition at an administered price for public stockholding for food security purposes. India informed the WTO that the value of its rice production was USD 43.67 billion in 2018-19 and that its non-exempt rice support amounted to USD 5 billion. India also noted that the 850 000 tonnes of rice stocks subsequently sold in the domestic market were not allowed for export.

[18] Heavy rainfall in August damaged output by 40% to 50% in key growing states of Madhya Pradesh, Karnataka and Gujarat.

14 Indonesia

Support to agriculture

Indonesia's producer support to agriculture increased significantly in the 2000s, from 7.5% of gross farm receipts in 2000-02 to 21.3% in 2010. In the most recent decade, support as a share of gross farm receipts was relatively stable, reaching 21.1% in 2018-20. The largest component of agricultural support in Indonesia is market price support to producers, in line with the government focus on food sovereignty and self-reliance, with programmes aimed at achieving self-sufficiency in a number of staple products (rice, maize, soybeans, sugar and beef). Almost all producer transfers are potentially most-distorting, mainly market price support (including negative price support for palm oil), but also payments based on unconstrained variable input use.

Prices received by farmers were on average 25% higher than world prices, with large differences between commodities. Sugar, maize, poultry and rice had the highest shares of single-commodity transfers in gross farm receipts, all near or above 30%.

Indonesia has a large food assistance programme (BPNT) to support poor consumers based on electronic vouchers. But it is smaller than total market price support and consumers are penalised by agricultural policies with a negative Consumer Support Estimate of -26.7% of consumer expenditures at farm level.

Expenditures on general services for the sector (GSSE) focus mainly on infrastructure and public stockholding, and are small compared to producer support, representing 6.1% of the Total Support Estimate. Expenditures for GSSE relative to agricultural value-added were 1.3%, well below the OECD average. Total support to agriculture as a share of GDP increased in the last two decades from 1.3% to 2.5%, mainly driven by additional support to individual producers (PSE).

Recent policy changes

During 2020-21, Indonesia maintained the main features of its agricultural policy adopted in 2012. The government increased minimum purchase prices for paddy rice by 14% in 2020 after having kept them constant in nominal terms since 2015. The government export levy of crude palm oil increased from USD 50/tonne to USD 55/tonne.

Indonesia responded to the COVID-19 pandemic by expanding its food assistance programmes. In 2020, the budget for the BPNT food voucher programme increased by 35% and the Ministry of Agriculture dedicated additional funding for this programme. In addition, to increase the income of rural households, including farm households, the Padat Karya (cash for work) programme of the Ministry of Agriculture financed rehabilitation of rural infrastructures, such as irrigation canals and rural roads, land improvements, and community pest control.

As part of policy responses to COVID-19, Indonesia launched a programme to increase production and food reserves by turning potential farmlands in Central Kalimantan to production under a government initiative in the so-called food estates. In 2020, the programme covered an area of 30 000 hectares in

Central Kalimantan province. It finances infrastructure, input grants (fertiliser and seed), machinery, and training and extension services. The programme is expected to cover 165 000 hectares by 2024.

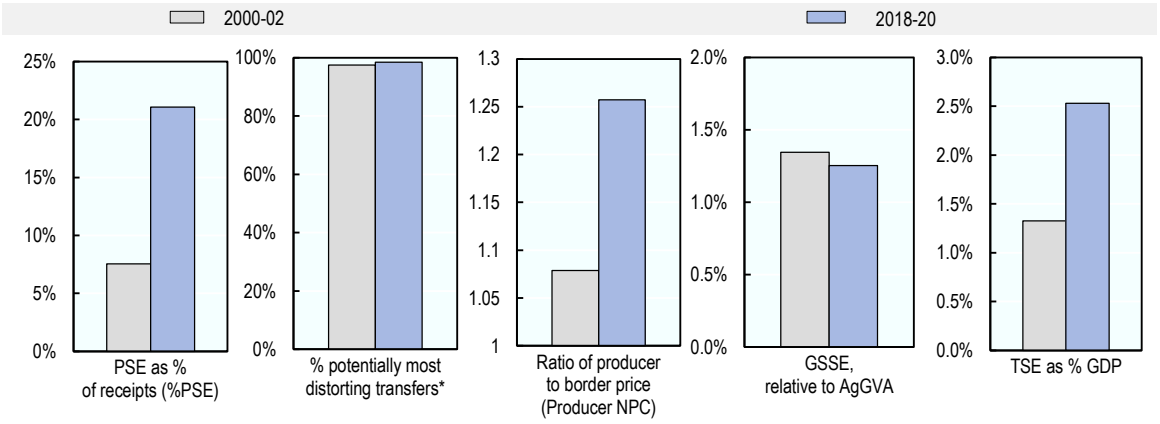
Two new programmes called 1000 Horticultural Villages and 1000 Cattle Villages provide grants of high-quality seeds, fertilisers, means of controlling pests and diseases, livestock breeds, equipment, and technical advice to targeted farmers.

On 5 July 2020, the Indonesia-Australia Comprehensive Economic Partnership Agreement (IA-CEPA), signed in 2019, entered into force. Australia eliminated all tariffs levied on imports from Indonesia, and 500 000 tonnes of Australian feed grains (wheat, sorghum, and barley) enjoy duty-free access to Indonesia, to be increased over an 11-year implementation period.

Assessment and recommendations

- Indonesian agricultural policy focuses on self-sufficiency and corresponding trade measures as a tool to achieve food self-reliance. These create large price gaps between domestic and international markets for imported products such as maize, poultry and rice. The impact on incentives and prices is likely to work against objectives that underpin the Food Law of 2012. In particular, these include affordable prices for consumers, who are penalised with negative support, and diversification in production and diet, which is thwarted by the concentration of support on a few staple commodities.
- The ongoing reform of the food assistance programmes – gradually shifting from the Rastra physical distribution system to the BPNT electronic food voucher system – is an important step to improve their effectiveness. Its completion should allow better targeting and improved food security, particularly if combined with a reduction in market price support.
- Fertiliser subsidies are costly, with doubtful efficiency. Application of fertilisers must adapt to local soil and production conditions to be effective and avoid negative environmental impacts. Converting these subsidies into less coupled payments per unit of land would make the support more efficient and be in line with those implemented in other countries, including the People's Republic of China (hereafter "China"). Additionally, investing in knowledge transfer to farmers would contribute to allocation of inputs according to the needs of local production.
- Policies should stimulate domestic productivity through investments in infrastructure, the innovation system and by easing constraints on private investment in agriculture. Savings from reduced input subsidies could be re-allocated to Indonesia's Agricultural Innovation System and improving farmers' skills to manage production and natural resources on their farms, thus contributing to long-term agricultural productivity growth and poverty reduction.
- Administrative requirements on agro-food imports related to food safety, quarantine, product standards and labelling have proliferated in Indonesia. Combined with uneven enforcement and lack of transparency from changing rules, the requirements add to trade costs. To reduce these costs, the scientific basis of these requirements needs to be clarified, and transparency and consistency in their implementation improved.
- Indonesia could improve the contribution of agriculture, forestry and land use to climate change mitigation by implementing targeted measures, such as those identified in the National Plan to reduce greenhouse gas (GHG) emissions in management of agricultural land without burning and reforestation.
- To design a more resilient policy framework for the period after the COVID-19 pandemic, measures implemented in response to the crisis, such as those expanding agricultural land and input subsidies, should be evaluated with respect to their impact on the livelihoods of those in need, and on the environment.

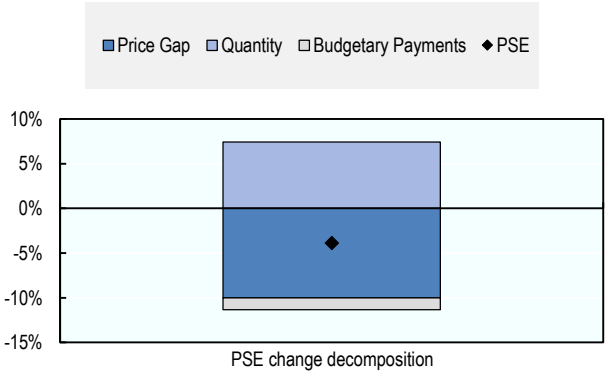
Figure 14.1. Indonesia: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/tkhqea

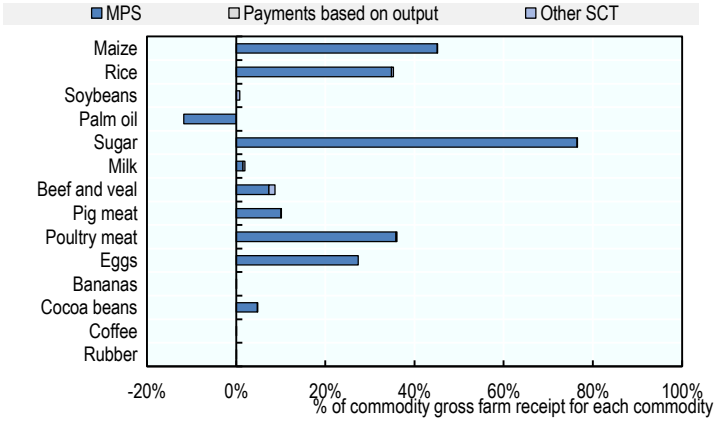
Figure 14.2. Indonesia: Drivers of the change in PSE, 2019 to 2020



Note: The producer price change and the border price change are not calculated when the negative price gap occurs at the commodity level for the current or previous year.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/zu06dh

Figure 14.3. Indonesia: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/lxktei

Table 14.1. Indonesia: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**23 813**	**111 541**	**108 829**	**113 922**	**111 871**
of which: *share of MPS commodities (%)*	72.0	75.0	75.1	75.3	74.7
Total value of consumption (at farm gate)	**22 684**	**81 900**	**79 855**	**82 022**	**83 823**
Producer Support Estimate (PSE)	**1 823**	**24 082**	**24 539**	**24 694**	**23 013**
Support based on commodity output	1 730	21 454	21 585	22 033	20 745
Market Price Support[1]	1 730	21 454	21 585	22 033	20 745
Positive Market Price Support	2 328	23 656	23 687	24 177	23 104
Negative Market Price Support	-597	-2 201	-2 102	-2 143	-2 359
Payments based on output	0	0	0	0	0
Payments based on input use	82	2 612	2 937	2 646	2 254
Based on variable input use	19	2 197	2 517	2 232	1 842
with input constraints	0	0	0	0	0
Based on fixed capital formation	59	395	403	407	376
with input constraints	1	0	0	0	0
Based on on-farm services	4	20	17	8	36
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	11	15	17	14	13
Based on Receipts / Income	11	15	17	14	13
Based on Area planted / Animal numbers	0	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**7.5**	**21.1**	**22.0**	**21.2**	**20.2**
Producer NPC (coeff.)	**1.08**	**1.26**	**1.27**	**1.26**	**1.24**
Producer NAC (coeff.)	**1.08**	**1.27**	**1.28**	**1.27**	**1.25**
General Services Support Estimate (GSSE)	**382**	**1 661**	**1 060**	**2 082**	**1 840**
Agricultural knowledge and innovation system	45	80	74	84	84
Inspection and control	14	42	48	41	38
Development and maintenance of infrastructure	323	928	871	947	967
Marketing and promotion	0	3	2	5	3
Cost of public stockholding	0	606	65	1 005	749
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**15.7**	**6.1**	**3.9**	**7.4**	**7.0**
Consumer Support Estimate (CSE)	**-1 967**	**-21 496**	**-20 868**	**-22 131**	**-21 488**
Transfers to producers from consumers	-2 001	-18 619	-19 290	-19 853	-16 712
Other transfers from consumers	-316	-5 532	-4 211	-5 142	-7 242
Transfers to consumers from taxpayers	328	1 399	1 349	1 432	1 415
Excess feed cost	22	1 256	1 284	1 432	1 051
Percentage CSE (%)	**-8.7**	**-26.7**	**-26.6**	**-27.5**	**-26.1**
Consumer NPC (coeff.)	**1.11**	**1.42**	**1.42**	**1.44**	**1.40**
Consumer NAC (coeff.)	**1.10**	**1.36**	**1.36**	**1.38**	**1.35**
Total Support Estimate (TSE)	**2 534**	**27 141**	**26 948**	**28 207**	**26 268**
Transfers from consumers	2 318	24 151	23 502	24 995	23 955
Transfers from taxpayers	533	8 522	7 657	8 354	9 556
Budget revenues	-316	-5 532	-4 211	-5 142	-7 242
Percentage TSE (% of GDP)	**1.3**	**2.5**	**2.6**	**2.5**	**2.5**
Total Budgetary Support Estimate (TBSE)	**803**	**5 687**	**5 363**	**6 174**	**5 523**
Percentage TBSE (% of GDP)	**0.4**	**0.5**	**0.5**	**0.6**	**0.5**
GDP deflator (2000-02=100)	**100**	**348**	**344**	**350**	**349**
Exchange rate (national currency per USD)	**9 322.08**	**14 325.42**	**14 232.88**	**14 150.28**	**14 593.09**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Indonesia are: maize, rice, soybean, sugar, milk, beef and veal, pig meat, poultry, eggs, bananas, cassava, cocoa beans, coffee, palm oil and rubber.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Indonesia's economy was relatively closed to trade for almost three decades from the 1960s to the 1980s. Trade liberalisation started only in the 1990s with the signature of agreements that created the WTO and the ASEAN Free Trade Area (AFTA).

Over the past thirty years, the main priorities of Indonesia's agricultural policy have been food self-sufficiency, food diversification, value-added, competitiveness, and farmers' welfare. Agricultural producers benefit from a wide range of input subsidies for fertilisers, seeds, and credits, among others. The number and cost of these grew rapidly since the mid-2000s. Targeted food (rice) assistance for the poor (Raskin) introduced in 1998 allowed the government to increase the minimum producer price of rice, but at the cost of increasing expenditure on food assistance programmes.

Raskin evolved in the last decade, eventually replaced by the food assistance programme Rastra. In early 2017, Indonesia started BPNT, a large-scale pilot programme to provide an electronic food voucher to replace physical rice distribution. These consecutive programmes allowed the Food Logistics Agency BULOG to distribute 10 kg of rice per poor family per month.

Tariffs fell significantly over the period. The average tariff on agriculture (excluding alcoholic beverages) dropped from 20% in 1990 to 5% in 2010. Import monopolies, licensing requirements and export restrictions on agricultural products were removed in 1997-98. However, quantitative import restrictions were introduced, notably for rice, sugar and beef. Import requirements imposed for sanitary, phytosanitary and religious/cultural reasons (i.e. halal certification) are significant and potentially stringent. They are often implemented in a non-transparent manner and add to the cost of importing. Export taxes were introduced in 1994 on crude palm oil and its derivatives, and on cocoa in 2010.

Indonesia's current agricultural policies are framed in the 2012 Food Law, which establishes the objectives of "food self-reliance and food sovereignty" (*kemandirian pangan dan kedaulatan pangan*). In practice, self-sufficiency on staple and strategic commodities (rice, maize, soybean, sugar and beef) is the goal. The country provides subsidies for input use, particularly fertilisers and seeds.

Table 14.2. Indonesia: Agricultural policy trends

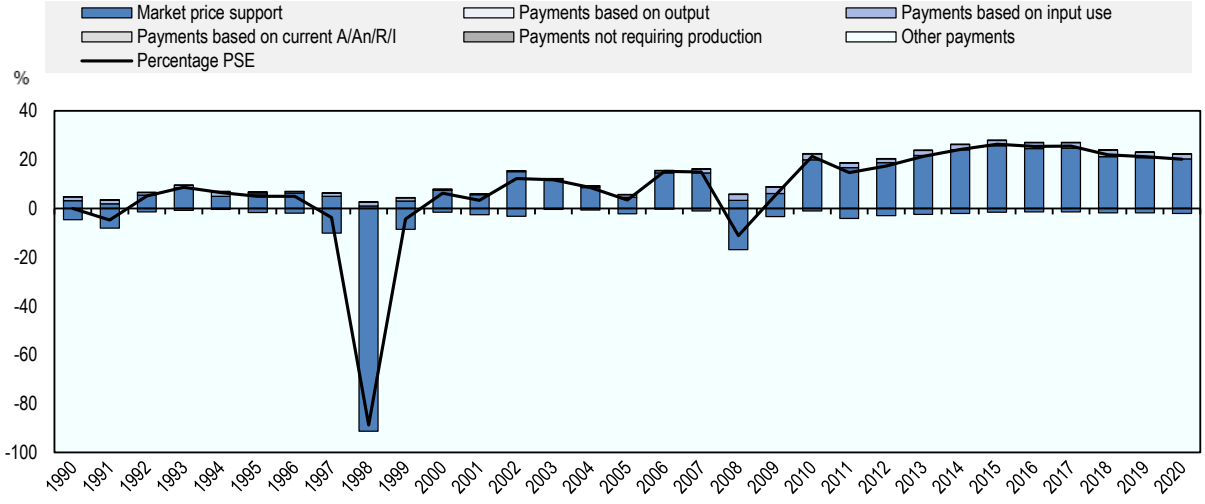
Period	Broader framework	Changes in agricultural policies
1960s to 1980s	Closed economy Production expansion to avoid social unrest, rise in oil prices and green revolution	Food Logistics Agency (BULOG) established in 1967 and its marketing role expanded Subsidised inputs such as fertilisers, pesticides and credit Significant spending on infrastructure Increased import tariff rates Quantitative control of exports and imports Export taxes on palm oil and its derivatives
1980s – 1996	Trade liberalisation	Abolishment of tariffs, general tariffs reduction programme Trade agreements (URAA, AFTA, APEC) New legislation on export tax on palm oil and its derivatives in 1994 Phase out of input subsidies
1997-1999	Market reform Asian financial crisis	Reduction of BULOG's monopoly powers, particularly in rice markets Reduction of fertiliser subsidy Introduction of targeted rice distribution programme (OPK/Raskin) Tariffs replace import licensing arrangements for sugar Abolishment of local content requirements for dairy and soybeans Temporary removal of export taxes on palm oil and its derivatives

Period	Broader framework	Changes in agricultural policies
2000-2012	Measures to revitalise the agricultural sector in response to poor productivity	Reinstated fertiliser subsidy Increased expenditures in extension services R&D and irrigation Increased tariffs on rice and sugar Quantitative controls on trade in rice, sugar and beef More stringent non-tariff measures Variable export tax on palm oil and its derivatives, and on cocoa
2012-present	2012 Food Law, policy focus on self-sufficiency of staple food (rice, maize, soybeans, sugar and beef)	Increased role of BULOG in rice imports and domestic market Distribution of rice at low prices, first through Raskin programme, then Rastra and finally BPNT electronic vouchers organising rice distribution More input subsidies for fertilisers, seeds and credit. Grant for machineries to targeted farmers' groups New initiative on food estate

Indonesia's producer support estimate was mostly positive over the past 30 years, except during the financial crisis in 1998 and the food crisis in 2008. Support is mostly created by price interventions (tariffs and minimum prices). On one hand, export taxes imposed on palm oil and cocoa result in negative support for those commodities. On the other, import tariffs result in positive support to other commodities. Budgetary transfers to producers (input subsidies) and consumers (food aid), are smaller than price support, and have been stable over the past decade.

Figure 14.4. Indonesia: Level and PSE composition by support categories, 1990 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The Food Law of 2012 shapes Indonesia's current agricultural policy and set of core objectives. The Food Law sets out the principles of food self-reliance (*kemandirian pangan*) and food sovereignty (*kedaulatan pangan*) as the applied approach to food security. The law stipulates that domestic food demand be fulfilled by imports if local food sources are insufficient (USDA FAS, 2019[1]). The Law confirms the principles of

the Strategic Plan of the Ministry of Agriculture 2020-24: achieving self-sufficiency in the production of selected staple-food commodities (rice, maize, soybeans, sugar and beef) to assure food security; ensuring food prices are affordable for consumers across the archipelago; diversifying production and consumption away from carbohydrates (rice and wheat) towards animal-based products, and fruits and vegetables (particularly root vegetables); raising the competitiveness of agricultural production and value-added processing; increasing the availability of raw materials for bio-industry and bioenergy; and improving the welfare of farmers through higher incomes as a way to reduce the level of rural poverty (OECD, 2012[2]).

Indonesia pursues policy objectives through both domestic and trade measures. Domestic policy measures include **minimum purchase prices** for rice and sugar; substantial budgetary allocations for inputs; and provision of **services to the agricultural sector** as a whole, in particular related to irrigation, research and development, and marketing and promotion.

BULOG manages public interventions in the domestic market and imports and has responsibility for market operations aimed at stabilising domestic prices and managing the government rice reserve. BULOG can only buy paddy or rice from farmers when the market price is lower than or equal to the minimum price and must maintain a minimum year-end stock of 2 million tonnes, about 2.5% of annual consumption in Indonesia (USDA FAS, 2019[3]). Only BULOG can import medium-quality rice with a maximum 25% broken grains. However, private companies can import specialty rice such as jasmine rice and basmati rice (USDA FAS, 2018[4]). In 2017, Indonesia introduced ceiling prices on medium- and premium-quality rice at the retail level, which vary across regions. When the retail price exceeds the ceiling, BULOG also releases rice from stocks to the market.

In May 2019, the Rastra food assistance programme was replaced by the BPNT, co-ordinated by the Ministry of Social Affairs (Ministry of Social Affairs (Kementerian Sosial), 2019[5]). Under the BPNT, eligible households receive IDR 150 000 (USD 10.3) per month on a purchasing card that can be used to buy rice at the market price from selected retailers.

A wide range of input subsidies on fertilisers, seeds and credit support agricultural producers. The percentage of subsidy varies across fertiliser types, with urea receiving the highest at 67.2% of the market price (Sudaryanto, 2018[6]). Fertiliser manufacturers receive the subsidy, and then sell fertilisers to farmers at a reduced price. Before the beginning of the planting season, the Ministry of Agriculture (MoA) issues a decree on the estimated demand for different types of fertiliser by provinces, along with the reference retail price of fertilisers. Based on this information, governors of the corresponding provinces break down the demand for fertiliser by district. The decree also serves as a reference for fertiliser companies to distribute fertilisers in the corresponding regions. In addition to the subsidy, the MoA also directly distributes fertiliser to food crop farmers in selected regions.

The government of Indonesia invests in irrigation infrastructure. According to the Ministry of Public Works, approximately 84% of Indonesian harvested rice area is irrigated, while the remaining 16% is rain fed (USDA FAS, 2019[3]). Facilitated by savings from reduced fuel subsidies since 2015, the government pushes to improve the irrigation infrastructure, mostly for rice production. Investments in infrastructure complement exemptions in place for water transportation costs: farmers are not charged for the cost of delivering water from the source to the tertiary system via primary and secondary canals.

Indonesia restricts the importation of strategic commodities (those associated with self-sufficiency targets: rice, maize, soybeans, sugar and beef). The Food Law sets out the principles that underpin food trade. It contains provisions restricting staple food exports and imports such as “state food export can only be implemented after fulfilling National Food Reserve and staple food consumption necessity” and “food imports can only be implemented if domestic food production is not sufficient or cannot be produced domestically” (Articles 34 and 36). Trade policy includes both tariff and non-tariff measures. The average applied Most Favoured Nation (MFN) import tariff on agro-food products, excluding alcoholic beverages and spirits, was just over 5% in 2017. Rice and sugar have higher specific tariffs. Import monopolies, licensing requirements and export restrictions on agricultural products ended in 1997-98. However, in the

2000s, quantitative import restrictions and licensing were reintroduced, notably for rice, sugar and beef. Import requirements imposed for food safety and religious reasons are becoming more stringent. Variable export taxes were introduced on crude palm oil and derivatives in 1994, then on cocoa (OECD, 2012[2]). The MFN tariff schedule is updated every five years by the Ministry of Finance (BukuTarif dan Kepabeanan Indonesia, BTKI or MoF). The latest tariff schedule was released in 2017.

Since 2008, companies must receive Ministry of Trade approval as registered importers for a range of processed products manufactured from meat, cereal, sugar and cocoa. Similar restrictions were placed on imports of animals in 2011. In line with the Ministry of Trade regulation on the Import and Export of Animals and Animal Products issued in September 2011, these imports can only be carried out if the domestic production and supply are not sufficient to meet consumer demand at an affordable price.

A variable export tax on cocoa and palm oil was put in place under MoF regulations 67/2010 and 136/2015, respectively. The tax rate on Crude Palm Oil (CPO) depends on reference prices and is zero for prices below USD 750 per tonne. When reference prices exceed this level, the tax is imposed on a sliding scale between USD 3 and USD 200 per tonne. Since 2015, the government collects an additional export levy for palm oil of USD 55/tonne on top of the variable export tax. During 2019, the export levy did not apply because the world price of CPO was lower than the reference price. The Palm Oil Fund management board manages the funds from the levy. These finance subsidies to biodiesel, infrastructure, R&D projects on palm oil, replanting in small farms, market promotion and human resource development.

Indonesia is a member of the Association of Southeast Asian Nations (ASEAN), Asia-Pacific Economic Cooperation (APEC), and World Trade Organization (WTO). It participates in trade liberalisation between ASEAN members and their major trading partners in the region, including China, Japan, India, Korea, Australia and New Zealand. The ASEAN economies committed in 2015 to complete the formation of the ASEAN Economic Community by 2025. This is intended to develop a single market and production base, a highly competitive economic region, a region of equitable economic development, and a region fully integrated into the global economy (ASEAN Secretariat, 2017[7]).

Domestic policy developments in 2020-21

The budget of the MoA has decreased in recent years, from IDR 32.8 trillion (USD 2.45 billion) in 2015 to IDR 21.7 trillion (USD 1.53 billion) in 2019, and IDR 15.2 trillion (USD 1.04 billion) in 2020. The budget reduction in 2020 was largely due to a budget reallocation to finance the COVID-19 policy response, including in agriculture, and specifically an initiative to strengthen food availability. The total budget for food security, administered by range of ministries concerned also decreased from IDR 125.9 trillion (USD 8.4 billion) in 2015 to IDR 96.2 trillion (USD 6.8 billion) in 2019.

In 2020, the MoA launched a strategic programme to achieve a self-reliant and modern agriculture. This programme supports investments in smart farming, greenhouses to produce off-season horticultural crops, new government initiated food estates and farming ’enterprises. The MoA has also put in place a target to increase exports by diversifying into processed products, promoting new exporter entrepreneurs, and finding new export partners overseas (Ministry of Agriculture (Kementerian Pertanian), 2020[8]). The new Local Food Diversification Action Programme (Gerakan Diversifikasi Pangan Lokal) promotes local food utilisation (cassava, maize for consumption, sago, banana, potato, and sorghum) and its production in home gardens, marginal land and urban farming.

To increase production and exports of horticulture, the MoA launched a programme called 1 000 Horticultural Villages covering an area of 10-20 hectares allocated to horticulture per village. This programme provides a grant of high-quality seeds, fertilisers and means of controlling pests and diseases. A similar programme was launched on cattle development, named the “1000 Cattle Villages” in five provinces as a pilot project (Lampung, West Nusa Tenggara, East Nusa Tenggara, South Sulawesi and

East Java). The programme provides assistance in the form of livestock breeds, supplies, equipment, and technical advice to targeted farmers (Ministry of Agriculture (Kementerian Pertanian), 2021[9]).

The MoA has also implemented a pilot project of crop insurance (AUTP, Asuransi Usahatani Tanaman Pangan) for flood and drought since 2015. In 2020, the total area covered by pilot projects was 681 951 hectares (about 1% of total agricultural land), with a premium subsidy of IDR 144 000 (USD 10.09) per hectare. In addition, the MoA has implemented a pilot project of beef cattle insurance (Asuransi Usaha Ternak Sapi/Kerbau (AUTS/K) with a premium subsidy of IDR 160 000 (USD 10.98) per head. The total budget on insurance amounted to IDR 107.1 billion (USD 7.35 million) in 2020.

Following an initiative by the President in 2020, Indonesia aims to improve food security through developing a government led food estate programme. The objective of this programme is to strengthen national food reserves. In 2020, the programme covered an area of 30 000 hectares in two districts of Central Kalimantan province, with a total budget of IDR 2.91 trillion (USD 0.19 billion). The designated farmland will be used to produce national stocks of foodstuffs such as rice and maize. In case of emergency, those stocks will be distributed domestically, and any excess will be exported. The budget is used to finance infrastructure (irrigation canals and farm road), fund direct transfers to farmers in kind such as machinery, training and extension services and to purchase inputs (fertiliser and seed). The programme will be expanded to cover 165 000 hectares by the year 2024. Implementation of the programme will involve central government, province government, and State Owned Enterprises (Ministry of Agriculture (Kementerian Pertanian), 2020[10]; AMIS, 2020[11]).

Minimum purchase prices (Harga Pembelian Pemerintah, HPP) for rice have remained constant in nominal terms since 2015 to 2019. In March 2020, the Ministry of Trade set higher minimum buying prices for rice (Table 14.3), with an increase of 14% in both dried and milled rice prices (Regulation No. 24/2020 on Reference Price).

Table 14.3. Minimum purchase price of paddy and dried rice

2015 to 2020 (IDR/kg)

Description	2015 to 2019	2020	% Increase
Wet Paddy (GKP) moisture content 25% and waste content 10% at rice mill	3 700	4 200	13.5
Wet Paddy (GKP) moisture content 25% and waste content 10% at BULOG warehouse	3 750	4 250	13.3
Dried Paddy (GKG) at rice mill	4 600	5 250	14.1
Dried Paddy (GKG) at BULOG warehouse	4 650	5 300	14.0
Milled Rice at BULOG warehouse	7 300	8 300	13.7

Source: Inpres (President's Decree), Inpres May 2015 and Permen (Ministry Decree) Ministry of Trade 2020.

The BNPT remains an important source of support for low-income households to buy sufficient food. In early 2020, the government of Indonesia disbursed BNPT to 15.2 million households and increased to 20 million households in June 2020, with a total budget of IDR 28 trillion (USD 1.9 billion) (Tirto, 2020[12]).

Fertiliser subsidies remain by far the most important programme through which the government provides budgetary support to agriculture. However, the value of the fertiliser subsidy declined from IDR 37.3 trillion (USD 2.64 billion) in 2019, to IDR 24.5 trillion (USD 1.68 billion) in 2020. In total, fertiliser subsidies accounted for 30.7% of total budgetary expenditures provided to support agriculture in 2019 (USDA FAS, 2019[3]).

During the period 2012-19 the reference price (HET) for fertiliser at the retail level was kept constant in nominal terms. However, in 2020 the government increased these reference prices, with increases between 10% for SP-36 and NPK, and 60% for organic fertiliser (granule).

Table 14.4. Maximum retail price of fertiliser

2012 to 2020 (IDR/kg)

Fertiliser	2012 to 2019	2020	% Increase
Urea	1 800	2 250	25
SP-36	2 000	2 400	10
Za	1 400	1 700	17.6
NPK	2 300	2 300	0
NPK (special formula)	3 000	3 300	10
Organic (granule)	500	800	60
Organic (liquid)	-	20 000	-

Source: Permentan (Minister Decree) No.1/2020 and No.49/2020, Ministry of Agriculture.

To develop alternative energy sources to fossil fuels, the government continues to implement the biofuel programme, in particular by utilising palm oil. Faced with market access restrictions for palm oil in the EU market, this programme attempts to create a new demand for palm oil in the domestic market with a biofuels mandate to blend 30% palm biodiesel (B30). On 18 May 2020, the government announced the allocation of a USD 186 million subsidy to maintain its B30 biodiesel mandate in 2020 and 2021. The Indonesian Sustainable Palm Oil (ISPO) standard is now regulated through Presidential Regulation (Perpres) No. 44/2020, replacing ministerial-level regulations on the same subject. The regulation mandates that all growers, including both large plantations and smallholders, be certified before 2025 (GAIN ID0016, 2020[13]).

Domestic policy responses to the COVID-19 pandemic

The COVID-19 pandemic has slowed down economic growth in Indonesia from 2.97% in the first quarter of 2020 to -3.49% in the third quarter. Agriculture has played a buffer role to prevent further downturn, and continued to grow by 0.02% in the first quarter, increasing to 2.15% in the third quarter. However, the pandemic has threatened food security, in particular downstream in the food supply chain due to limited mobility of both people and goods.

At the national level, the government implemented a stimulus package in response to COVID-19, focused on maintaining people's purchasing power and facilitating export and imports. The additional spending for the State Budget in 2020 was IDR 405.1 trillion (Ministry of Finance (Kementerian Keuangan), 2020[14]). The main measures included: COVID-19 health intervention, namely incentives for medical personnel and spending on health management (IDR 75 trillion); additional expanded social safety (IDR 110 trillion); support for industry, with reduction in taxes and duties as well as micro credit programme (KUR) stimulus (IDR 70.1 trillion); and budget financing support for handling COVID-19 related to the national economic recovery programme (IDR 150 trillion).

Agricultural policy measures focused on food availability from domestic production. Specific action programmes in 2020 sought to strengthen food availability by increasing production capacity, developing a 165 000 hectare food estate in Central Kalimantan; expanding rice planting areas (PATB) with 250 000 new hectares of rice, maize, shallots, and chilies in deficit areas. Other measures to increase food production included grants of seed, livestock breed, machineries, and extension services. In April 2020, the government announced that it would provide IDR 600 000 (USD 38) to 2.7 million farmers to encourage them to plant rice in the next season in the midst of the COVID-19 pandemic. Half of the support will be given as unconditional cash transfers and half in the form of agricultural production inputs (AMIS, 2020[15]).

To prevent the spread of the COVID-19, the government restricted the mobility of people and transportation, except transportation of basic needs including food. The Ministry of Agriculture also promoted the consumption of some commodities, particularly vegetables by making them available in

Farmer's Shops (TTI) owned by the Ministry, with the objective of ensuring that the food supply chain works amidst the implementation of the large-scale social restriction (Rafani, 2020[16]). Due to this pandemic, Farmer's Shops developed an online sale service providing cheap fresh products from farmer groups in the central producing areas (Kompas, 2020[17]). To stimulate recovery of the agro food supply chain, the government also allocated credit (KUR) up to IDR 50 trillion (USD 3.4 billion) to agro-food enterprises at subsidised interest rates (Ministry of Finance (Kementerian Keuangan), 2020[14]).

To raise the purchasing power of consumers, the government also implemented additional social safety net programmes. The number of beneficiaries of the basic food card through the BPNT programme was increased, entitling new recipients to buy food at subsidised prices, and providing direct assistance to the poor in the form of cash money for basic food packages. The Ministry of Agriculture, allocated IDR 985.77 billion (USD 67.63 million) to finance this programme in 2020 (Rafani and Sudaryanto, 2020[18]). To increase the income of rural households including farmers, the Padat Karya (cash for work) programme of the Ministry of Agriculture prioritised work related to rehabilitation of rural infrastructure, such as irrigation canals and rural roads, land improvements, and community pest control.

The total budget of the Ministry of Agriculture for COVID-19 in 2020 was IDR 3.5 trillion, including: COVID-19 Control Measure (IDR 0.14 trillion); Food Availability Support (IDR 2.37 trillion); and Social Safety Net (IDR 0.99 trillion). The control measure for COVID-19 includes provisions of medicine and medical equipment for MoA employees, and for communities (Ministry of Agriculture (Kementerian Pertanian), 2020[19]).

Trade policy developments in 2020-21

In 2020, the export levy on crude palm oil (CPO) was increased from USD 50/tonne to USD 55/tonne. The levy is paid only if the export price of CPO is below USD 670/tonne (Ministry of Finance Decree (PMK) No. 191). The objective is to support the national biodiesel production programme with lower domestic prices and to absorb excess supplies of palm oil. Export levies on other refined palm oil products were also increased from USD 20-40/tonne to USD 25-45/tonne (AMIS, 2020[15]).

In July 2020, at the request of Indonesia, the WTO established a panel to review certain measures taken by the European Union on palm oil and palm oil crop-based biofuels (DS593) (AMIS, 2020[11]). On related matters, in December 2019, Indonesia formally requested WTO dispute consultations with the European Union regarding measures adopted by the European Union and certain Member States in the renewable energy sector relating to biofuels– notably the classification of palm oil as a 'high indirect land use change (ILUC)-risk' biofuel feedstock (AMIS, 2020[20]).

On 15 November 2020, the Association of Southeast Asian Nations (ASEAN)[1] and the five states with which ASEAN has existing free trade agreements – Australia, China, Japan, Korean and New Zealand – signed the **Regional Comprehensive Economic Partnership (RCEP or ASEAN+5)**. RCEP combines and deepens a number of existing bilateral and regional agreements, and once in force, it will be the largest free trade agreement in the world covering around 30% of both the global population and its GDP. The RCEP Agreement will enter into force 60 days after six ASEAN member states and three non-ASEAN member states have ratified the Agreement.

Australia and Indonesia signed the Indonesia-Australia Comprehensive Economic Partnership Agreement (IA-CEPA) in March 2019. IA-CEPA builds on an existing free trade agreement, the ASEAN-Australia-New Zealand Free Trade Agreement (AANZFTA), further reducing tariffs and providing additional mechanisms to guarantee the automatic issue of import permits for key product such as live cattle, frozen beef, sheep meat, feed grains, citrus products, carrots and potatoes (Australian Government Department of Foreign Affair, 2019[21]). However, importers will still be obliged to meet some import requirements. On 5 July 2020, the IA-CEPA entered into force. All tariffs levied on imports from Indonesia were eliminated. Some 500 000 tonnes of Australian feed grains (wheat, sorghum, and barley) enjoy duty-free access in

Indonesia. This volume will be progressively increased over an 11-year implementation period (AMIS, 2020[11]).

Trade policy responses to the COVID-19 pandemic

In April 2020, the Ministry of Finance launched a stimulus package-2 focused on maintaining consumers' purchasing power and facilitating export-import. Additional budget funds were allocated to income tax exemption to both government and private companies that carry out export, import, and re-import trade activities in specific sectors. Other measures included restricting export on 749 HS codes, simplifying or reducing a number of import restrictions on certain commodities including manufacturing, food, and health/medical support, and accelerating export-import services through the National Logistic Ecosystem (NLE). To facilitate the exports of processed food products, in June 2020, the Ministry of Trade adopted measures to simplify the certificate of origin service and introducing automatic authentication procedures in licensing processes (AMIS, 2020[22]).

Contextual information

Indonesia's population is growing rapidly, representing the fourth largest in the world and a high population density of 149 inhabitants per km^2. Indonesia is also one of the world's largest agricultural producers. The weight of agriculture in the economy has been falling in the last two decades, but the sector still accounts for almost 13% of GDP. The reduction in the share of agriculture in employment has been proportionally much larger, declining from 45% in 2000 to 29% in 2019, with a significant increase in the average production per employed person in the sector.

Indonesia is a net agro-food exporter and an increasing share of its total exports come from the sector (18.4% in 2019). Nonetheless, the country is also a large importer. Total agricultural area in Indonesia has increased by almost one-third in the last two decades and currently represents 2% of the agricultural land in all countries covered in this report. While food crop production is based on small family farms, there are large commercial farms producing perennial crops, in particular palm oil.

Table 14.5. Indonesia: Contextual indicators

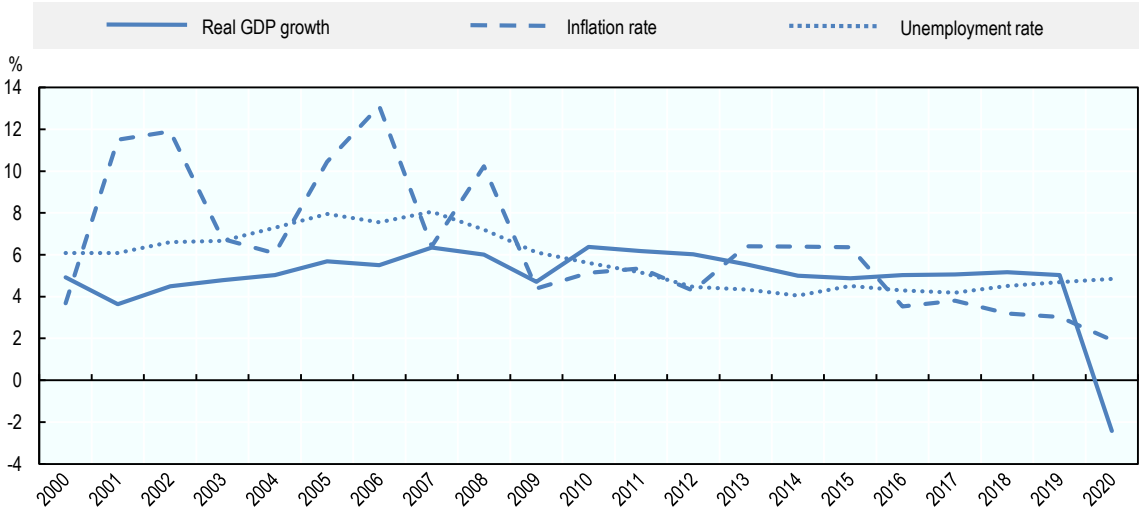
	Indonesia		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	1 098	3 331	2.8%	2.9%
Population (million)	205	271	4.8%	5.2%
Land area (thousand km^2)	1 812	1 878	2.2%	2.2%
Agricultural area (AA) (thousand ha)	47 177	62 300	1.5%	2.0%
			All countries[1]	
Population density (inhabitants/km^2)	117	149	53	63
GDP per capita (USD in PPPs)	5 352	12 302	9 265	21 975
Trade as % of GDP	26	15	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	15.6	12.7	2.9	3.5
Agriculture share in employment (%)	45.3	28.6	-	-
Agro-food exports (% of total exports)	6.8	18.4	6.2	7.3
Agro-food imports (% of total imports)	12.7	11.7	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	84	77	-	-
Livestock in total agricultural production (%)	16	23	-	-
Share of arable land in AA (%)	43	42	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Indonesia's economy has a solid growth record, at around 5% per year between 2000 and 2019, including after the financial crisis. Real income per capita in 2019 was more than double its level in 2000. However, in 2020 GDP decreased by 2.4% as a consequence of the COVID-19 pandemic and related restrictions. Inflation has been stable at around 4% in the last four years and consistently below 6% in the last decade, while the rate of unemployment is just below 5%.

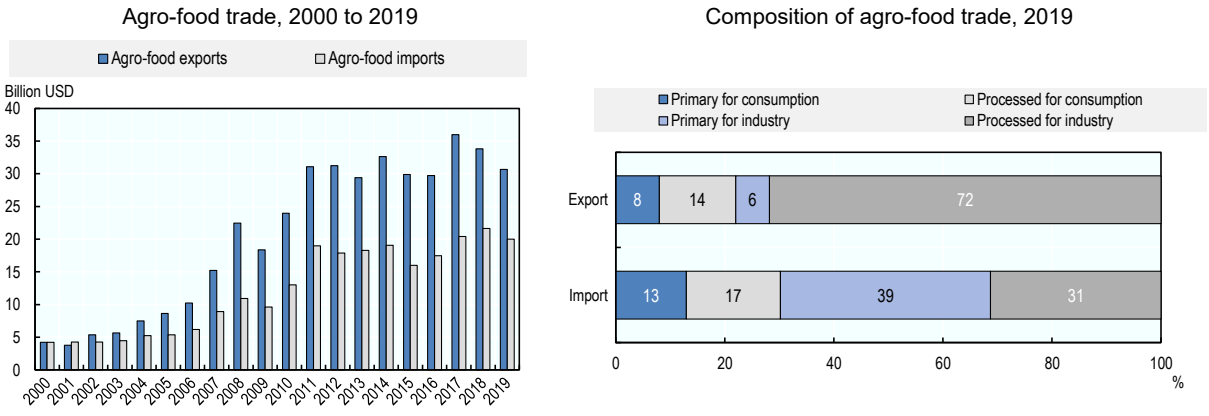
The volume of agro-food exports and imports has oscillated around a stable average since 2011, with USD 31 billion of exports and USD 20 billion of imports in 2019. Palm oil and rubber account for more than 60% of agro-food exports and contribute to a significant surplus in Indonesia's agro-food trade. Consequently, around 72% of agro-food exports are processed products to be further transformed by industries in other countries, while a significant share of agro-food imports (39%) are primary products for further processing in Indonesia.

Figure 14.5. Indonesia: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 14.6. Indonesia: Agro-food trade

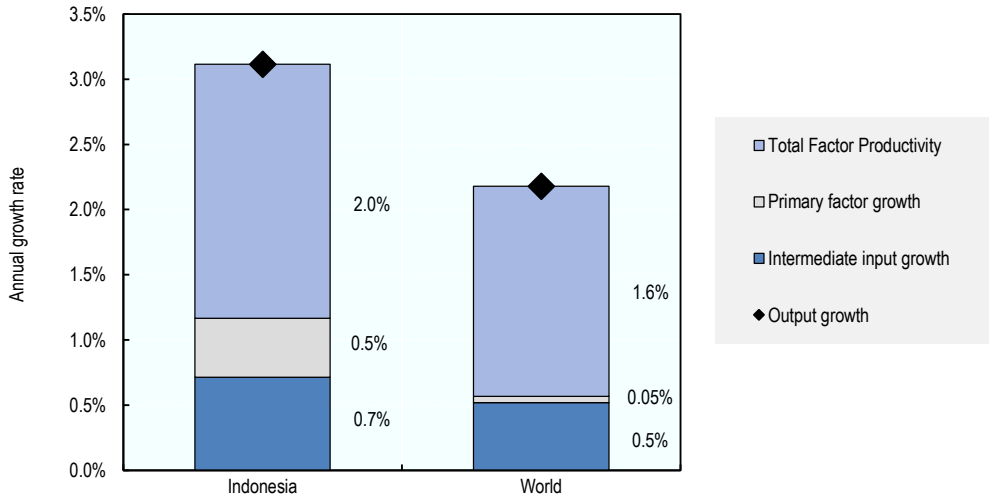


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Indonesia's agricultural production has increased at an annual rate of 3.2% in 2007-16. Most of this growth is productivity-driven: Total Factor Productivity (TFP) has increased by 2% per year, representing technological improvements to combine different production factors. Additional primary factors, including land, and intermediate inputs have contributed an additional 0.5 and 0.7 percentage points to the production growth, respectively. Unlike in the 1990s, Indonesia's growth in output and TFP has outperformed the global averages during the last 10 years.

Indonesian agriculture accounts for an increasing share of water extractions, which was 85% in 2007-16. However, the sector's shares of energy used (1.2%) and GHG emissions (13.3%) have been reduced compared to the 1990s. The country's phosphorous balance has increased to levels above the OECD average, while the nitrogen balance has decreased below OECD average.

Figure 14.7. Indonesia: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 14.6. Indonesia: Productivity and environmental indicators

	Indonesia		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	1.1%	2.0%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	31.6	20.2	33.2	28.9
Phosphorus balance, kg/ha	1.5	6.3	3.4	2.6
Agriculture share of total energy use (%)	2.4	1.2	1.7	2.0
Agriculture share of GHG emissions (%)	19.8	13.3	8.4	9.5
Share of irrigated land in AA (%)	10.3	..	-	-
Share of agriculture in water abstractions (%)	79.3	85.2	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Note

[1] ASEAN comprises Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam.

15 Israel

Support to agriculture

Despite efforts to introduce market-oriented reforms and temporary measures to lift trade restrictions at the early stages of the COVID-19 pandemic, total support to agriculture in Israel continued to increase from 2018 to 2020. This mostly reflects the persistence of regulations, price controls and border protection targeting specific commodities. The total support estimate (TSE) amounted to 0.5% of GDP in 2018-20.

The share of producer support in gross farm receipts (%PSE) reached 18.3% in 2018-20, close to the current OECD average and slightly below the 2000-02 level of 19%, but well above levels seen in the late 2000s and early 2010s. At the same time, the share of potentially most-distorting forms of support in Israel (92%) remains much higher than the OECD average. This can be explained by the persistence of domestic price support and border measures in favour of several meat and dairy products, and selected fruits and vegetables. Poultry and milk producers benefit from the largest share of market price support, accounting for 41% of the total producer support in 2018-20.

Single commodity transfers (SCT) represented 87% of the total PSE in 2018-20. Market price support is the main component of SCT: tomatoes, bananas, milk, poultry and grapes have the highest share of SCT in commodity gross farm receipts.

The share of general services support estimates (GSSE) in total support in 2018-20 amounted to 5.5% of agriculture value-added, close to the OECD average, and a higher proportion than in 2000-02. These expenditures focused mostly on agricultural innovation and infrastructure. Public spending to finance general services increased 20% in 2020 due to additional expenditures mostly related to hydrological infrastructure.

Recent policy changes

In 2020, the government of Israel undertook a number of measures in response to the COVID-19 pandemic and associated lockdowns. These include lockdown regulation exemptions for the agriculture and food sector, measures to ensure the function of government services, easing restrictions on foreign agricultural labour and encouraging volunteer workers to support agricultural activities, opening water quotas, providing relief to affected agricultural exporters, encouraging the development of e-commerce, and ensuring the supply and affordability of food in particular via temporary opening of import quotas for selected products.

The pandemic and prolonged legislative challenges continued to delay agriculture reforms envisioned for 2019. A parliamentary election – the third in less than a year – and unsuccessful negotiations on the state budget put any substantial changes in agricultural support policies on hold.

The Ministry of Agriculture and Rural Development (MARD) reached an agreement with the Israel Land Authority allocating ILS 21 million (USD 6.1 million) for each of the next three years to the implementation

of sustainable eco-friendly farming practices for soil conservation, enabling the agricultural sector to take a significant part in the global effort for greenhouse gas (GHG) reduction.

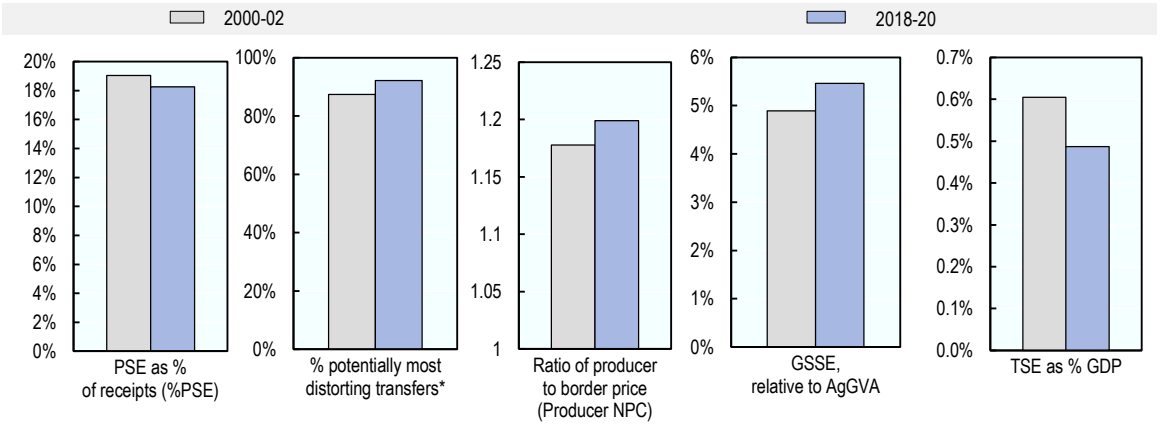
The FTA with Ukraine signed in 2019, a United Kingdom-Israel Free Trade Agreement, and a related protocol for the mutual recognition of organic produce entered into force on 1 January 2021. The FTA with Colombia signed in 2013, and the FTA with Panama signed in 2018, were ratified in 2020 and their concessions apply.

Normalisation agreements (known as the "Abraham Accords") were signed in the second half of 2020, followed by Memorandums of Understanding on, inter alia, promoting bilateral agricultural trade, especially with the United Arab Emirates and Bahrain.

Assessment and recommendations

- Israel took swift, necessary and proportionate measures to respond to the COVID-19 crisis in the agriculture and food sector in 2020. It should pursue the plan of its recovery package under the Acceleration Plan, particularly by investing in research and development, digitalisation of markets and infrastructure, and phase out relief measures that support the sector as it transitions out of the crisis.
- The level of support to agriculture in Israel continues to increase as selected commodities are insulated from international markets. The focus on price support raises market distortions and taxes consumers, and can harm the environment and impede adaptation to climate change.
- The COVID-19 crisis and electoral challenges in 2020 should not discourage the Israeli Government from finalising needed reforms in the milk and egg sectors. Even with the progress they are expected to achieve, and the gradual tariff reform of the beef sector, commodities remain subject to high border protection. Israel maintains high tariffs for goods such as poultry meat, sheep meat, and certain fruits and vegetables. These could be gradually removed and, if necessary, replaced temporarily by direct payments. The tariff system for agriculture should also be simplified, avoiding non-ad-valorem tariffs.
- Expenditures on agricultural knowledge and innovation systems have continuously increased, following the trend of the OECD average, which should help the country remain at the cutting edge of new agriculture technologies.
- Israel's skilled farmers, continued investments and comprehensive water management system enable the country to sustain a productive agricultural sector under very intense water stress and contribute to the sector's adaptation to future water risks. Still, the system's sustainability and flexibility could be improved by ensuring that farmers are charged water prices in line with marginal costs of supplying water, by facilitating further trading in water allocations among irrigating farmers and other water users, and by the use of optional compensations for unused water quotas.
- The government should build on recent initiatives to accelerate reduction of the sector's negative environmental impacts. It should ensure that GHG emissions generated by the sector's activities, energy and water needs are fully accounted for in its mitigation efforts. Improvements should also reduce the high and increasing nitrogen surplus associated with agriculture production. Reforming the most-distorting agriculture support policies would contribute to that effort. Regional agri-environmental programmes should be scaled up and complemented by policies and regulations targeted towards better environmental performance, potentially as part of the policy on ecologically sustainable agriculture.

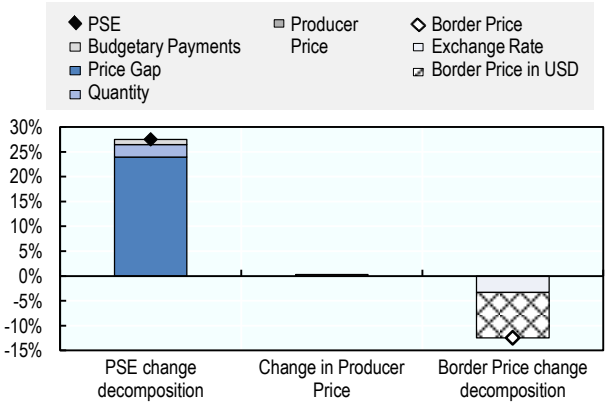
Figure 15.1. Israel: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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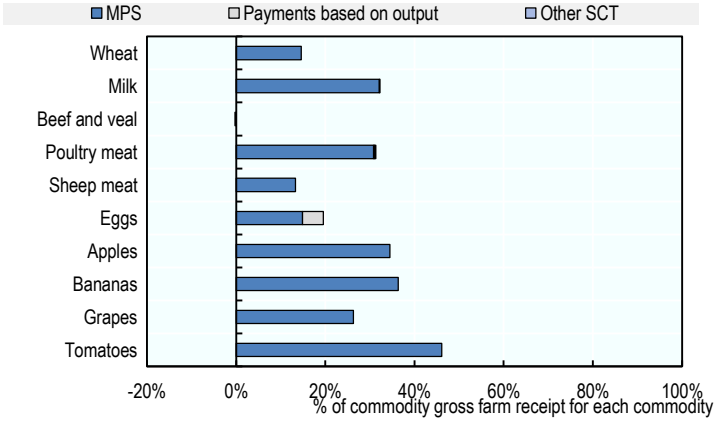
Figure 15.2. Israel: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/1aumh5

Figure 15.3. Israel: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/r4g8jo

Table 15.1. Israel: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**3 337**	**8 678**	**8 461**	**8 639**	**8 933**
of which: *share of MPS commodities (%)*	55.3	54.7	54.6	53.2	56.4
Total value of consumption (at farm gate)	**3 666**	**11 361**	**11 344**	**11 023**	**11 716**
Producer Support Estimate (PSE)	**681**	**1 629**	**1 442**	**1 485**	**1 961**
Support based on commodity output	486	1 421	1 214	1 298	1 751
Market Price Support[1]	476	1 405	1 197	1 282	1 735
Positive Market Price Support	490	1 406	1 199	1 283	1 736
Negative Market Price Support	-14	-1	-2	-1	-1
Payments based on output	10	16	17	16	16
Payments based on input use	160	113	116	110	112
Based on variable input use	106	81	84	79	82
with input constraints	0	0	0	0	0
Based on fixed capital formation	42	17	17	18	16
with input constraints	0	0	0	0	0
Based on on-farm services	12	14	15	14	14
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	25	87	97	72	91
Based on Receipts / Income	21	67	77	52	73
Based on Area planted / Animal numbers	4	19	20	20	18
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	8	9	14	5	7
With variable payment rates	5	9	14	5	7
with commodity exceptions	0	0	0	0	0
With fixed payment rates	2	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	1	0	0	0	0
Percentage PSE (%)	**19.0**	**18.3**	**16.6**	**16.8**	**21.4**
Producer NPC (coeff.)	**1.18**	**1.20**	**1.17**	**1.18**	**1.25**
Producer NAC (coeff.)	**1.24**	**1.22**	**1.20**	**1.20**	**1.27**
General Services Support Estimate (GSSE)	**100**	**258**	**226**	**245**	**304**
Agricultural knowledge and innovation system	51	105	99	106	109
Inspection and control	16	26	24	25	29
Development and maintenance of infrastructure	10	107	82	96	143
Marketing and promotion	11	1	1	1	2
Cost of public stockholding	12	11	11	9	12
Miscellaneous	0	8	8	7	9
Percentage GSSE (% of TSE)	**12.9**	**13.7**	**13.5**	**14.1**	**13.4**
Consumer Support Estimate (CSE)	**-613**	**-1 976**	**-2 008**	**-1 688**	**-2 231**
Transfers to producers from consumers	-446	-1 372	-1 199	-1 247	-1 669
Other transfers from consumers	-172	-607	-813	-443	-565
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	5	3	4	3	3
Percentage CSE (%)	**-16.5**	**-17.4**	**-17.7**	**-15.3**	**-19.0**
Consumer NPC (coeff.)	**1.20**	**1.21**	**1.22**	**1.18**	**1.24**
Consumer NAC (coeff.)	**1.20**	**1.21**	**1.22**	**1.18**	**1.24**
Total Support Estimate (TSE)	**781**	**1 887**	**1 668**	**1 729**	**2 265**
Transfers from consumers	618	1 979	2 012	1 691	2 234
Transfers from taxpayers	335	516	468	482	596
Budget revenues	-172	-607	-813	-443	-565
Percentage TSE (% of GDP)	**0.6**	**0.5**	**0.5**	**0.4**	**0.6**
Total Budgetary Support Estimate (TBSE)	**305**	**482**	**470**	**447**	**530**
Percentage TBSE (% of GDP)	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**
GDP deflator (2000-02=100)	**100**	**137**	**134**	**137**	**138**
Exchange rate (national currency per USD)	**4.34**	**3.53**	**3.60**	**3.56**	**3.44**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Israel are: wheat, cotton, groundnuts, peanuts, tomatoes, peppers, potatoes, avocados, bananas, oranges, grapefruit, grapes, apples, milk, beef and veal, sheep meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Agriculture was a priority for the state of Israel during its early years for three main reasons. First, the state needed to settle undeveloped areas of the country for geopolitical security. Second it wanted to avoid food shortages, due in part to an inability to import agricultural products from surrounding countries. Third, it needed to provide employment and livelihood for new immigrants to Israel (OECD, 2010[1]). Its objectives are still to improve food supply and achieve self-sufficiency in agricultural products that can be produced locally, expand existing export markets, and maintain the rural population, particularly in the peripheral areas as part of the settlement policy.

Over the past thirty years, Israel implemented a number of reforms related to the provision of subsidies, central planning of agricultural industries, and the allocation of production quotas, price controls and import protection. Major reforms in the agricultural sector began in the early 1990s with trade and market reforms limiting the role of the state in agricultural markets, including in central planning, consumer prices, and export and import policies for specific commodities. Reforms continued into the 2000s with a focus on competitiveness and gradual efforts to limit interventions in the dairy and beef sectors. Despite these, the country continues to support its agriculture with price controls, import tariffs and payments to farmers. (Table 15.2).

Table 15.2. Israel: Agricultural policy trends

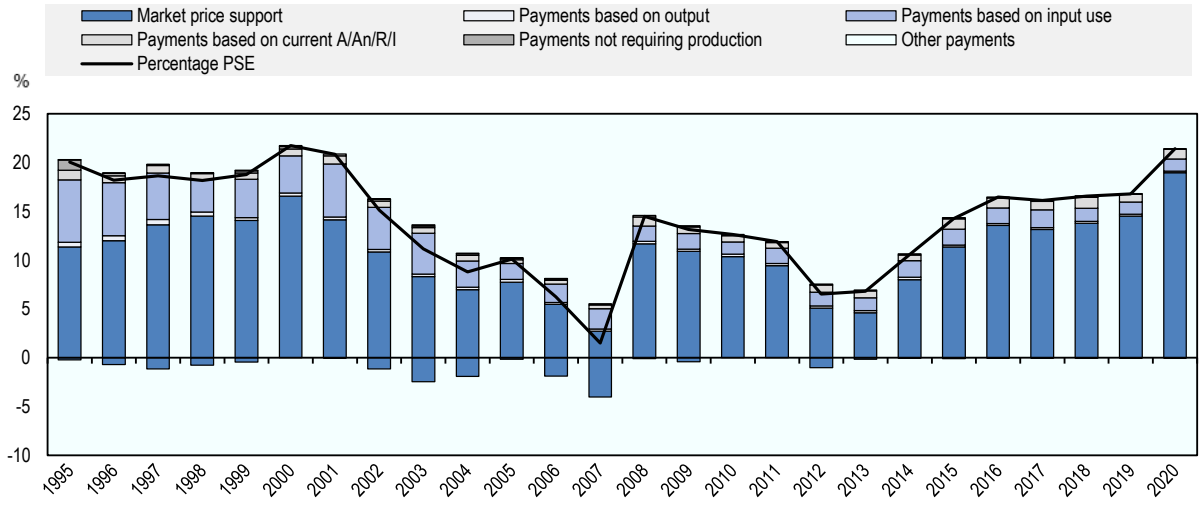
Period	Broader framework	Changes in agricultural policies
1985-1990	Trade liberalisation General economic reforms	Economic stabilisation programme Privatisation of state-owned enterprises Dismantling of state grain trading (imports) agency Dismantling of regional co-operatives Debt restructuring and write offs Fruit and vegetable production quotas abolished
1991-1994	Market and trade reforms (export liberalisation)	Gradual abolition of state monopoly of fruits and vegetables exports State meat trading replaced with the Kosher Meat Import Law Consumer price controls removed (except milk, eggs and flour) Reform of agricultural production and marketing boards (diminishing functions) Changes in water pricing Uruguay Round Agricultural Agreement
1995-1999	Trade reforms (import liberalisation)	Non-tariff barriers removed and ceiling binding Broiler sector reformed Reduction of 40% of fresh water use for agriculture FTAs signed
2000- 2010	Focus on competitiveness	Foreign exchange controls abolished Dairy sector reform Abolished minimum prices and surplus removal for fruit and vegetables Abolition of broiler production quotas Farmers' agreement on water charges and water supplies FTAs signed
2010-present	Continued efforts to reform key sectors	Reform agreement in the beef sector opening import quotas Dairy sector planning law 2011, dairy and eggs reforms discussed Measures to improve the agriculture marketing systems Water price reforms for equity reasons FTAs signed

Over the last 20 years, trends in producer support in Israel, expressed as percentage of gross farm receipts, encompassed three main phases: (1) a steady reduction until the food crisis of 2007-08; (2) a rapid rebound in support with this crisis, leading to a plateau in 2008-11; then (3) a fall and new increase

in support since 2012. Fluctuations in agricultural support are largely attributable to market price support (and to input support early-on), as budgetary support to producers remained stable. The market price support results largely from guaranteed minimum prices and import tariffs, while budgetary support is mostly provided based on current production and input use (Figure 15.4).

Figure 15.4. Israel: Level and PSE composition by support categories, 1995 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I: Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The government is involved in **allocating key factors of production**, including land, water and foreign labour. Land and water resources are almost entirely state-owned. Land is allocated to farmers for a nominal fee and is not tradeable. Water is allocated to farmers through a quota system; all water consumption is metered and charged. The government also applies a yearly quota of foreign workers with permits to work in agriculture. Both the overall quota and the allocation of workers to individual farmers are strictly regulated.

Some commodities are supported by **guaranteed prices and production quotas**. Guaranteed prices for milk are based on the average cost of production and, while updated regularly, they diverge considerably from the level and evolution of prices on international markets. Minimum prices are also guaranteed for wheat, based on the Chicago market price, adjusted for quality and transportation costs. Egg production quotas and recommended prices, which serve as the basis for calculating maximum retail prices, are applied together with border protection as an instrument to provide price support to producers. On the other hand, consumer price controls are applied for a range of basic food products, including bread, milk and dairy products, eggs and salt. Egg and poultry producers in "peripheral areas" at the northern border receive payments, based on output levels for eggs, and encompassing a mixture of payments decoupled from production and output payments for poultry producers (OECD, 2010[1]).

Capital grants provide support to investments. Farmers who participate in the **investment support** scheme also receive income tax exemptions and accelerated depreciation. Since 2009, an investment

support programme was implemented to partly replace foreign workers in the agricultural sector, but budgetary allocations for this programme declined strongly in recent years.

The Insurance Fund for Natural Risks in Agriculture (Kanat) provides subsidised **insurance schemes**. The share of support in the total insurance premium is 80% in the case of the multi-risk insurance schemes and 35% in the case of the insurance schemes against natural hazards. Since 2010, revenue insurance is applied to rain-fed crops to protect against a loss of revenue caused by price falls, low yields or both.

In 2015, a **credit fund** launched with the goal of establishing or expanding small farms that specialise in crop production. The government serves as the guarantor for bank loans with an 85% guarantee to ensure that small farms with insufficient collateral can access loans.

Israel's economy is supported by a transparent and open **trade regime** overall. However, border tariff protection on agro-food products remains an important tool to support agricultural producers. Israel's average applied Most Favoured Nation (MFN) tariff on agricultural goods (WTO definition) amounted to 19.1% in 2018, down from 27.7% in 2012, still much higher than the 3% average for non-agricultural goods (WTO, 2018[2]). Israel has tariff rate quotas (TRQ) for wheat, fats and oils, walnuts, prunes, maize, citrus juices, beef and sheep meat, and various dairy products. Most of Israel's preferential trade agreements also include tariff-quota commitments for agricultural products, often with reduced out-of-quota tariffs. In total, Israel implements over 500 preferential TRQs for agricultural goods.[1]

Despite reforms that began in 2014, Israel's **tariff profile** for agricultural products remains uneven, with very high – sometimes prohibitive – tariffs for goods such as dairy products, eggs, and certain fruits and vegetables, and low, sometimes zero, tariffs for other commodities such as specific coarse grains, sugar, oilseed and frozen beef. The tariff system on agriculture is complicated, involving specific, compound or mixed duties (WTO, 2018[2]); in 2019, 21.1% of imported agricultural products were subjected to non-ad-valorem rates, compared to 3.6% for all goods (OECD, 2019[3]). At the same time, some 50.6% of agriculture imports entered Israel duty-free, mostly through MFN access and preferential agreements (notably with the European Union and the United States) (OECD, 2019[3]). With the exception of beef, poultry (including turkey), and mutton and products thereof, there is no legal requirement that imported food and agricultural products be kosher, although imported, non-kosher agro-food products are rarely accepted by local marketing channels.

Budgetary allocations for **research and development** regularly increase and account for over 20% of the total agriculture-related budget in recent years. During 2018-20, ILS 366 million (USD 104 million) were allocated annually to agriculture research and development, of which almost ILS 84 million (USD 24 million) were used for a competitive research fund. Together with effective transmission of innovation to the farm level through a public extension service, this allowed Israel to become a world leader in agricultural technology, particularly for farming in arid and desert conditions.

Israel has no sector-specific mitigation policy for **GHG mitigation in agriculture** because agriculture accounts for a limited share of the country's total greenhouse gas emissions (2.7% in 2018). However, the government introduced and applied a number of programmes to support **climate change adaptation**. In addition to its forward-looking water resource management – in which irrigation relies on recycled wastewater and desalinated water, flexible quotas, and irrigation charges – the government supports research and development of improved agronomic practices, breeding, soil conservation and efficient use of resources. The programme also maintains the Israel Plant Gene Bank to conserve indigenous plant species. Efforts to develop a national quantitative assessment of climate change risks for agriculture are ongoing (OECD, 2019[3]).

Domestic policy developments in 2020-21

A parliamentary election, which was the third in less than a year, and unsuccessful negotiations on the state budget put on hold any substantial changes in agriculture and food government policies.

Nevertheless, ongoing projects continued, some even extended and ad-hoc solutions to cope with the COVID-19 crisis were implemented.

Despite a large number of discussion, no consensus was reached on the next phase following the 2011 **Dairy Sector Planning Law**. At the end of October 2018, an outline for a new reform was signed between the government and the representatives of the dairy farmers. The outline of the reform included a reduction of target prices, a reduction of customs tariff, and subsidies for increasing the efficiency of dairy farms, and support for dairy farmers leaving dairy production. The reform process aims to lead to structural change in the sector, increasing the average size and enhancing the efficiency of dairy operations. However, the reform agreement requires a change in legislation to be implemented; a memorandum of law was issued on the subject but the examination of the law was postponed. Instead, and accounting for 2020 circumstances, the current law has been extended until mid-2021. Discussions will continue, in order to find a solution that will be accepted by all parties.

A law memorandum on **Fruit and Vegetable Marketing Standards** (related to "the Law for Inspection of Plant Production and Marketing – 2011") was published for a second time in view of gathering public comments. The 2011 Law was found to be unable to delineate authorities of the relevant bodies, and did not provide authority on implementing regulations to enable the traceability of fresh agriculture products. While waiting for the law to be amended and for regulations to be introduced, the Ministry of Agriculture and Rural Development (MARD) called on retailers to separate food products by sources and **label their country of origin**, even for produce sold loose (which are not legally required to be labelled as such). The majority of the retailers responded to this request and started voluntary labelling fresh produce sold loose.

In mid-2020 a tender was published for a contractor to develop fruits and vegetables **quality standard brochures** and an internet application. The quality standard brochures present most of the quality parameters typical to fruits and vegetables using images, in accordance to different degrees of damage and in accordance with the various quality definitions. The internet application will facilitate the development of quality brochures and ease the inspection of fresh agricultural produce, using Automatic Quality Control and a cloud-based data analytics platform (artificial intelligence) for the Fresh Produce industry. The application will not be used mandatorily under the Standardization Law, but will be an integral tool for determining quality standards.

The **Veterinary Inspection Corporation**, a legal entity, owned by the government, started to operate in March 2020. It was established for hired publically accredited veterinarians and inspectors to conduct a number of public services. This encompasses conducting inspection at plants that process animal food, including slaughterhouses and meat processing plants as well as at points of sale and food supply sources. The Corporation employs 380 workers, including 250 veterinarians, with the remaining employees working as inspectors at slaughterhouses, with an annual turnover of ILS 160 million (USD 46 million). Activities are funded by charging fees from the plants at which it provides veterinary supervision. The fees are approved and regulated as specified by the Israeli Knesset (Parliament). Its activities are framed by regulations prescribed by officials at the Ministry of Health and by MARD. In addition, it operates as a licensed business which helps minimise its costs as much as possible, in relation to the charges that it is authorised to collect. All veterinarians and inspectors engaged in activities of the Corporation are operating under regulators at the Ministries of Health and Agriculture, who determine inspection rates for each slaughterhouse as well as the inspectors expected workloads.

In 2020, MARD began forging an updated policy for the implementation of **ecologically sustainable agriculture**. A designated committee was appointed by MARD's DG. The committee defined the overall vision and began working with dedicated task teams on four priority action areas: agricultural wastes (organic and inorganic); pesticides and plant protection; the effect of agriculture on rural infrastructure and local communities; the effects of agriculture on soil and water. The four teams will identify objectives and offer recommendations for action, which will be assessed by policy makers in 2021. A comprehensive

strategic plan is being developed on the basis of these recommendations, whose implementation will depend on available resources pending approval of the Budget Law.

MARD reached an agreement with the Israel Land Authority allocating ILS 21 million (USD 6 million) for each of the next three years for the implementation of sustainable eco-friendly farming practices for **soil conservation**, enabling the agricultural sector to take a significant part in the global effort for greenhouse gas reduction. This agreement follows a survey conducted by MARD finding that 13% of the cultivated farmlands in Israel were farmed by soil conserving practices, which is similar to the worldwide average.

On **climate change adaptation**, MARD, in co-operation with the Israel Meteorological Service (IMS), has advanced in the development of databases associated with the 54 identified critical climatic indices relevant to agricultural activities. Activities undertaken included the control and homogenisation of climatic data (temperatures, precipitation, and humidity in the last 30 to 70 years); performing the quality control of climatic model datasets according to different climate change scenarios (temperature, precipitation, humidity until 2050); and the calculation of daily and hourly indices based on past measurements and future projections using the above datasets. The collected data are beginning to be used to assess the main agricultural implications of climate change in the agriculture sector, encompassing risks and potential opportunities for diverse agricultural activities. In 2020, the quantitative analysis of climate change implications on dairy production and energy expenditure by 2050 have been initiated, and a mapping exercise predicted regions for growing deciduous trees by 2050 based on chill hour requirements.

Four **regional agri-environment schemes** are approaching the mid-point of their 5-year budget allowance (ILS 1.5 million- USD 0.4 million) as outlined in Table 15.3. The four schemes aim at co-ordinating plant protection based on integrated pest management (IPM) or integrated crop management, reducing conflicts between agriculture and wildlife and enhancing ecosystem services. A conference was organised to discuss progress made thus far. The Megiddo and Negev Mountain schemes have been instrumental in initialising co-operative processes with farmers of the region. All schemes targeted better communication between all stakeholders within the region to achieve sustainable agriculture goals. The government intends to renew the schemes beyond 2022 and expand the regional agri-environment schemes in the future.

Table 15.3. Regional agri-environmental schemes

Region	Co-ordinator	Area under IPM (hectares)	Main objectives
West Negev mountain	Regional council	Small scale pilot – about 100	IPM, control of invasive alien species, re-use of abandoned greenhouses
Hefer Valley	Regional council	630	IPM, agro-ecological services
Binyamina Farmers	Local farmer association	590	IPM, agro-ecological services, conflicts with wildlife
Megiddo	Regional council	600	IPM, agro-ecological services, conflicts with hikers

Source: MARD.

Water supply and allocation decisions for the sector continued to adapt to fluctuations in precipitation. In 2020, Israel's annual precipitation rate continued to exceed the multi-annual average. The Sea of Galilee reached its maximum level (the last time this occurred was in 2004), salinity decreased and water quality improved. Water supply in northern rivers remained high during the summer months and aquifer levels rose. Due to this, there was a decrease in the amount of water supplied by desalination plants. However, 2021 forecast estimates that total precipitation will only be 80% of the multi-annual average quantity. Consequently, water allocations for 2021 have remained at the 2020 level (without the special, one-time allocation due to COVID-19). It should be noted that, with the exception of the Galilee region, all remaining

consumers will receive their full allocation at the beginning of the year, regardless of quantities of rain. In the Galilee and the Golan, special attention will be paid to rain levels and, once the total volume is known, only then will the full water allocation for those regions be approved.

Water infrastructure investments continue to progress. The plan to connect remote regions to the national water system by connecting the Sea of Galilee to the national water system is progressing. Some of the infrastructure has already been constructed, and a number of alternatives are considered for the future. The Sorek Desalination Plant is being developed, while the location of the new desalination plant in the Western Galilee was decided and the tender process is underway.

During 2020, **water prices** did not increase - staying at ILS 1.54/m^3 (USD 0.44/m^3) for consumers of the national company Mekorot in areas lacking alternative water sources and at ILS 1.84/m^3 (USD 0.53/m^3) for the rest of the country - no increase is expected for 2021, in accordance with the 2018 Farmers' Agreement, which will end in July 2022. Support for **peatland farmers** will continue in 2021. Financial support continued to be allocated to private producers in the Hula Valley area to ensure that the peatlands are irrigated for ecological reasons and will continue to be provided in 2021.

In 2017, in **preparation for the religious sabbatical year (*Jewish Shmita*)**, which will take place from September 2021 to September 2022, MARD and the Ministry of Finance signed an agreement for ILS 18 million (USD 5.2 million) per year to be saved over four years (2018-22) to double[2] the savings of farmers deciding not to cultivate their land. According to the procedure, interested farmers are required to submit requests to stop activity and establish saving accounts, which the State will double. As of end 2020, more than 600 Sabbatical requests had been submitted and more were being processed, exceeding the government's initial budget. A proposed additional budget of ILS 125.5 million (USD 36 million) was made by the government in 2020, pending the 2020 budget approval.[3]

Domestic policy responses to the COVID-19 pandemic

Following the spread of the COVID-19, the government of Israel issued emergency regulations, including various restrictions, on commercial activities in order to reduce the infection and the virus spread. Agricultural production and related industry and services (such as carcass clearances, veterinarians, or agricultural machinery manufacturers) have been considered essential and are therefore excluded from these regulations.

To reduce the activities of government ministries and their autonomous units, a limited number of "essential" employees have been allowed to continue their work activities. In the Ministry of Agriculture and Rural Development (MARD), as in the majority of the public sector, 35% of employees were originally considered essential, a proportion that declined to 20% in early April. Services in farms and ports of entry, such as plant protection inspectors and veterinarians, have continued, even if teleworking and focusing on urgent work were encouraged.

MARD worked with the Water Authority to increase the water quota for agriculture, so local food production could guarantee fresh agricultural products supplies for Israel population during the crisis. The Water Authority board approved an increase in the maximum quota for agricultural purposes in several regions. In total, an additional 71 million m^3 were authorised for agricultural use, including 20 million m^3 for the Upper Galilee and 20 million m^3 for the Sea of Galilee area (Sovev Kineret). The remaining 31 million m^3 was divided equally amongst all water using farmers.

Due to the spread of the epidemic, the entry of foreign workers and Palestinian workers into the State of Israel has been restricted, and the following measures have been taken:

- Foreign workers. MARD requested and obtained from the Population Authority the extension of work visa to Thai workers whose visas expired their maximum five years and cannot be replaced in the near future. The Population Authority has also issued a special mobility procedure for the overall crisis period, so that, with his or her consent, a worker can be moved for a short period of

less than one month to another farm without the need for prior approval, even if the movement is not carried out within the same village. This flexibility was introduced as some industries, such as the flower sector, reduced their activity significantly while other industries greatly increased their need for workers, due to unavailable workers or increased consumer demand.

- Activating volunteers. In agreement with the Ministry of Finance, a special fund of ILS 6 million (USD 1.7 million) was granted to support public institutions recruiting volunteers to replace absent agricultural workers. The procedure only supports the logistical expenses associated with volunteer workers, such as transportation, food, accommodation and management of the recruiting system. Furthermore, MARD participated in funding non-profit organisations that coordinated the engagement of volunteers during the first COVID-19 wave (March 18-June 30) at a budget of ILS 12 million (USD 3.5 million). Thanks to these efforts, and due to the interest in leaving lockdown for open air, and to the role of youth community groups, a significant increase in volunteers in agriculture was recorded during the crisis. In particular, about 12 000 volunteers participated in 87 000 workdays on farms during the first COVID-19 wave.

The outbreak of the epidemic and the isolation guidelines have accelerated the launching of e-commerce platforms, under the auspices of MARD and the Innovation Authority.

The Economy Ministry is taking action against business owners who have taken advantage of the coronavirus crisis to raise the cost of foods above government fixed prices (just before Passover holidays), with increased enforcement followed consumer complaints. Criminal fines of up to tens of thousands of Israeli shekels are given to business owners found to have broken the law by raising the cost of these specific foods. As of 7 April infractions had been found concerning eggs, milk, cheese, and challah bread (Jean, 2020[4]).

To improve food resilience and for the purpose of contending with the economic effects on farmers associated with COVID-19, an Acceleration Plan is being developed, aimed at promoting agriculture in Israel, by dedicating efforts and budgets to a range of fields. This includes: agriculture R&D funding, capital investments in precision agriculture and yield improvement technologies, the development of and investments in vertical agriculture, the building of central and regional markets, the development of digital trade areas to improve competition, infrastructure improvements in peripheral villages, soil preparation and improvement in the Arava region, agricultural water networks rehabilitation in the villages, converting rainfed areas into irrigated areas, and building regional reservoirs for catching marginal water, flood water, effluents, etc.

Trade policy developments in 2020-21

Amendments to the Free Export Order were published in May 2020 in order to reduce the regulatory burden, facilitate the export procedure and to regulate the export of Medical Cannabis.

The revised free trade agreement (FTA) with EFTA, signed in 2018, has yet to be ratified. The FTA with Ukraine signed in 2019 and a United Kingdom-Israel Free Trade Agreement, as well as a related protocol for the mutual recognition of organic produce, entered into force on 1 January 2021. The FTA with Colombia signed in 2013 and the FTA with Panama signed in 2018 were ratified in 2020 and their concessions started to apply. Negotiations on new FTAs with the Republic of Korea, the People's Republic of China, Viet Nam, the Eurasian Economic Union (EAEU) and Guatemala are at varying stages of progress. A revised FTA with MERCOSUR is under negotiation.

The normalisation agreements (known as "Abraham Accords") that were signed in the second half of 2020, followed by Memorandums of Understanding on, inter alia, promoting bilateral agricultural trade — especially with the United Arab Emirates and Bahrain— have a high potential for developing intensive trade flow of fresh produce.

During the lockdown period, MARD conducted daily assessments of the supply situation of fresh agricultural produce, to identify missing items and allow their importation when needed. In particular, a marked shortage of some basic consumer products, such as eggs and certain canned and other preserved goods was observed during March – April 2020. As a response, MARD put in place incentives to encourage imports of these products as quickly as possible and used different import channels in order to compensate for the shortage. For example, WTO quotas were increased to import onions, cucumbers and eggs.

The plant protection and inspection services (PPIS) and veterinary and animal health services (IVSAH) have also facilitated imports by accepting copies of original phytosanitary or health certificates for specific products and under certain conditions.

An aid package was provided by MARD together with the Ministry of Finance for agriculture activities affected by export constraints. This includes fresh produce affected by declining air transportation, caused by travel restrictions, and produce affected by the closing of the Flower and Plant Auction in the Netherlands, cancellation of orders from global markets in addition to niche product for local markets. The package aims to assist growers of fresh agriculture produce and fresh herbs for export and the local market in the ornamental industry. The aid is provided for crops sold fresh and is based on the sales gap between this year and a reference period. A participation coefficient, calculated for each grower according to estimated economic damages (difference in turnover minus COVID-19 aid grants) is used as a weighting factor so growers that were mostly affected will receive a higher rate of assistance. The total aid is restricted to maximum ILS 0.6 million (USD 0.17 million) per applicant and is only offered once..

Contextual information

Israel's economy is relatively small but has been growing rapidly and its GDP per capita more than doubled over the last two decades, even as the population increased by 50%. The share of agriculture in total employment and in GDP has fallen to around 1%. Israel is unique among developed countries in that land and water resources are nearly all state-owned. Jewish rural communities, principally the kibbutz and moshav, dominate agricultural production, accounting for about 80% of agricultural output. Partly due to this structure, total agricultural area has moderately increased over the past twenty years, despite the country's continued development. While the agricultural sector is relatively diversified, most of the value of production and exports is generated by high value fruits and vegetables.

Table 15.4. Israel: Contextual indicators

	Israel		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	157	382	0.4%	0.3%
Population (million)	6	9	0.1%	0.2%
Land area (thousand km²)	22	22	0.03%	0.03%
Agricultural area (AA) (thousand ha)	566	623	0.02%	0.02%
			All countries[1]	
Population density (inhabitants/km²)	290	415	53	63
GDP per capita (USD in PPPs)	24 938	42 160	9 265	21 975
Trade as % of GDP	25	17	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	1.4	1.2	2.9	3.5
Agriculture share in employment (%)	2.2	0.9	-	-
Agro-food exports (% of total exports)	3.1	3.8	6.2	7.3
Agro-food imports (% of total imports)	5.3	8.1	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	58	60	-	-
Livestock in total agricultural production (%)	42	40	-	-
Share of arable land in AA (%)	60	62	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Figure 15.5. Israel: Main economic indicators, 2000 to 2020

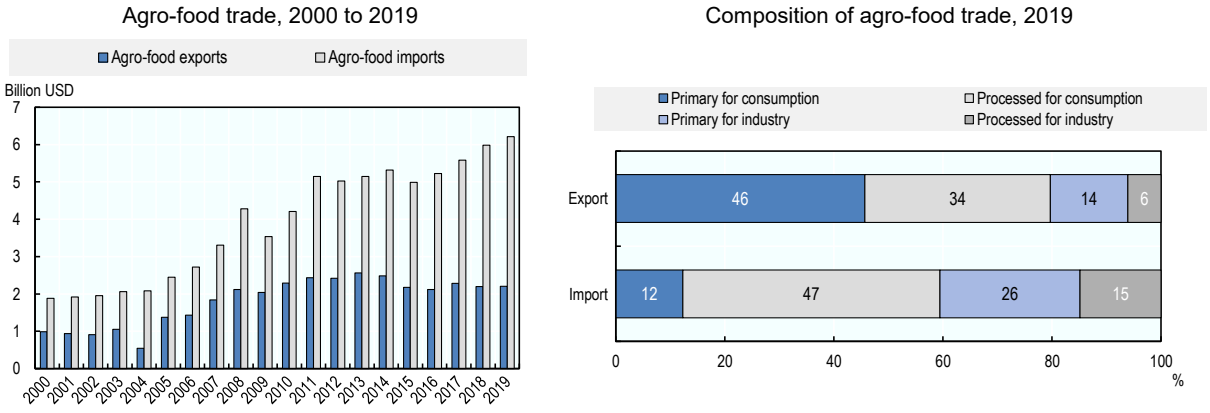


Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Israel has maintained a highly performing economy among OECD countries, with robust GDP growth until 2019, exceeding 3% per year and close to full employment in 2018-19. Its economy contracted in 2020 due to the COVID-19 pandemic and associated lockdown measures, but unemployment remained relatively low. At the same time inflation fluctuated around zero from 2017-20 (Figure 15.5).

The agriculture trade balance of Israel continued to decline in 2019, with the value of imports of mostly processed food products exceeding the value of exports of mainly primary commodities (Figure 15.6). This gradual shift may partly reflect the relative appreciation of the Israeli currency compared to the US dollar and the Euro since 2015.

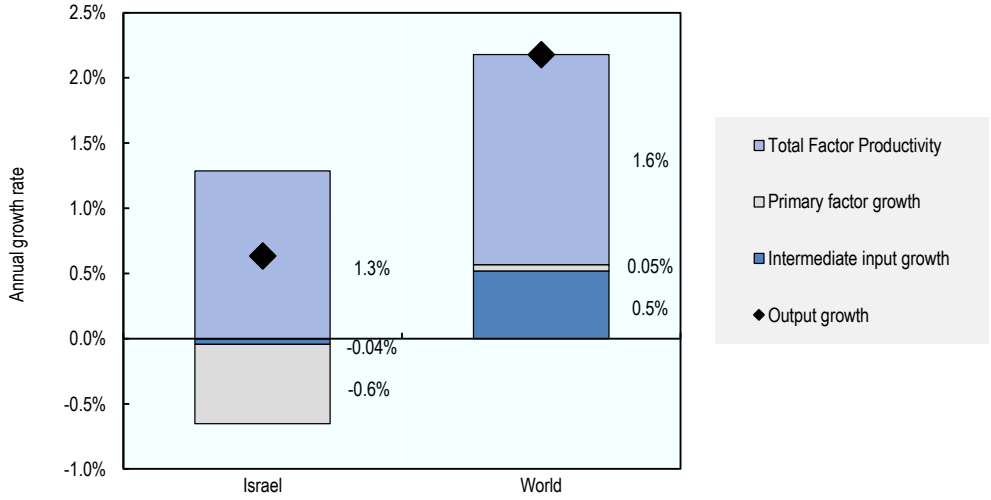
Figure 15.6. Israel: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

The productivity of Israeli agriculture is generally high but its increase has been slowing in recent years. The relatively low estimated growth rate in agriculture total factor productivity (TFP) in 2007-16 may be partially attributed to the moderate increase in the value of output (Figure 15.7).

Figure 15.7. Israel: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

While agriculture's water resource use has improved, the environmental performance of Israel's agriculture has degraded since 2000. During 2000-19, despite a 55% increase in irrigation area, agriculture's share of freshwater abstraction has halved, largely due to changes in water management, encompassing the use

of other water resources, efficient irrigation technologies and rigorous water demand policies. At the same time, nutrient surpluses have grown significantly, with nitrogen balances increasing by 25% to reach a level eight times the OECD average levels (Table 15.5).

Table 15.5. Israel: Productivity and environmental indicators

	Israel		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	3.5%	1.3%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	188.8	236.2	33.2	28.9
Phosphorus balance, kg/ha	65.7	68.9	3.4	2.6
Agriculture share of total energy use (%)	1.2	1.6	1.7	2.0
Agriculture share of GHG emissions (%)	3.3	2.8	8.4	9.5
Share of irrigated land in AA (%)	43.4	67.3	-	-
Share of agriculture in water abstractions (%)[1]	64.0	35.9	46.0	43.4
Water stress indicator	61.0	39.3	9.3	8.5

Notes: * or closest available year.
1. Share of agriculture fresh water abstraction in total fresh water abstraction.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

References

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OECD (2019), "Israel", in *Agricultural Policy Monitoring and Evaluation 2019*, OECD Publishing, Paris, https://dx.doi.org/10.1787/c68c69f3-en. [3]

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WTO (2018), *"Trade Policy Review: Israel", Secretariat Report, World Trade Organization, Geneva*. [2]

Notes

[1] Including the Ukrainian and British TRQs approved as part of their respective FTAs with Israel.

[2] Or triple in the case of a few crops.

[3] Of note, the majority of farmers' acts according to the Jewish law solution of a sale permit (in the Sabbatical year the land "is sold" symbolically to whoever is not Jewish and thus it can be farmed on similar to a normal year). The Chief Rabbinate Office will handle the sale permit in the coming Sabbatical year and its cost is estimated at ILS 8 million (USD 2.3 million).

16 Japan

Support to agriculture

Japan reduced its support to agriculture over the past decades, but agricultural support levels have stabilised more recently. Support to agricultural producers (PSE) remains high as a share of gross farm receipts at 41.1% in 2018-20, more than twice the OECD average.

The share of market price support (MPS) decreased only moderately and remains the main element of agricultural support, accounting for about 80% of PSE in 2018-20. It is largely sustained by border measures, in particular for rice, pork and milk. Protection for producer prices also decreased but, overall, farmers received prices on average about 60% above international market levels in 2018-20. Payments to producers increased between 2019 and 2020 due to direct payments for beef and support for crop farms to cushion the impact of COVID-19. Most remaining budgetary support to producers was mostly delivered as payments based on area and income.

The share of expenditures for general services provided to agriculture (GSSE) relative to total support estimate to agriculture (TSE) was 20.7% in 2018-20, higher than the OECD average but less than in the 1990s. Relative to the size of the sector, GSSE declined from 19% of agricultural gross value-added in 2000-02 to 16% in 2018-20, but remains well above the OECD average. The majority of GSSE financed the development and maintenance of agricultural infrastructure, predominantly of off-farm irrigation systems, representing 85.9% of GSSE in 2018-20. TSE represented 1% of Japan's GDP in 2018-20, most of which went to PSE.

Recent policy changes

The Basic Plan for Food, Agriculture and Rural Areas, which sets Japan's overall agricultural policy direction for the next 10 years, was revised in March 2020. The Basic Plan envisions continuous sectoral reforms but also increased support to rural communities. It also revised Japan's food self-sufficiency goals and by-commodity production targets to account for projected domestic consumption. The 2030 production targets for all commodities except rice are higher than current levels.

To alleviate economic losses and damage associated with the COVID-19 pandemic, Japan implemented an economic support package of JPY 234 trillion (USD 2.1 trillion) for fiscal year (FY) 2020. Equivalent to more than 40% of GDP, this is the largest supplementary budget ever implemented. The package supports both the agricultural sector and consumers through various activities, such as finding alternative sales channels, securing agricultural labour and disseminating information.

Promotion of agricultural products and food exports continues to drive Japanese agricultural policy. In April 2020, Japan introduced the Act on Facilitating the Export of Agricultural, Forestry and Fishery Products and Food, which streamlines export policies for these products. Japan also set targets for agricultural and food products exports to reach JPY 1.3 trillion (USD 11.2 billion) by 2025 and JPY 3.3 trillion (USD 30.9 billion) by 2030. The Strategy to Realize Export Expansion of Agricultural, Forestry, Fishery

Products and Food designates key products to prioritise resources and actions for agricultural export expansion.

Developments related to agri-environmental policies include an October 2020 pledge to achieve economy-wide carbon neutrality by 2050. The Green Growth Strategy published in December 2020 establishes greenhouse gas (GHG) emission mitigation targets while pursuing economic growth. Further, the sustainable food system strategy formulated in May 2021 calls for the greening of agricultural policies, including a shift of measures towards supporting decarbonisation in agriculture, forestry and fisheries, and an increased proportion of subsidies linked to cross-compliance in order to reduce environmental impact.

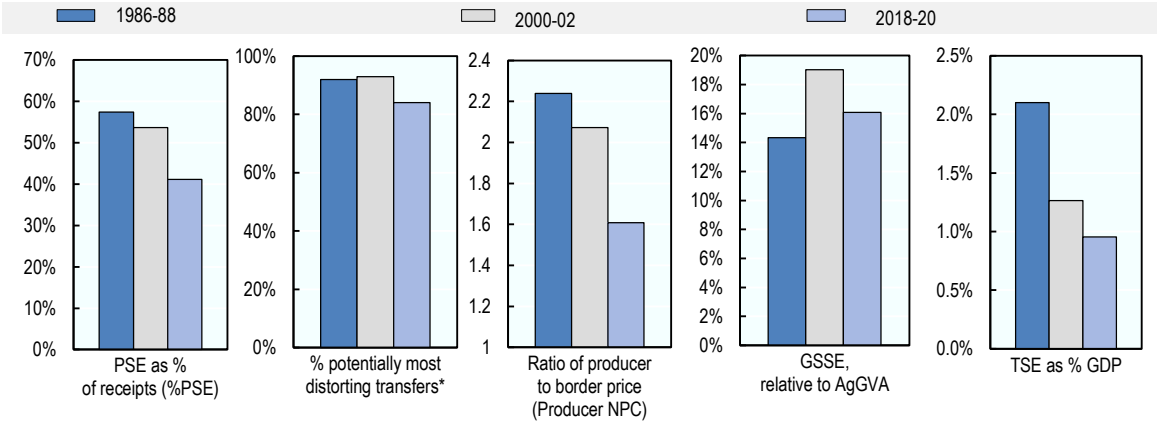
In November 2020, Japan signed the Regional Comprehensive Economic Partnership (RCEP) with 14 countries in the Asia-Pacific region. Japan's sensitive agricultural products such as rice, wheat, beef, pork, dairy products, and sugar and starch are exempted from tariff reduction. At the same time, the RCEP provides trade facilitation frameworks for non-tariff measures such as Sanitary and Phytosanitary Measures, Standards, Technical Regulations and Conformity Assessment Procedures and Intellectual Property. The Japan-United Kingdom Comprehensive Economic Partnership Agreement (Japan-UK CEPA) entered into force on 1 January 2021. Japan-UK CEPA replicates most of the market access and tariff commitments for agricultural products provided under the Japan-EU Economic Partnership Agreement.

Assessment and recommendations

- Japan made efforts to reform agricultural support policies since the early 2000s. But support to agricultural producers as a percentage of gross farm receipts remains more than twice the OECD average and continues to be dominated by MPS, among the potentially most-distorting forms of support. The new Basic Plan envisions increased food self-sufficiency and production, but these should not translate into additional distorting support to production, or reverse agricultural reforms. The government should develop a transparent and reliable pathway to reduce MPS and eventually eliminate measures that impede market signals.
- One of the main payments, the continued support provided for the crop diversification payment programme is likely to help reduce abandonment of paddy fields. However, other policies should be aligned with the ambition to reallocate rice area to other crops, implying in particular a reduction of high market price support for rice.
- Increased competition in the domestic market may contribute to structural change and further productivity growth in Japanese agriculture, but the exclusion of key products from trade agreement including RCEP limits the economic gains of opening international trade, both for consumers and for agriculture.
- There is significant room to improve the environmental performance of agriculture. Japan is among the OECD countries with the highest nitrogen and phosphorus surpluses. Even though agriculture accounts for a small share of Japan's GHG emissions, it produces 78% of methane emissions. Recent policy developments in agriculture and environment, including increased cross-compliance and decarbonising supports, are expected to incentivise farmers to adopt more sustainable production practices and improve agricultural environmental performance.
- Although the share of expenditures for general services provided to agriculture relative to total support is higher than the OECD average, the level decreased since the 1990s. Moreover, these were programmed mostly for irrigation-related infrastructure development and maintenance, which includes restoring damaged infrastructure from large-scale natural disasters. Climate-related hazards, often detrimental to infrastructure, are expected to become more frequent and intense. More attention should be paid to making infrastructure more hazard-resilient. Progress is also

needed to support agricultural knowledge and innovation in order to enhance the sector's productivity, sustainability and resilience.

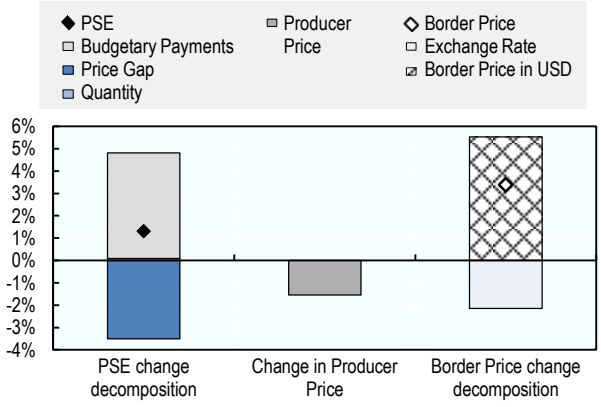
Figure 16.1. Japan: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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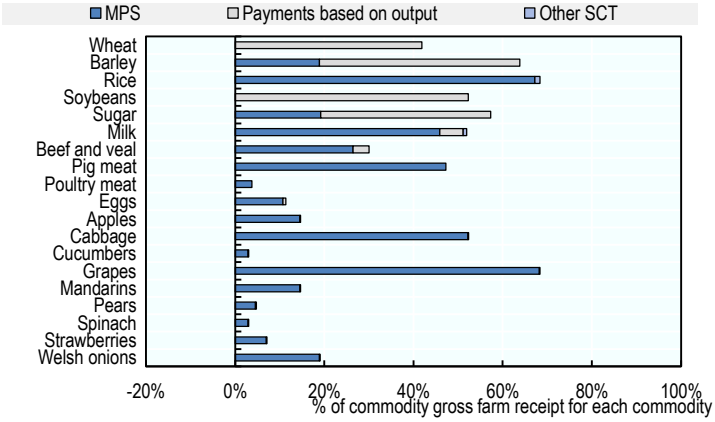
Figure 16.2. Japan: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/54bgt9

Figure 16.3. Japan: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/0g7j5l

Table 16.1. Japan: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**72 767**	**76 354**	**84 015**	**81 999**	**84 162**	**85 884**
***of which:** share of MPS commodities (%)*	68.4	63.8	66.6	67.0	66.3	66.6
Total value of consumption (at farm gate)	**94 458**	**107 904**	**120 948**	**118 356**	**122 303**	**122 185**
Producer Support Estimate (PSE)	**44 611**	**43 955**	**37 788**	**36 816**	**37 619**	**38 928**
Support based on commodity output	40 996	40 828	31 723	31 247	32 044	31 879
Market Price Support[1]	39 458	38 471	29 886	29 568	30 378	29 712
Positive Market Price Support	39 458	38 471	29 886	29 568	30 378	29 712
Negative Market Price Support	0	0	0	0	0	0
Payments based on output	1 539	2 358	1 837	1 679	1 666	2 167
Payments based on input use	1 434	976	865	877	949	768
Based on variable input use	403	85	10	8	10	10
with input constraints	403	85	0	0	0	0
Based on fixed capital formation	890	724	578	611	656	466
with input constraints	403	85	0	0	0	0
Based on on-farm services	142	167	278	258	283	292
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	621	613	2 397	1 950	1 875	3 367
Based on Receipts / Income	0	0	222	261	222	183
Based on Area planted / Animal numbers	621	613	2 175	1 689	1 653	3 183
with input constraints	0	0	1 714	1 235	1 194	2 714
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	1 560	1 538	2 803	2 743	2 752	2 914
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	1 560	1 538	2 803	2 743	2 752	2 914
with commodity exceptions	1 560	1 257	2 565	2 510	2 515	2 669
Payments based on non-commodity criteria	0	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**57.4**	**53.6**	**41.1**	**41.3**	**41.2**	**40.9**
Producer NPC (coeff.)	**2.24**	**2.07**	**1.61**	**1.62**	**1.62**	**1.59**
Producer NAC (coeff.)	**2.35**	**2.16**	**1.70**	**1.70**	**1.70**	**1.69**
General Services Support Estimate (GSSE)	**8 769**	**12 141**	**9 868**	**8 872**	**10 114**	**10 617**
Agricultural knowledge and innovation system	514	861	1 018	984	1 059	1 010
Inspection and control	55	66	112	73	89	174
Development and maintenance of infrastructure	7 747	10 620	8 484	7 565	8 748	9 138
Marketing and promotion	152	248	134	134	116	152
Cost of public stockholding	301	345	120	116	102	143
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**16.3**	**21.7**	**20.7**	**19.4**	**21.2**	**21.4**
Consumer Support Estimate (CSE)	**-53 525**	**-49 474**	**-43 062**	**-42 940**	**-43 324**	**-42 922**
Transfers to producers from consumers	-38 964	-38 460	-30 604	-30 255	-31 116	-30 440
Other transfers from consumers	-14 520	-11 100	-13 027	-13 287	-12 767	-13 027
Transfers to consumers from taxpayers	-108	35	6	5	6	7
Excess feed cost	68	51	563	597	554	539
Percentage CSE (%)	**-56.7**	**-45.8**	**-35.6**	**-36.3**	**-35.4**	**-35.1**
Consumer NPC (coeff.)	**2.31**	**1.85**	**1.56**	**1.58**	**1.56**	**1.55**
Consumer NAC (coeff.)	**2.31**	**1.85**	**1.55**	**1.57**	**1.55**	**1.54**
Total Support Estimate (TSE)	**53 272**	**56 130**	**47 661**	**45 694**	**47 739**	**49 551**
Transfers from consumers	53 485	49 559	43 631	43 542	43 883	43 467
Transfers from taxpayers	14 308	17 670	17 057	15 438	16 623	19 111
Budget revenues	-14 520	-11 100	-13 027	-13 287	-12 767	-13 027
Percentage TSE (% of GDP)	**2.1**	**1.3**	**1.0**	**0.9**	**0.9**	**1.0**
Total Budgetary Support Estimate (TBSE)	**13 814**	**17 659**	**17 775**	**16 126**	**17 361**	**19 839**
Percentage TBSE (% of GDP)	**0.5**	**0.4**	**0.4**	**0.3**	**0.3**	**0.4**
GDP deflator (1986-88=100)	**100**	**105**	**96**	**96**	**96**	**97**
Exchange rate (national currency per USD)	**147.09**	**118.19**	**108.75**	**110.44**	**109.05**	**106.76**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Japan are: wheat, barley, soybean, rice, sugar, milk, beef and veal, pig meat, poultry, eggs, apples, cabbage, cucumbers, grapes, mandarins, pears, spinach, strawberries and welsh onions.
Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Agricultural land reform was implemented immediately after World War II, transferring farmland ownership from landlords to previously tenanted farmers in order to improve their economic and social position. It restricted sales of farmland to non-farmers and strongly protected farmers' rights. This policy applied until 2009, when the Agricultural Land Act was revised to allow non-agricultural companies to lease farmland. Japan also invested in agricultural research and extension, and land infrastructure to recover from the devastation of the war. At the same time, the government kept controls on rice procurement – from production to distribution to consumers – under the Food Management Law in order to secure food supply.

To address the rising disparity in living standards and productivity between agriculture and other sectors, Japan implemented the Agricultural Basic Act in 1961 to increase farmers' incomes by increasing farm size, improving farmland, adopting agricultural machinery and technology, and shifting from rice and wheat-based production to livestock, vegetables and fruits. From the mid-1950s to the mid-1990s, agricultural policies focused on price and marketing control, including tariffs for key products, particularly rice, to ensure affordable food prices for consumers while increasing farm income in rural areas.

In 1993, at the conclusion of the Uruguay Round trade negotiations, Japan agreed to a preferential quota on rice imports. The Food Management Act was repealed in 1995, introducing market mechanisms to rice distribution. Following the replacement of the GATT with the WTO in 1999, Japan converted non-tariff border measures to tariff rate quotas (TRQs) for 28 commodities, including rice.[1]

Rapid globalisation of the economy, together with the continued decline in farming population and farmland area adversely impacted Japanese farming communities. In response, the Agricultural Basic Act was replaced by the Food, Agriculture and Rural Areas Basic Act in 1999 to establish four basic principles: (1) a stable food supply; (2) the desired multifunctional roles of agriculture; (3) sustainable development of agriculture; and (4) development of rural areas. Under the act, ten-year agricultural policy plans, named Basic Plan for Food, Agriculture and Rural Areas, have been formulated since 2000 (Box 16.1).

Agricultural policy reforms took place in recent years to help the sector become more competitive. These packages[2] aim to increase farm productivity through farmland consolidation and organisational restructuring of agricultural co-operatives, which play a central role in the Japanese agro-food system. Japan also introduced the revenue insurance programme to diversify farmers' risk-management tools. Moreover, Japan abolished the government-administered rice production quota system in 2018. Further, to capture increasing demand for Japanese food products overseas, agricultural and food exports became a key policy goal.

In parallel, Japan improved market access through large-scale trade agreements in recent years, including the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) in 2018, the Japan-EU Economic Partnership Agreement (Japan-EU EPA) in 2019, and the Japan-US Trade Agreement in 2020.

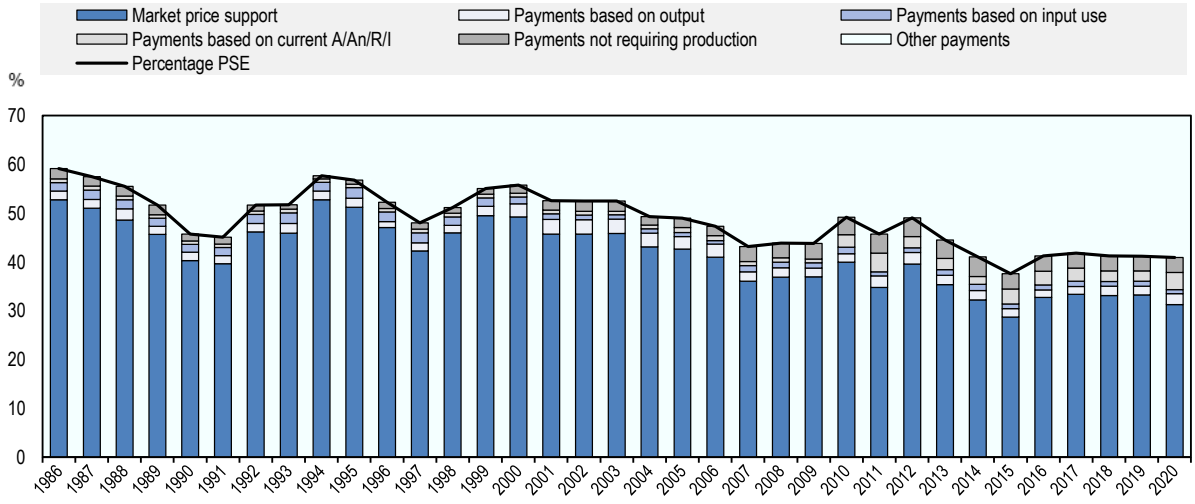
Table 16.2. Japan: Agricultural policy trends

Period	Policy directives	Changes in agricultural policies
Prior to1960	Eradication of rural poverty and securing food supply	Agricultural land reform implemented to help farmers own farmland Arrangements to increase food production (Agricultural Co-operatives Act of 1947, Agricultural Disaster Compensation Act of 1947, Agricultural Land Act of 1957) Policy priority given to increasing rice production to solve serious food shortage (Food Management Law of 1942, Five Year Food Production Increase Plan of 1952)
1960-1980	Reduction of income disparities between agriculture and other industries	Basic Agricultural Act (1961) to increase farmers' income by increasing farm size, improving farmland, adopting agricultural machinery and technology and shifting from rice and wheat-based production to livestock, vegetables and fruits. Rice policy goal changed from increasing rice production to managing quantity as full self-sufficiency achieved in 1967 Rice production adjustment control introduced in 1971
1980-2010	Adjusting towards internationalisation, bringing market principles to the agricultural sector, and integrating concepts of 'rural area' and 'food' into agricultural policies	Agricultural Management Framework Reinforcement Act (1993) systematises support for qualified farmers Act on Stabilization of Supply, Demand and Prices of Staple Food (1994) changes the role of government in rice state trading; government only purchases for stockpiling purposes Quantitative quotas of rice replaced by tariff rate quota (1999) Act on Food, Agriculture and Rural Areas (1999) aims to establish stable agricultural structure in the new economic and social conditions; food self-sufficiency goal and direct payments for farmers in mountainous areas introduced
2010-Present	New agricultural reforms to enhance competitiveness	Farmland reforms (2009 revision of Agricultural Land Act to allow leases, 2013 Act on Promotion of Agricultural Land Intermediary Management to facilitate agricultural land consolidation) Amendment of Agricultural Co-operatives Act (2015) Abolition of rice production quota system (2018) Introduction of the revenue insurance programme (2019) Large-scale trade agreements (CPTPP, Japan-EU EPA, Japan-US Trade Agreement) and export promotion of agricultural and food products

Support to farmers declined from close to 57% of gross farm receipts in the mid-1980s to less than 38% in 2015, but stabilised around 41% in recent years. The share of market price support also declined but, while Japan provides a range of budgetary forms of producer support, higher domestic prices continue to provide the majority of transfers to producers, accounting for close to 80% of PSE in 2018-20 (Figure 16.4).

Figure 16.4. Japan: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I: Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Japan maintains a system of high border protection and domestic price support for key agricultural products. In general, Japanese **tariffs** on agricultural products are higher than those on non-agricultural products. On average, tariffs on agricultural products amounted to 15.5% in 2019,[3] compared to 2.5% for non-agricultural products. However, agricultural tariffs vary considerably, with over 35.8% of tariff lines duty-free and 3% of them above 100% (ad valorem equivalent), while 13.2% of agricultural tariff lines have non-ad valorem tariffs (WTO, 2020[1]). **Tariff rate quotas** with high out-of-quota tariffs apply to some commodities, like starch and dairy products.

Rice import happens through **state trading**, fulfilling Japan's minimum-access commitment under the WTO Agreement on Agriculture. A TRQ of 682 200 tonnes (milled) applies. The maximum **mark-up** (collected by the government when importing and selling on domestic markets) for rice imports is set at JPY 292 (USD 2.7) per kg, and the out-of-quota tariff-rate is JPY 341 (USD 3.0) per kg.

A **revenue-based payment** is available for farmers meeting certain requirements, in particular certified farmers,[4] producing rice, wheat, barley, soybean, sugar beet and starch potato if revenues from these crops drop below historic average revenues. Ninety per cent of the difference between current revenue and the past average is compensated by the government (75%) and the farmers' reserve fund (25%).

The **direct support payment** for upland crops (wheat, barley, soybean, sugar beet, starch potato, buckwheat and rapeseed) is based on the combination of area and output. The government provides area payments based on current planting, and output-based payments according to the volume of sales and the quality.

A **crop diversification payment** goes to farmers who switch their use of paddy fields from table rice production to other crops (wheat, soybeans, or rice for feed and processing). This payment is area-based, but output is also taken into account for rice for feed and flour. Within this crop diversification programme,

a payment is also provided to municipal governments if the production area employs high-yield rice variety for feed and processing, or cultivates buckwheat or rapeseed.

The **Livestock Stabilisation Programme** for beef and hog, known as Marukin, provides support payments to beef cattle and hog producers when the average sales price falls below the average production cost, which for beef cattle is calculated at regional level. Ninety per cent of the difference between costs and sales prices are paid to producers, to which the government contributes 75% and the rest are provided by the producers' reserve fund. Output-based compensation also goes to producers of raw milk used for dairy processing.

Commodity insurance covers yield losses and damage to production facilities from pests and natural disasters. Degradation of crop quality is also insured for certain commodities (rice, wheat, barley and fruit). Commodity insurance is voluntary and available for a range of commodities (rice, wheat, barley, livestock, fruit and field crops)[5] and horticultural facilities. Government support covers around 50% of the insurance premium.

The **revenue insurance programme** launched in January 2019 provides a safety net for farmers in case of revenue loss. The programme compensates the loss of farm revenue stemming from both market and natural causes, relative to a benchmark based on the previous five years' revenues. The government supports 50% of the insurance premium and 75% of the reserve fund. Farmers can participate in either revenue insurance programme or commodity insurance to avoid duplicate payments by these government programmes.

Japan offers three types of support programmes to encourage **young farmers** (under 50 years old) to enter the agricultural sector. First, a maximum of JPY 1.5 million (USD 14 050) per year is available to new young farmers during a training period (maximum of two years). Second, JPY 1.5 million (USD 14 050) is granted annually to eligible young farmers during the initial operation period (maximum of five years). Third, funding for a maximum of JPY 1.2 million (USD 11 240) is available annually to subsidise agricultural co-operation for the training cost of young farmers (maximum of two years).

A **certified farmer programme** exists since 1993 to foster farmers (both individuals and corporations) who actively engage to improve farm management. The programme grants certified status to these farmers with a management plan approved by national or local municipal authorities. Certified farmers receive several benefits, including income support payments, tax breaks and support for pension premiums.

The Agricultural Land Act establishes **Agricultural Committees** in municipalities to manage agricultural land use in Japan. Purchasing, selling and leasing of agricultural land need to be approved by the Committee. Based on the Act on Establishment of Agricultural Promotion Regions, municipalities can prohibit conversion of agricultural land to other uses. **Farmland Banks**[6] were established in 2014 to facilitate consolidation of farmland. These intermediary institutions exist in each prefecture. The banks improve the conditions and infrastructure of farmland if necessary, and lease the consolidated farmland to business farmers (e.g. corporations, large-scale family farmers, new farmers). Subsidies are provided to landowners and regional authorities that lease farmland to the Farmland Banks.

Public investment in **rural and agricultural infrastructure** is a core agricultural policy, including farmland (e.g. enlargement of land plots), roads, dams and irrigation, and drainage facilities. The government also invests in the prevention of natural disaster and restoration of farm infrastructure, and in construction of public health and recreational facilities associated with agriculture.

Hilly and mountainous areas represent about 40% of both total agricultural land and total agricultural output in Japan. Area-based direct payments go to farmers in these areas to compensate for the production disadvantage (e.g. steep slopes and smaller cultivation plots), to avert the abandonment of agricultural land, and to contribute to environmental protection, landscape preservation and community engagement.

Direct payments for environmentally friendly agriculture are provided to farmers who conduct activities effective in preventing global warming or conserving biodiversity, in conjunction with reducing the use of synthetic fertilisers and pesticides by more than half relative to conventional farming practices in the region. Examples of supported activities include cover-crop planting, compost application and organic farming. Farmers must comply with **Good Agricultural Practices** to receive these payments. Other payments are available to support community engagement to manage and maintain agricultural land and related resources (agricultural roads, water courses, reservoirs etc.) that help the performance of agricultural **multi-functionality**.

Having ratified the Paris Agreement on Climate Change, the **agricultural mitigation plan** of 2017 addresses carbon dioxide (CO_2) emissions reduction through decreasing fuel consumption for horticultural facilities and agricultural machinery. It also describes measured for adjusting agricultural land use, such as disseminating water management methods for paddy fields to lower methane emissions and improving fertiliser use efficiency to reduce N_2O. The **agricultural adaptation plan** established in 2015 and revised in 2017 and 2018, with a road map until 2025, looks at managing climate risk (e.g. development and utilisation of new plant varieties and natural disaster resilient infrastructure) and envisions taking advantage of opportunities that may arise.

Japan currently has 20 **Economic Partnership Agreements (EPA)** and other trade agreements in force or signed with Singapore, Mexico, Malaysia, Chile, Thailand, Indonesia, Brunei Darussalam, the Association of Southeast Asian Nations (ASEAN), Philippines, Switzerland, Viet Nam, India, Peru, Australia, Mongolia, CPTPP, the European Union, the United States, the United Kingdom and RCEP.[7] These EPAs accelerated structural reforms and increased necessary support for the agricultural sector to counter market competition. Such efforts include the implementation of the Comprehensive TPP-related Policy Framework, which provides programmes to increase productivity in the sector. In addition, Japan is engaged in EPA negotiations with Colombia and Turkey, and the People's Republic of China (hereafter "China") and Korea for the plurilateral free trade agreement.

Domestic policy developments in 2020-21

Japan revised its **Basic Plan for Food, Agriculture and Rural Areas** (hereafter the Basic Plan) in March 2020, which sets the next decade's agricultural policy directions. The new Basic Plan aims to continue necessary agricultural policy reforms both to make the sector competitive and manage the challenging environment, including the decline of farming population. The Basic Plan, however, now puts an increased emphasis on rural communities, for instance by strengthening the agricultural production base regardless of farm size (including small-scale family farms). The Basic Plan also aims at ensuring a stable food supply and improving food self-sufficiency (Box 16.1).

Box 16.1. The 2020 Basic Plan for Food, Agriculture and Rural Areas

The Basic Plan is updated every five years and this is the fifth revision since it was first published in 2000. The previous 2015 Basic Plan prioritised agricultural sector reforms in order to make the sector competitive and withstanding to the expected new trade environment (e.g. implementations of large-scale EPAs). These reform initiatives resulted in some positive outcomes, including an increase in average net farm income from JPY 2.8 trillion (USD 26 billion) in 2014 to JPY 3.5 trillion (USD 33 billion) in 2018.

However, rapid decline of farming population and farmland area have raised concerns over further weakening of the agricultural production and rural agricultural communities. In addition, the surge of large-scale natural disasters due to climate change and livestock disease infections, such as classical

swine fever, are increasing the vulnerability of the sector. The 2020 Basic Plan thus offers eight key visions to respond to these challenges:

Key Visions
1. Conduct demand and needs-based policies
2. Calls for the public to support agriculture, food security and rural areas
3. Secure and develop agricultural labour capital
4. Accelerate the implementation of Smart Agriculture and digitalisation
5. Promote more integrated regional policy and maintain the multi-functionality in agriculture
6. Strengthen risk management to natural disasters, livestock infectious diseases, and climate change
7. Increase income in agricultural sector and rural areas
8. Support sustainability in line with the Sustainable Development Goals (SDGs)

The Basic Plan also sets several quantitative policy targets for 2030 including several self-sufficiency rates defined for agricultural production overall and subsets of it, as well as production targets for individual commodities. All these targets are set at levels higher than current ones, with the exception of the production target for rice, and serve as guides for the next decade's policy formulation.[1]

1 These include three targets related to self-sufficiency rates for:
(a) all agricultural production, called food self-sufficiency, set to increase from 38% and 66% in 2019 when expressed on a calorie and value base, to 45% and 75% in 2030, respectively.
(b) feed production, called feed self-sufficiency, set to increase from 25% in 2019 to 34% in 2030.
(c) food (i.e. agriculture net of feed) production, called national food production, set to 47% and 69% in 2019 when expressed on a calorie and value base, to 53% and 79% in 2030, respectively.
(d) Production targets are also set for individual commodities.
In addition, a simulated projection of the potential domestic food production capacity is included, dubbed food self-sufficiency production potential, which considers land and labour availability and technological advancement in production and is used in stakeholder dialogues.
Source: (MAFF, 2020[2]).

In October 2020, MAFF published a new policy document, **the Smart Agriculture Comprehensive Policy Package**, to advance the development and the implementation of emerging technologies for the agricultural sector. In particular, the document identifies necessary measures over the next five years achieve smart agriculture in particular to reach the goal of having "most of key agricultural producers in Japan practice data-driven agriculture by 2025". In March 2021, , a new policy blueprint for the use of **digital technologies** in the agricultural sector named the **Conception and Projects for DX of Agriculture** was set up. It addresses corresponding to the needs and providing new values to consumers through data-driven agriculture, which are called FaaS (Farming as a Service).

A number of plant varieties bred in Japan have been transferred abroad without authorisation. To enhance the plant breeders' rights, (PBR) the **Plant Variety Protection and Seed Act** was amended in December 2020 and came into force in April 2021. Under the amended act, the holder of PBR can restrict their protected varieties from being brought to foreign countries without authorisation. The Act also requires, from April 2022, that farmers receive authorisation from right holders for propagating protected varieties on their own farm. The amended act makes it possible for the holders of PBR to take appropriate action against unauthorised or unintentional use of their protected varieties.

An amended **Act on Improvement and Increased Production of Livestock** was enacted in April 2020 and became effective in October 2020. It defines "designated semen and embryo"[8] of livestock and aims to prevent fraudulent transaction and unauthorised distribution of these genetic materials by ensuring traceability.[9] "Designated semen and embryo", for which the scope of users and the purpose of use are limited based on contract, are protected as intellectual property by the **Act on Prevention of Unfair Competition on Genetic Resources of Livestock** which was also enacted in April 2020 and came into force in October 2020. The act defines "unfair competition" and authorises civil remedies such as seeking

injunctions and damage. For acts deemed to represent “unfair competition”, it imposes criminal penalties including imprisonment, fines or both.

The first case of classical swine fever (CSF) was confirmed in Japan in September 2018, 26 years after the last known case, while the African Swine Fever (ASF) continued to spread outside Japan. As a response, Japan amended the **Act on Domestic Animal Infectious Diseases Control** in April 2020 offering the means to take effective preventative measures in case of disease outbreak in Japan. The amended act added ASF to the list of targeted diseases, which allows preventative culls of healthy livestock if outbreak occurs. The act also established stricter farm sanitation standards and clarified roles and responsibilities for each actor involved (national and local governments, farmers). The amendment also gives legal authority to animal quarantine officers to question inbound passengers and inspect their belongings for illegal animal products.

Organic food production and labelling is regulated under the **Japanese Agricultural Standard (JAS)** system. JAS for organic livestock products (e.g. beef, eggs) and organic processed food products containing livestock ingredients sold (e.g. hams, cheese, chocolate) changed from a voluntary standard to a mandatory standard from 16 July 2020. All these products need to be certified and labelled with the JAS organic logo if they are to be sold as organic in Japan.

Japan has actively pursued the inclusion of disabled people in the agricultural sector. MAFF’s initiative on **disability-inclusive agricultural development**, named *Nou-Fuku Renkei* – a collaboration (Renkei) with agriculture (Nou) and social welfare (Fuku), was accelerated in March 2020 with the establishment of a consortium with participation from the business sector. One activity launched by MAFF and the consortium is the disability-inclusive agricultural development award, to exhibit best practices of inclusivity in the agricultural sector. Also, the JAS system allows special labelling for agricultural products produced by those with disabilities and ten entities have been approved for the use of labelling as of March 2020. Further, in 2020, MAFF created guidelines and provided subsidies as well as training to form specialists to support the employment and participation of the disabled in the agricultural sector. Additionally, Japan published a policy vision for promoting agricultural and welfare co-operation in 2019 and aims for an additional 3 000 entities to undertake the collaboration of the agriculture and welfare sector by 2024.

A series of **large-scale natural disasters** hit Japan in 2020. In July, a week of torrential rain triggered severe flooding and landslides especially in the Kumamoto prefecture in southern Japan, with rivers breaking banks and washing away bridges, forests, and homes. Floods and landslides caused extensive damage to agriculture, forestry and fisheries (e.g. orchards, paddy fields and tobacco farms, greenhouse facilities and machinery). Total estimated damages amounted to JPY 221 billion (USD 2 billion). In September, typhoon *Haishen* led to JPY 12.5 billion (USD 117 million) of agricultural damage. The record snowstorm in 2020-21 also caused damage worth JPY 11.9 billion (USD 111 million) to the sector. [10] The government earmarked supplementary budgets of JPY 105.4 billion (USD 1 billion) for the restoration efforts in the sector, mostly intended to support the recovery of farmland and agricultural facilities and to conduct work to rehabilitate damaged roads and land subject to landslides.

Japan established all-sector the **Progressive Innovative Environmental Strategy** in January 2020 to accelerate the achievement of national greenhouse gas (GHG) reduction target through the use of technology. Employment of farmland carbon sequestration using cutting-edge biotechnology, reduction of fuel consumption through smart agriculture (e.g. using robotics and information and communication technologies (ICT)) and the development of farm and livestock management tools and plant variety to reduce methane emissions from agriculture are addressed in the strategy.

In October 2020, Japan strengthened its GHG reduction target to achieve economy-wide **carbon neutrality by 2050**. Along with this decision, the country published the **Green Growth Strategy** in December 2020, an all-sector action plan for achieving net zero GHG emissions by 2050 while projecting economic annual growth of JPY 90 trillion (USD 843 billion) by 2030 and JPY 190 trillion (USD 1.8 trillion) by 2050 through greening efforts. The strategy specifies 14 priority sectors that are considered to have

high GHG reduction potential which include agriculture. To achieve net zero CO_2 emissions, a reduction of fossil fuel use in the agricultural, forestry and fishery sector by 2050 is envisaged, including via a shift of horticulture to fossil fuel free facilities.

In March 2020, MAFF published its **Environmental Policy Basic Directions**, a document that outlines basic principles for planning and implementing agriculture and environment policies. The principles envisages (1) implementing policies that improve both environmental and economic performance, (2) greening policies throughout the whole supply chains and promoting research and development to support the greening, and (3) reducing its own environmental impact. To advance these efforts, in October 2020, MAFF and the Ministry of Environment agreed to strengthen co-operation in 14 policy areas.

Based on policy discussions with multiple agricultural actors and stakeholders, MAFF formulated the **Strategy for Sustainable Food System** in May 2021 (officially called the *Measures for Achievement of Decarbonisation and Resilience with Innovation (MeaDRI) Strategy*). The Strategy embodies the principles described in the above Green Growth Strategy and the Environmental Policy Basic Directions and aims for building a sustainable food value chain with innovations. The strategy addresses several agriculture-related objectives to be achieved by 2050: (1) zero CO_2 emissions from agriculture, forestry and fisheries sectors, (2) 50% reduction in overall use of chemical pesticides by disseminating the Integrated Pest Management and newly-developed alternatives, (3) 30% reduction in chemical fertilisers use, (4) increasing the area of organic farming to 1 million hectares, which is equivalent to 25% of total cultivated land area, (5) enhancing by at least 30% the productivity of the food manufacturing industry by 2030, and (6) sustainable sourcing for imported materials by 2030.[11] In parallel, the strategy also mentions an approach to greening agricultural policies which would require major policy shifts via: (1) decarbonising support measures for agriculture, forestry and fisheries, (2) subsidies with cross-compliance, and (3) disclosing information on companies engaged in environment-related activities and promoting Environmental, Social and Governance investment.

Domestic policy responses to the COVID-19 pandemic

In April 2020, Japan announced an economic support package totalling JPY 117.2 trillion (USD 1.1 trillion). To scale up measures aimed at mitigating the economic and social impacts, in June 2020, the second supplementary budget for FY2020[12] was enacted, the largest supplementary budget ever implemented. Combined, it totalled JPY 234 trillion (USD 2.1 trillion), equivalent to more than 40% of its GDP. In December 2020, an additional economic support package of JPY 73.6 trillion (USD 675 billion) was announced, of which JPY 57.7 trillion (USD 529 billion) was directed to prevent the spread of the coronavirus as well as shifting towards building a post-coronavirus. Due to these measures, the national government expenditure budget has grown to a record high of JPY 175.7 trillion (USD 1.6 trillion) in FY2020, relying on government bonds for 64.1% of revenue (MOF, 2020[3]).

In February 2021, the government enforced the revised Act on Special Measures for Pandemic Influenza and New Infectious Diseases Preparedness and Response to allow the Prime Minister to announce the target area for intensive measures against the spread of pandemics. Local governments in the target area can request business operators to change their business hours with enforcement measures such as on-site inspections and non-criminal fines against businesses that do not comply. The act also states that the government takes the necessary financial measures to support the affected businesses.

MAFF received a total of JPY 610 billion (USD 5.7 billion) as of March 2021 to fund a variety of programmes for the agro-food sector as well as consumers, such as business continuity programmes. Additionally, general policy directions for COVID-19 were also addressed in the 2020 Basic Plan such as securing agricultural labour and providing relevant information to consumers on food supply. Specific support measures were implemented to tackle different consequences of the pandemic.

A range of support measures aimed to compensate farmers for **finding alternative sales channels**, where product inventories have accumulated due to reduced demand as a consequence of the pandemic and

related restrictions. In particular, these measures supported sales for school lunches, through internet, through take-out and delivery services, through regional and local sales promotion activities and events, through other new or re-developed domestic and international sales channels, or, when other markets could not be served, donations to food banks, the recycling of food for feed or fertilisation. Support compensated costs for transportation, packaging, in certain cases the food value was compensated as well. Finally, beef wholesalers with a sales promotion plan could receive grants and storage cost compensation.

Support was also provided to ensure **continued agricultural production**. Payments were provided to vegetable farmers to mitigate the impact of price declines. Other supported activities by farmers of vegetables, fruits, tea and flowers included the purchase of seedlings, rental of agricultural machinery, use of new plant varieties. Lastly, conversion of production or sales methods and sales channel, facilitation of consensus building in producer groups, and preparation of measures to prevent COVID-19 infections by producers, all of which aim to make farmers more resilient, were also supported.

Livestock and dairy producers were also supported in order to continue their operation. In particular, beef cattle and calf producers received support for adjusting shipment schedules and improving livestock production management. When monthly average price of calves fell below the designated standard threshold, grants were provided to calf producers to support business improvement activities such as barn condition improvement, business operation analysis, disease prevention, or nutritional improvement of breeding cows and calves. Producers' contributions for the Livestock Stabilization Programme for Beef were practically exempted. Support was also provided for the diversion of excess milk to further processing (skim milk powder, butter) and non-fat dry milk used for other purposes such as animal feed.

In the case livestock operators were infected by the COVID-19, the government provided support for additional expenses such as costs for hiring substitute labour.

To **secure and maintain labour** in the agricultural sector in light of, among others, international travel restrictions, additional childcare requirements, support covered expenses for recruiting and hiring alternative on-farm labour, the provision of training for those who wished to work in the farming sector, and the implementation of artificial intelligence and other new technologies by farmers, local governments and agricultural high school. The government also supported employers in the agro-food sector who were forced to reduce their business but wished to maintain their employees, or who granted special paid leave to their employees when these needed to care for their children whose school or childcare provider was temporarily closed due to COVID-19.

In order to **stabilise incomes and secure cash flow**, agricultural producers having difficulties to continue their operation due to pandemic benefitted from access to unsecured loans, and loans which are essentially interest-free for the first five years of lending, provided by the government owned Japan Finance Corporation and private financial institutions. Similarly, restaurant owners and small to medium scale food distributors also gained access to unsecured loans with a maximum five years of deferment, and loans which are essentially interest-free for the first three years. For private loans, the guarantee fee to the Agricultural Credit Fund Associations was exempted for the first five years. Besides, MAFF extended the premium payment deadlines for commodity insurance and revenue insurance programme.

As a part of an economy wide stimulus (Go-To-Campaign) designed to boost consumer spending, the Go-To-Eat-Campaign was launched in October 2020. The programme **supported restaurants** with proper sanitary protocols by encouraging people to start eating at restaurants again. The campaign has two components: (1) meal discount vouchers and (2) point-based rewards. The vouchers issued by prefectures offer discounts (or savings) of up to 25% at specified restaurants. By making online reservations for specific restaurants, point-based rewards allow earning points that can be used for meal payments.

Different public **information measures** aimed to enhance transparency and public trust in the food system. Basic operation guidelines for farmers and food business operators in the case of COVID-19 infection were

made available online. In order to recover falling demand for agricultural products (e.g. beef, dairy, vegetables, flowers), MAFF promoted the purchase of fresh domestic products via press conferences, websites and social media. The government also monitored food supply chains for any food shortages, provided information of food supply and availability online to the public, and ensured that staple food (rice and wheat) was stocked. Citizens were asked to avoid panic buying, and simple guidelines for grocery shopping and eating out were provided.

Table 16.3. Agricultural policy responses to the COVID-19

Policy responses	Agricultural Producers	Agro-food supply chain	Consumers
1) Finding alternative sales channels	X	X	
2) Continuation of agricultural production	X		
3) Continuation of livestock and dairy production	X		
4) Securing labour	X	X	
5) Stabilising income and securing cash flow	X	X	
6) Support for restaurant		X	
7) Information measures	X	X	X
8) Export Promotion	X	X	

Note: As of January 2021.
Source: Authors.

Trade policy developments in 2020-21

Japan's tariff rate-quotas continued to be under-filled in FY2020 for some products, including butter and butter oil, prepared whey for infant formula, and skimmed milk powder for school lunches. Japan issued special safeguard measures in FY2020 for some products, including cream and corn starch. Japan decided to import up to 14 000 tonnes of butter under state trading in FY2020 in order to meet domestic demand (MAFF, 2020[4]).

The **Japan-United Kingdom Comprehensive Economic Partnership Agreement (Japan-UK CEPA)** entered into force on 1 January 2021. For agricultural products, Japan-UK CEPA replicates most of the market access and tariff commitments provided under the Japan-EU EPA, which entered into force on 1 February 2019. As in the Japan-EU EPA, Geographical Indication products of both countries are listed for protection in the CEPA.

Japan signed the **Regional Comprehensive Economic Partnership (RCEP)** on 15 November 2020 with 14 countries in the Asia-Pacific region. RCEP is the first EPA that Japan has with China and South Korea. The agreement will take effect 60 days after it has been ratified by at least six countries of the Association of Southeast Asian Nations (ASEAN) and three non-ASEAN signatories. Overall, the Agreement will reduce tariffs on goods among the 15 participating economies by 90% over 20 years from entry into force, in accordance with each party's Schedule of Tariff Commitments. On agricultural goods, Japan will eliminate tariffs on 56% of imports from China, 49% from Korea, and 61% from ASEAN, Australia and New Zealand respectively (MAFF, 2021[5]). Japan's sensitive agricultural products such as rice, wheat, beef, pork, dairy products and sugar and starch are exempted from tariff reduction. On non-tariff measures however, RCEP provides trade facilitation frameworks for non-tariff measures such as Sanitary and Phytosanitary Measures, Standards, Technical Regulations, Conformity Assessment Procedures and Intellectual Property.

A number of policies to promote **exports of agricultural products and food** were implemented. The revised Basic Plan mentioned the export target for agricultural and food products for the first time since the first Basic Plan, at JPY3.3 trillion (USD 30.9 billion by 2030. [13] In its July 2020 annual economic policy

plan (*the Basic Policies for Economic and Fiscal Management and Structural Reform 2020*), Japan set an intermediate export value goal of JPY 1.3 trillion (USD 11.2 billion)[14] by 2025, which represents twice the current level of agricultural products and food exports.

In April 2020, the Act on Facilitating the Export of Agricultural, Forestry and Fishery Products and Food came into force. The new act streamlines and centralises the management of operations related to the export of agriculture, forestry and fishery products and food, and created the headquarters (the Export Headquarters) within MAFF for the facilitation of the exports of these products. The newly established Export Headquarters provides export procedure guidance to producers and exporters, and conducts negotiations of food safety requirements set by importing countries. The act also provides a legal basis to develop an annual action plan relating to certifying export facilities as well as market access negotiation schedules with foreign governments. Furthermore, it allows the government-owned Japan Finance Corporation to extend long-term, low interest rate loans and loan guarantees to companies whose export project plans are certified by the Minister of Agriculture, Forestry and Fisheries to install and maintain their equipments or facilities.

In December 2020, Japan established the Strategy to Realize Export Expansion of Agricultural, Forestry, Fishery Products and Food, a key component of the national economic plan. To achieve the export targets, the strategy designates twenty-seven products with export potential. The strategy addresses a course of specific action for each product designated. Specifically, steps for fostering production areas for export, improving export facilities and developing sales channels are considered. The strategy also calls for a market driven approach and greater collaboration throughout the supply chain and across the government institutions.

Japan signed Organic Livestock Equivalency Arrangements with Australia, Canada, Switzerland and the United States. Under these arrangements, Japan recognises their standards for organic livestock products as equivalent to JAS organic regulations, and certified products produced in these four countries can be imported and labelled as organic. In turn, the four countries also recognise JAS-certified organic livestock products as equivalent to their certified organic livestock products in their territories (see Domestic policy developments in 2020-21).

Trade policy responses to the COVID-19 pandemic

The government supported the installation and maintenance of agricultural equipment or facilities that produce agricultural and food products for overseas markets as well as domestic markets. Similarly, expenses associated with the development of new processed food or menu directed to both exports and domestic consumption were also supported. Online events and meeting opportunities such as online trade fairs as well as information of overseas market conditions were provided by the government-related organisations. In addition, the government improved the online database of Japanese agricultural products for overseas buyers (JETRO, 2020[6]; MAFF, 2021[7]).

Given the disruption in trade and global supply chains due to the COVID-19 pandemic, Japan continued to address the importance of open and transparent international trade through conferences such as the September G20 Agricultural and Water Ministerial meeting.

Contextual information

Japan is the world's third largest economy after the United States and China with relatively small land area and high population density (Table 16.4). Agriculture constitutes 1.2% of GDP and 3.1% of employment in 2019 (Table 16.4), yet the sector accounts for 10% of GDP if all food-related industries are considered[15] (MAFF, 2021[8]).

Two-thirds of the country area is covered by mountains, leaving only 12% of the total land area for agriculture, more than half of which are rice paddy fields (MAFF, 2020[9]). The average farm size was 2.5 hectares in 2019, which is small compared to other OECD countries, but over twice the average size (1.1 hectares) in 1987 (MAFF, 2020[10]; OECD, 2019[11]). Nevertheless, total agricultural land has decreased from 6 million hectares in 1960 to 4.4 million hectares in 2020 (MAFF, 2021[12]), due to the abandonment and conversion of farmland to non-farm uses (e.g. residential, industrial, or commercial uses).

The agricultural workforce declined by more than half since 1980 to 2 million in 2019, with an accelerated pace of decline in the last decade (MAFF, 2021[12]). There are 1.03 million commercial farm households, which is less than half the number in 1990. The average age of farmers is 67.8 years in 2020 and about 70% of farmers in Japan are over 65 years old (MAFF, 2021[13]).

The country's geography offers a variety of landscapes and climatic patterns, leading to diverse agricultural production. In 2019, livestock accounted for more than one-third of total agricultural output, followed by vegetables (24%), rice (20%) and fruits (9%) (MAFF, 2021[14]). Total agricultural output gradually increased since 2014 after declining in the years before.

Table 16.4. Japan: Contextual indicators

	Japan		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	3 404	5 459	8.5%	4.8%
Population (million)	127	126	2.9%	2.4%
Land area (thousand km²)	365	365	0.4%	0.4%
Agricultural area (AA) (thousand ha)	4 830	4 420	0.2%	0.1%
			All countries[1]	
Population density (inhabitants/km²)	340	338	53	63
GDP per capita (USD in PPPs)	26 841	43 279	9 265	21 975
Trade as % of GDP	9	14	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	1.5	1.2	2.9	3.5
Agriculture share in employment (%)	5.0	3.1	-	-
Agro-food exports (% of total exports)	0.3	0.8	6.2	7.3
Agro-food imports (% of total imports)	9.7	8.4	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	72	65	-	-
Livestock in total agricultural production (%)	25	35	-	-
Share of arable land in AA (%)	93	94	32	34

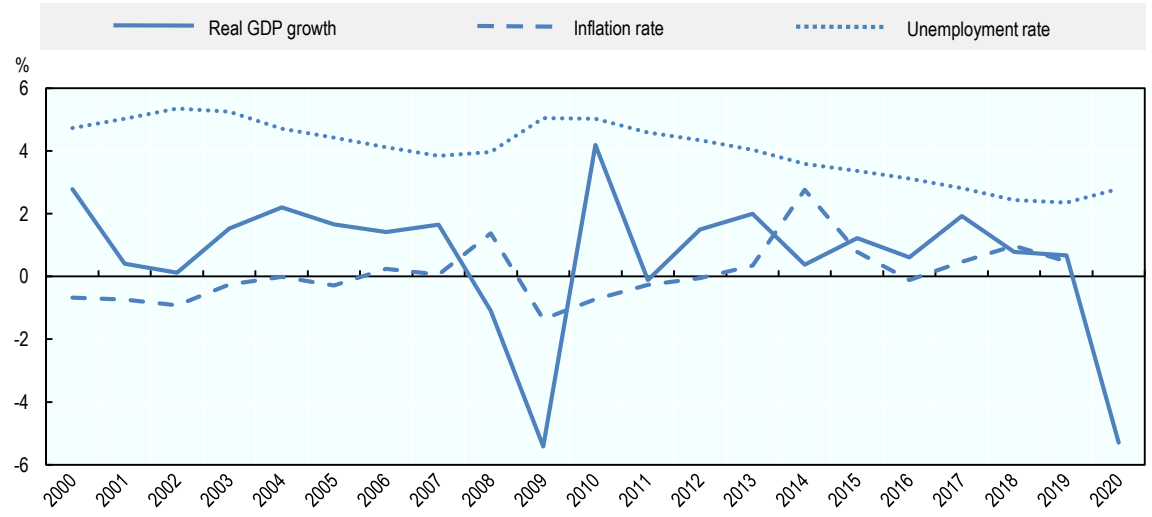
Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

The country has experienced slow economic growth and deflation for most of the past two decades. Nonetheless, the unemployment rate is one of the lowest in OECD countries. In 2020, GDP contracted by 5.3% due to the impact of COVID-19 while the unemployment rate remained below 3% (Figure 16.5).

Japan is one of the world's largest importers of agro-food products, and the United States is the biggest source of agricultural imports (FAO, 2020[15]). Forty-six per cent of imports are processed products for consumption (Figure 16.6). The food self-sufficiency rate was 38% in 2019 on a calorie basis (MAFF, 2021[16]), meaning that more than 60% of Japanese calorie supply depended on imports.

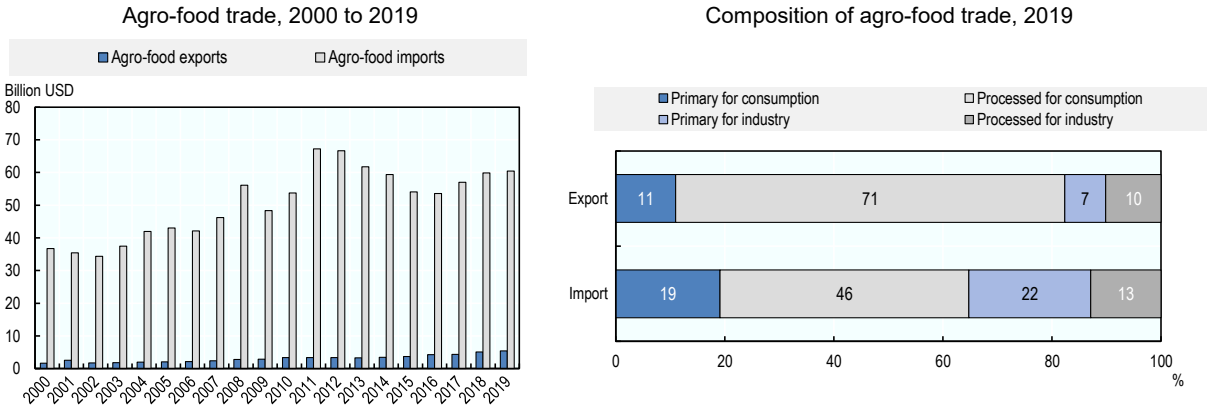
The share of agricultural exports in total exports, on the other hand, constitutes only 0.8% in 2019 (Table 16.4). Most Japanese agricultural exports are directed at final consumers (Figure 16.6). Processed food products such as alcohol and beverages, snacks, sauces and seasonings account for the majority of Japan's agro-food exports. Among the unprocessed products, apples and beef are the most exported products (MAFF, 2021[17]). Against the trend of falling overall exports, exports of agricultural and food products in 2020 increased by 11.6% from the previous year, reaching its highest level at JPY 656 billion (USD 6.1 billion), which is about three times higher than that of 2000 (MAFF, 2021[18]; MAFF, 2021[19]).

Figure 16.5. Japan: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 16.6. Japan: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Agricultural output declined during 2007-16, due to the reduction of primary factor use (land and labour) and limited total factor productivity. Total Factor Productivity grew by only 0.4% per year during2007-16 period, half the rate estimated for the 1990s and well below the global average (Figure 16.7, Table 16.5).

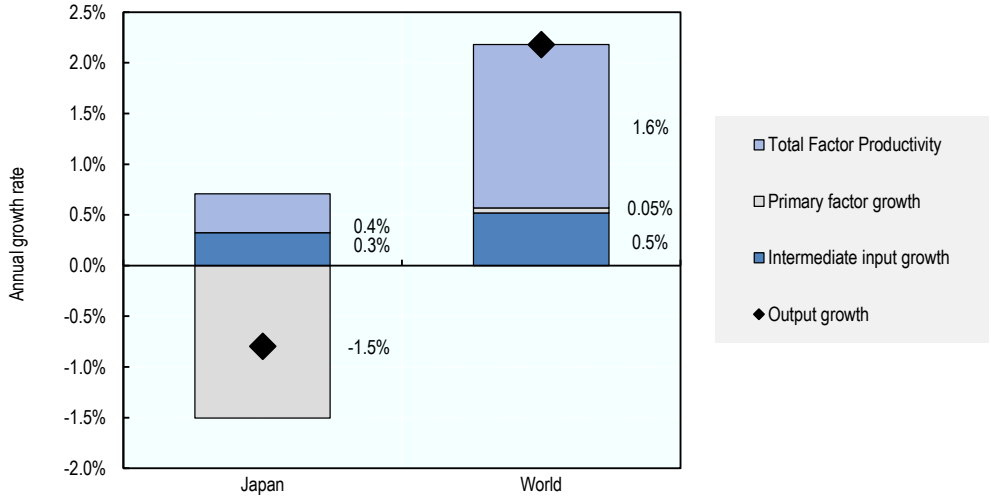
Japan's nitrogen and phosphorus balance are among the highest in OECD countries (Table 16.5). The high and increasing nitrogen balance is due to a combination of high fertiliser use, and livestock production

on limited pasture land (Shindo, 2012[20]). The high phosphorus balance, in contrast, is partly a result of soil characteristics: the reaction of soil in Japan, particularly Andosols, with inorganic phosphate render the phosphate almost insoluble and unavailable for uptake by plants, requiring more intensive phosphorus use by the agricultural sector (FAO, 2015[21]).

In line with its small role in the economy, agriculture's share in total energy use, 1.2% in 2019, is below the OECD average. GHG emissions from agriculture were 2.7% of the total emissions in Japan – the lowest among OECD countries (Table 16.5). However, the agricultural sector is responsible for 78.3% of total methane (CH_4) emissions, mainly due to livestock enteric fermentation and rice cultivation and for 46.6% of the national Nitrous Oxide (N_2O) emissions due to manure and fertiliser application (GIO, 2021[22]).

The volume of agricultural water use remains stable for the past few decades. In 2018, the Japanese agricultural sector used 67.6% of water of which 94% was directed for paddy field irrigation (MLIT, 2019[23]).

Figure 16.7. Japan: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 16.5. Japan: Productivity and environmental indicators

	Japan		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	0.8%	0.4%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	170.8	179.3	33.2	28.9
Phosphorus balance, kg/ha	72.0	57.3	3.4	2.6
Agriculture share of total energy use (%)	1.2	1.2	1.7	2.0
Agriculture share of GHG emissions (%)	2.6	2.7	8.4	9.5
Share of irrigated land in AA (%)	54.7	54.4	-	-
Share of agriculture in water abstractions (%)	65.8	67.5	46.0	43.4
Water stress indicator	21.0	19.2	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Notes

[1] Since FY 2018, the number of commodities with TRQs has been reduced to 27.

[2] The Vitality Creation Plan for Agriculture, Forestry, Fisheries and Rural Communities, first created in 2013, revised in 2014, 2016, 2017, 2018; the 2015 Basic Plan for Food, Agriculture and Rural Areas; the Comprehensive Policy Responses for Trans-Pacific Partnership created in 2015, revised in 2017; and the Programme for Enhancing of Agricultural Competitiveness created in 2016.

[3] Simple average MFN applied.

[4] The certified farmer system is based on the Agricultural Management Infrastructure Reinforcement Promotion Law. The system certifies agricultural management improvement plans created by farmers in line with a plan formulated by municipalities that includes goals for efficient and stable agricultural management based on conditions of the region.

[5] Covers approximately 60% of agricultural output. Excludes vegetables planted several times a year (leaf vegetables, etc.) due to the difficulty of damage assessment.

[6] The official name of Farmland Bank is the Public Corporations for Farmland Consolidation to Core Farmers through Renting and Subleasing.

[7] Ordered according to effective date.

[8] Japanese Black, Japanese Brown, Japanese Shorthorn, Japanese Polled, and hybrids of those four breeds.

[9] From the production to the artificial insemination and embryo transfer.

[10] As of February 2021.

[11] Two other objectives relate to forestry and fishery; (7) use of superior varieties for forestry seedling to be 90% or above; (8) artificial seedling rates in aquaculture to be 100%.

[12] 1 April 2020 to 31 March 2021.

[13] JPY 5 trillion (USD 46.8 billion) for agriculture, food, forestry and fishery products total.

[14] JPY 2 trillion (USD 19 billion) for agriculture, food, forestry and fishery products total.

[15] Food related industry here includes agriculture, forestry and fisheries, agricultural material supply, food manufacturing, food related distribution and merchandising, and food service.

17 Kazakhstan

Support to agriculture

Support to producers in Kazakhstan was estimated at 4% of gross farm receipts (GFR) on average in 2018-20. The share of potentially most-distorting gross producer transfers (based on output, including market price support and variable input use without input constraint) fell from an average 98% in the early 2000s to 75% in 2018-20. Support to fixed capital formation accounts for the majority of budgetary transfers to producers. Domestic prices were lower than world prices for several crops, generating negative market price support (MPS) worth 4% of GFR, but higher than world prices for livestock commodities, with MPS at just over 1% of GFR. Overall, average prices received by farmers were 2% below world prices. Reflecting individual commodity price gaps, single commodity transfers in 2018-20 were negative for rice, sunflower, maize, barley and cotton, but slightly positive for wheat and livestock products.

Support to general services (GSSE) accounted for 20% of budgetary expenditure for agriculture in 2018-20. Of this, spending on inspection and control made up close to 44% and spending on infrastructure 36%. Total support to agriculture (TSE) declined to 0.9% of GDP, but the corresponding share of the total budgetary support estimate (TBSE) increased to 1%. The share of GSSE in TSE increased slightly, from 19% in 2000-02 to 20% in 2018-20.

Recent policy changes

Kazakhstan's main recent policy changes were amendments to agricultural legislation and an update of the 2021 State Programme. The focus now is orienting agriculture towards import substitution, and developing exports of high value-added products, particularly for the beef sector.

The process of rationalising production subsidies continues: farmers' access to credit is more transparent and their applications for subsidies are made publicly available.

The mandatory crop insurance system was transformed into a voluntary insurance scheme with a view towards expanding crop and livestock insurance markets in the country. The government subsidises half of insurance premiums.

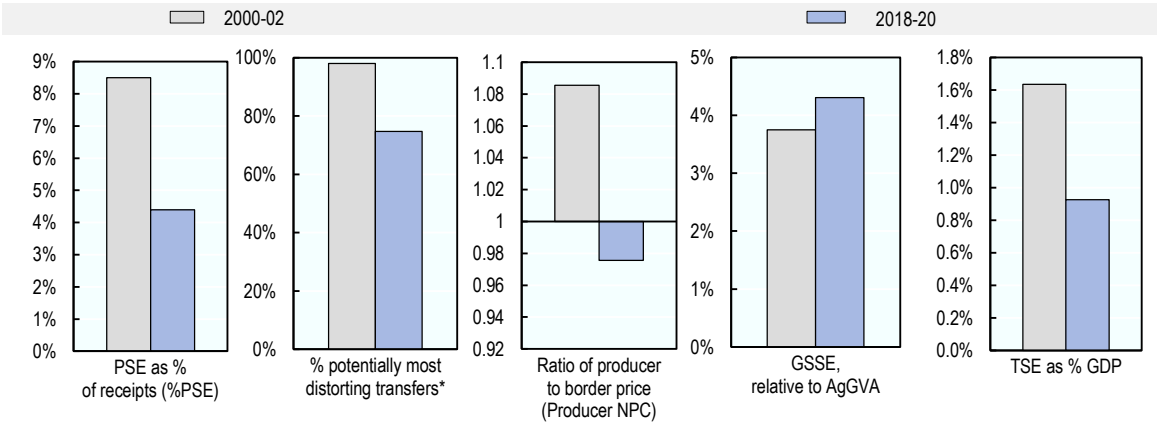
The COVID-19 crisis-response package entailed support of KZT 5.4 trillion (USD 13 billion) or 9% of GDP. Immediate policy actions include trade restrictions and regulated prices for socially-important goods, cash transfers to vulnerable households, and targeted assistance to hard-hit sectors and small and medium-sized enterprises, including a deferral of loan payments.

Assessment and recommendations

- While total support to agriculture is small relative to the overall economy, most producer support is highly distorting, thus likely to influence farm management decisions, increase pressure on natural resources and distort markets.

- Within the framework of import substitution, government support to dairy farmers increased substantially in 2020. The policy focus on import substitution should be assessed carefully as it might lessen producers' exposure to international competition and divert resources to rent-seeking activities.
- Implementation of the Sustainable Livestock Development Programme is an opportunity to develop a competitive, high-value, export-oriented beef sector. The programme could promote green growth and sustainability policies with climate-smart practices for beef cattle production, reduced greenhouse gas (GHG) emissions and improved agro-environmental outcomes of beef support. The programme is particularly important with the COVID-19 environment affecting employment countrywide.
- The subsidies for inorganic fertilisers and chemical inputs, and for industrial feed should be re-assessed in light of potential negative environmental impact.
- Lifting restrictions on food exports introduced under the state of emergency is welcome. They create an unpredictable trading environment that could disrupt the global food supply, adversely affect international food security and impact Kazakhstan's trading partners, particularly in Central Asia. Emergency measures related to agriculture and agro-food products in response to the COVID-19 pandemic should be targeted, proportionate, transparent and temporary, and not create unnecessary barriers to trade or disrupt global agro-food supply chains.
- Agriculture is among the most risk-prone sectors in the country. Production shocks from weather, pests and diseases, and adverse movements in agricultural product and input prices impact farmers and agro-business firms, and can strain government finances. Kazakhstan could manage risks better by reducing potential losses and increasing productivity sustainably, thus improving overall resilience in the sector. Kazakhstan should adopt a broader, more integrated approach to risk management than the current system of ex ante public-sector activity associated with crop and livestock disease, and ad hoc, ex post emergency responses to local disasters.
- Reform of the crop insurance system is welcome and should increase the role of private insurers, reduce farmers' costs and make the system more transparent.
- Efforts to provide more stable policy, streamline support to fewer measures, and create a national digital cadastre database for agriculture increase the transparency and credibility of reform, and should be continued.
- Establishing secure property rights for land, including simplified procedures for land acquisition, are necessary to improve the economic incentives for sustainable resource management. Farm decision-making could be improved by incorporating environmental concerns into agricultural policies.
- Agriculture is the second largest emitter of GHGs after the energy sector, and Kazakhstan should specify how much and how to reduce agricultural emissions to meet the country's reduction commitments. Moreover, the lack of a co-ordinated and systemic approach hinders the country's ability to increase its resilience to the effects of climate change, and steps should be taken to enhance agriculture's adaptation to the impacts of climate change.

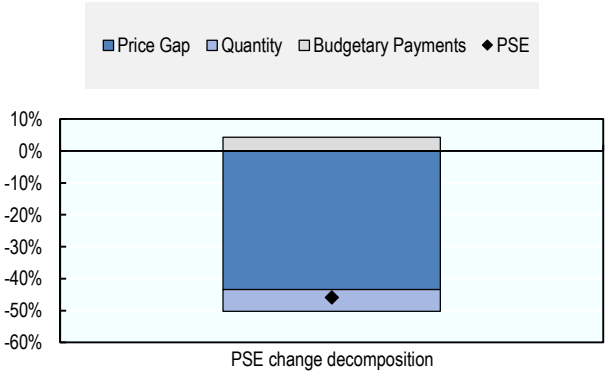
Figure 17.1. Kazakhstan: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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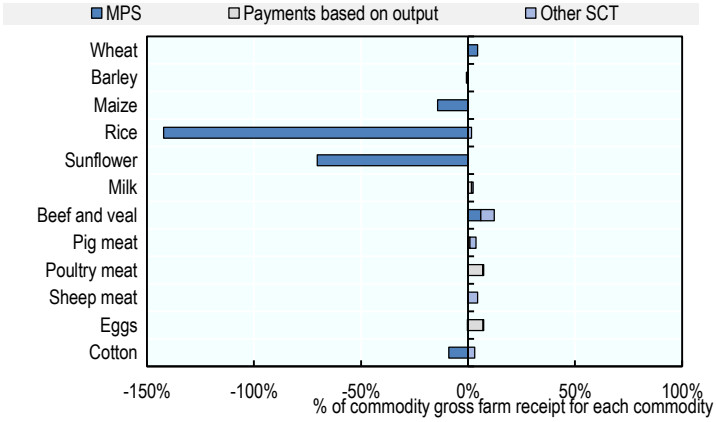
Figure 17.2. Kazakhstan: Drivers of the change in PSE, 2019 to 2020



Note: The producer price change and the border price change are not calculated when the negative price gap occurs at the commodity level for the current or previous year.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/4hofiu

Figure 17.3. Kazakhstan: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/a1ocz6

Table 17.1. Kazakhstan: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**3 367**	**13 809**	**12 937**	**13 418**	**15 072**
***of which:** share of MPS commodities (%)*	76.6	60.1	61.0	62.4	56.9
Total value of consumption (at farm gate)	**2 933**	**9 760**	**11 779**	**11 545**	**5 957**
Producer Support Estimate (PSE)	**286**	**653**	**434**	**1 017**	**509**
Support based on commodity output	268	-345	-377	-74	-583
Market Price Support[1]	268	-426	-460	-179	-640
Positive Market Price Support	369	197	164	285	142
Negative Market Price Support	-101	-623	-623	-464	-781
Payments based on output	0	82	83	105	57
Payments based on input use	18	953	746	1 036	1 078
Based on variable input use	8	509	206	632	690
with input constraints	0	0	0	0	0
Based on fixed capital formation	10	439	534	400	384
with input constraints	0	0	0	0	0
Based on on-farm services	0	5	6	4	5
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	42	57	55	14
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	0	42	57	55	14
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	0	2	7	0	0
Percentage PSE (%)	**8.5**	**4.4**	**3.1**	**7.0**	**3.1**
Producer NPC (coeff.)	**1.09**	**0.98**	**0.97**	**0.99**	**0.96**
Producer NAC (coeff.)	**1.09**	**1.05**	**1.03**	**1.07**	**1.03**
General Services Support Estimate (GSSE)	**67**	**312**	**313**	**286**	**335**
Agricultural knowledge and innovation system	3	50	39	57	53
Inspection and control	29	138	155	106	154
Development and maintenance of infrastructure	28	112	108	110	116
Marketing and promotion	0	5	4	6	5
Cost of public stockholding	5	0	0	0	0
Miscellaneous	1	8	7	7	8
Percentage GSSE (% of TSE)	**19.0**	**20.5**	**24.6**	**15.5**	**23.4**
Consumer Support Estimate (CSE)	**-313**	**833**	**818**	**596**	**1 084**
Transfers to producers from consumers	-288	282	313	61	474
Other transfers from consumers	-21	-5	-4	-10	0
Transfers to consumers from taxpayers	0	555	524	549	590
Excess feed cost	-4	0	-15	-4	20
Percentage CSE (%)	**-10.7**	**9.3**	**7.3**	**5.4**	**20.2**
Consumer NPC (coeff.)	**1.12**	**0.97**	**0.97**	**1.00**	**0.93**
Consumer NAC (coeff.)	**1.12**	**0.91**	**0.93**	**0.95**	**0.83**
Total Support Estimate (TSE)	**353**	**1 520**	**1 271**	**1 853**	**1 435**
Transfers from consumers	309	-278	-309	-51	-474
Transfers from taxpayers	65	1 802	1 584	1 914	1 908
Budget revenues	-21	-5	-4	-10	0
Percentage TSE (% of GDP)	**1.6**	**0.9**	**0.7**	**1.0**	**0.8**
Total Budgetary Support Estimate (TBSE)	**85**	**1 946**	**1 731**	**2 032**	**2 074**
Percentage TBSE (% of GDP)	**0.4**	**1.1**	**1.0**	**1.1**	**1.2**
GDP deflator (2000-02=100)	**100**	**743**	**715**	**770**	**..**
Exchange rate (national currency per USD)	**147.38**	**380.38**	**344.90**	**382.87**	**413.36**

.. Not available

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Kazakhstan are: wheat, rice, maize, barley, sunflower, potatoes, cotton, milk, beef and veal, pig meat, sheep meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

In the late Soviet era, all sectors of Kazakhstan's economy, including agriculture, were regulated by central planning. Production, the marketing of agricultural inputs and outputs, and processing and distribution of food were controlled by state enterprises. Agriculture was supported by high, administered prices and considerable input and output price subsidies, in addition to policies such as cheap energy and transport, which were not agriculture-specific. After the mid-1990s price liberalisation removed the benefit of output prices above world levels and key input prices below them. From the early 2000s, Kazakhstan vacillated in trade liberalisation. It was not until its accession to the WTO in 2015 that the country implemented more liberal measures.

Kazakhstan became an independent country in 1991 following the collapse of the Soviet Union. Stabilisation and transition to a market economy were its main economic challenges. During the transition, the agricultural sector was affected by economic shocks, land reform and reduced government support. The main agricultural policies were geared towards decreasing food import-dependency and increasing domestic food production (Baubekova, Tikhonova and Kvasha, 2021[1]).

Table 17.2. Kazakhstan: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1992	Soviet era Closed economy	Government control of the agricultural economy through regional trade controls, input supply controls, and the continuation of soft budget constraints Taxation of the agricultural sector to support the industrial sector Tariffs Low administrated prices on energy and transport
1992-1997	Initial structural reforms towards an open economy	Price liberalisation of agricultural products and inputs Emergence of new policy institutions
1998-2002	Economic crisis Stabilisation measures	Debt rescheduling Limited support to the sector Agrarian Credit Corporation created as main agricultural lender (credit at preferential rates) Restructuring agricultural enterprises
2003-2015	Agriculture as part of economic diversification	Price support Support for import-competing products Tariff protection for meat Taxation of agricultural exports
2015-present	Reforms to trade liberalisation	WTO accession 2015 EAEU membership in 2015 Elimination of payments per hectare for priority crops Promotion of producer co-operatives Increase in land tax rates Debt restructuring programme Introduction of investment subsidies Introduction of interest concessions Agricultural insurance reform

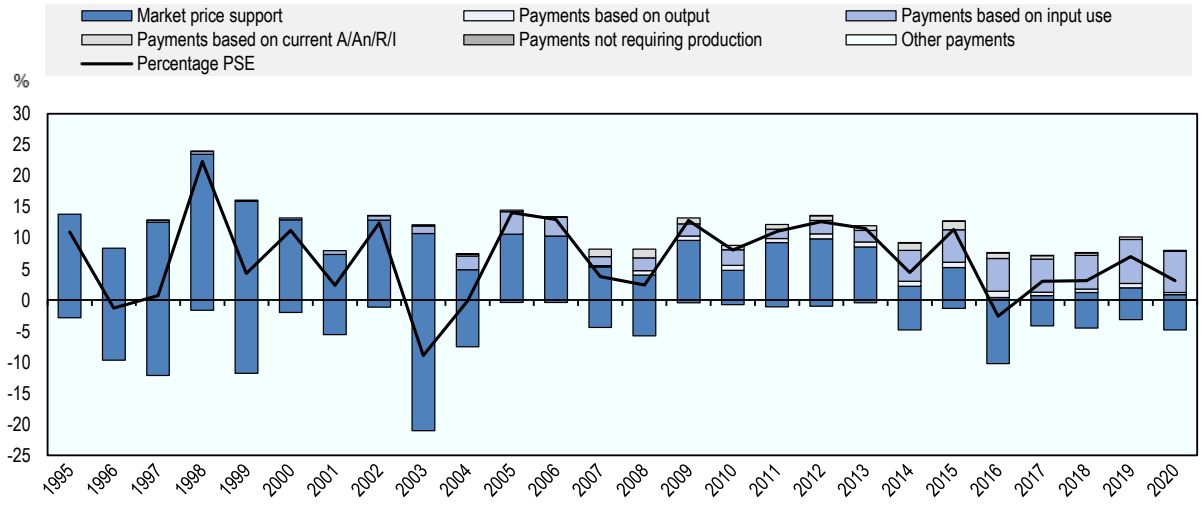
Source: (OECD, 2013[2]; Baubekova, Tikhonova and Kvasha, 2021[1]).

Producer support in Kazakhstan reveals no distinct long-term trend. The %PSE fluctuated considerably between 1995 and 2020. In some years, negative support provided through depressed market prices for some products offset budgetary allocations and positive support provided through higher domestic prices for others. However, overall policies are supportive of domestic producers (Figure 17.4). Net producer support was positive in most years, due also to increasing support related to the use of production inputs,

in particular credit, over the past ten years. Overall, total budgetary support to agriculture increased relative to the size of the economy, now representing about 1% of GDP. As market price support was estimated as strongly negative in 2016, net TSE shows a substantial drop in that year. However, in addition to budgetary support to producers, support to consumers was also significant in recent years.

Figure 17.4. Kazakhstan: Level and PSE composition by support categories, 1995 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The State Programme of Agro Industrial Complex Development for 2017-2021 (hereafter, the 2021 State Programme) provides the agricultural policy framework in Kazakhstan. While maintaining the principles of the previous framework (Agribusiness-2020 Programme), the 2021 State Programme puts stronger emphasis on the development of, and support to, individual household plots and small farms, agricultural producer co-operatives and agriculture supporting services and infrastructure. In addition, some input subsidies including on seed, fertiliser and pesticides will be increased.

Kazakhstan applies a range of border and domestic price intervention measures. Border measures are implemented within the Customs Union of the Eurasian Economic Union (EAEU) and include tariff rate quotas (TRQ) and non-tariff measures. TRQs apply to imports of lower-grade beef and of poultry products.

Intervention in domestic markets is twofold. The State Commission for the Modernisation of the Economy undertakes intervention purchases of grains to support domestic producer prices. At the same time, consumption price stabilisation is in place for 29 commodities. Purchase occurs after harvest at market prices and commodities are stored and released at below-market prices later in the year.

For crops, per tonne payments go to oilseeds, rice, sugar beet and cotton to be used for processing. Headage and output payments support the livestock sector. Large commercial livestock producers receive most of these. Other forms of support to livestock are silage and fodder subsidies, support to artificial insemination and to the purchase of young cattle for feedlots.

Purchases of mineral fertiliser and high-quality seeds receive subsidies. Administered prices below market prices apply to diesel fuel sold to agricultural producers; total volumes supplied at these prices during sowing and harvesting periods are pre-determined as well.

Investment subsidies, together with concessional credit, represent the principal forms of support to agriculture. Concessional credit comes through numerous channels. Several credit agencies provide loans at reduced interest rates under the umbrella of the state company KazAgro Holding. Along with agricultural producers, food processors benefit from concessional credit and leasing of machinery and equipment from credit agencies of KazAgro Holding.

A complex approval system provides investment support. It applies to 39 priority groups, conditioned on compliance with a number of technical specifications and regulations, and has to be approved by regional authorities and in some circumstances by the Ministry of Agriculture.

Agricultural enterprises and individual farms benefit from special tax regimes with substantial concessions. For example, corporate and family farms enjoy a 70% discount on all business taxes applied in the country (property tax, social tax, VAT, profit tax and tax on vehicles). Since January 2016, primary processors and procurement organisations receive 100% subsidy of VAT on agricultural products from individual farms.

The land tax applies since 2015. Individual farms of less than 3 500 hectares are eligible for a Single Land Tax set as a percentage of the cadastre value of land owned or used, which replaces the land tax and the five business taxes mentioned above. Since 2015, individual farms pay a 10% income tax for physical persons on income above KZT 150 million (USD 0.4 million).

Harnessing information technologies is part of Kazakhstan's long-term strategy to simplify, facilitate control, and improve the transparency and effectiveness of government support to agriculture. An electronic system of subsidy payments applies to most subsidy programmes. Applicants to KazAgro credit and leasing can apply electronically.

Work continues by the Ministry of Agriculture, the Ministry of Digital Development, and the Defence and Aerospace Industries on the creation of the National Spatial Data Infrastructure project, which includes a section on agricultural land.

The Law on the Regulation of the Agro-Industrial Complex, signed by the President in October 2019, allows using the results of space monitoring to identify unused lands and return them to state property. A new digital cadastre for agricultural land stores 6.5 million data inputs on land plots, including soil, geobotanical and agricultural lands.

The President's Edict dated 6 May 2016 imposes a moratorium until 31 December 2021 on the introduction of private ownership of agricultural land and on the extension from 10 to 25 years of the maximum period of agricultural land rent to foreign entities.

Kazakhstan is a party to the Paris Agreement on Climate Change. Through its Intended Nationally Determined Contribution, Kazakhstan set an economy-wide target to reduce its total GHG emissions by 15% in 2030 compared to 1990, over a period starting in 2021. This target covers all emissions, including from agriculture. Specific targets or reduction plans for the agricultural sector were not defined.

Kazakhstan, together with Armenia, Belarus, Kyrgyzstan and the Russian Federation, is a member of the Treaty on the Eurasian Economic Union (EAEU) established in 2015. Kazakhstan's border measures are implemented within the Customs Union of the EAEU and a number of national responsibilities in the area of custom regulations are transferred to the EAEU, including SPS and technical regulations.

Domestic policy developments in 2020-21

The main changes were amendments to agricultural legislation and an update of the 2021 State Programme. The principal priorities of the updated 2021 State Programme include: explicit focus on import

substitution and export development; sustainable land use conditions in provision of concessional credit; shift the focus of investment support to priority areas; continued organisational reform of KazAgroHolding; focus on bringing land into productive use; establishment of land cadastre, land evaluation, preparations for considerable changes to the land taxation, including increased taxes for unused land.

The changes in the 2021 State Programme primarily affected the programme indicators, as well as some institutional changes following the creation of the new Ministry of Ecology, Geology and natural Resources. In this regard, several responsibilities and functions of the Ministry of Agriculture of the Republic of Kazakhstan were transferred to the new ministry, including sustainable management of water resources.

Furthermore, the updated State Programme aims to strengthen the agro-industrial complex towards import substitution and the development of exports of high value-added products. To achieve this the capacity utilisation rate of processing enterprises is to be increased through:

- subsidising farmers for products delivered for processing
- subsidising the costs of processing enterprises for the purchase of agricultural products
- providing investment support for the creation and expansion of processing enterprises
- subsidising the interest rate on loans issued to replenish fixed and circulating assets
- subsidising value-added tax to procurement organisations

In 2020, the government launched the preparation of a new State Programme for the period 2022-26. Key objectives of the planned State Programme include self-sufficiency of socially important food products, stable income for rural populations, a 2.5-fold increase of farm labour efficiency, and a doubling of agricultural exports. A ministerial commission has been formed to start working on the plan.

In 2020, the World Bank approved a USD 500 million loan for the *Sustainable Livestock Development Programme* to support the development of environmentally sustainable, inclusive and competitive beef production in Kazakhstan. The borrowed funds will support the implementation of the State Programme in improving veterinary services and animal recording systems, scaling-up a farmer-centric service delivery model and improving agro-environmental policies for the sector. Over a period of five years (2021-25), the programme aims to achieve a 10% increase in the share of public expenditure for sustainable beef production and processing, and a three-fold increase in the value of beef exports. In addition, around 20 000 small and medium-scale farmers are to be connected to export value chains. The funds will be disbursed on the basis of Programme-for-Results (PforR) – a financing instrument that links the disbursement of funds directly to the achievement of specific programme results.

In 2020, the Food Contract Corporation JSC (a subsidiary of KazAgro) carried out a forward purchase of 350 000 tonnes of grains. The purchase prices for wheat were set in the range of KZT 83 000-KZT 87 000 (USD 201-USD 210), depending on the quality. The price for barley of the second class was KZT 50 000 (USD 121).

In July 2020, a number of changes were introduced to the rules for the development of livestock breeding, including:

- increased subsidies rates for the purchase of domestic breeds (from KZT 8 000 to KZT 15 000) (USD 19 to USD 36) and imported sheep (up to KZT 150 000 per head) (USD 363 per head)
- changed collateral policy for lending for the purchase of livestock
- reduced cost of diagnostic tests during quarantine from KZT 23 500 to KZT 4 271 per cow (USD 57 to USD 10 per head), and from KZT 28 500 to KZT 8 741 (USD 69 to USD 21 per head) for a bull imported from the countries of the European Union
- increased support on dairy cattle breeding – the subsidy rates for the purchase of imported breeding stock were increased from KZT 225 000 to KZT 400 000 per head (USD 544 to USD 968

per head) and for domestic from KZT 150 000 to KZT 200 000 per head (USD 363 to USD 484 per head) – as well as the subsidy rate per kilogramme for reducing the cost of milk trial.

Regional governments are expected to increase subsidies for pesticides to KZT 30.8 billion (USD 68 million). Under this subsidy, farmers can receive funds covering up to 40% of the cost of eligible pesticides. Previously only herbicides were approved, but in October 2019 the Ministry of Agriculture changed its regulation to allow farmers to purchase insecticides and fungicides under the programme as well.

In 2020, the single **land tax** was amended and all income received by the farmer from the sale of agricultural products will be subject to a single land tax at a rate of 0.5% of the sales revenue per calendar year. Previously, the single land tax was calculated on the assessed value of land plots rented or owned and was not tied to the turnover from the sale of agricultural products. Small business farmers are exempted from the single land tax from this year until 2023.

In 2020, in the context of the government's efforts to shift away from subsidising credit to a credit guarantee system, a mechanism for guaranteeing loans from second-tier banks through the Fund for Financial Support of Agriculture JSC (FFCA) was created. The new form of support for farmers is aimed at reducing the credit risks of commercial banks and increasing the attractiveness of financing the agricultural sector. The guarantee will be used for the implementation of investment projects in all types of activities in agriculture, as well as in the field of food production. Priority investment areas within the framework of the guarantee include: dairy farms; meat poultry farming; intensive gardening; greenhouses; cultivation of sugar beet and production of beet sugar; production of cereals; processing of vegetables and fruits; production of vegetable oil and fat and oil products. The fund provides guarantees up to 50% on loans up to KZT 3 billion (USD 7 265) at a rate of no more than 17% per annum, for a period of up to ten years. The commission for guaranteeing is 30% of the amount of the guarantee, of which 29.9% is paid by the local executive body and 0.1% is paid by the agricultural producer himself.

In April 2020, a special programme of concessional financing for agricultural producers leasing equipment of Kazakh production "Made in Kazakhstan" was launched. Eligible producers can obtain loans with a 6% per annum interest rate for up to ten years with a grace period of lease payments up to one year.

Kazakhstan is also making progress on its plan to design "BidayCoin", a new crypto currency to help traders and producers make payments directly. This is to avoid costly and delayed banking services. This system will be connected with electronic warehouse receipts and other payments; for instance, for subsidised fuel, fertilisers, insurance and other services.

In 2020, the method of calculating the regional allocation of payments for subsidising agriculture was changed. Now the regional allocation of payments is calculated based on the region's share in gross agricultural output instead of its share in population. Moreover, in order to avoid diverting funds for other purposes of the region's development, minimum expenditures will be set for supporting agriculture. In addition, in order to avoid frequent changes to policy settings, the Ministry of Agriculture considers introducing a law to retain the rules of the support measures included in the WTO classification in the Green Box unchanged for five years.

Starting from June 2020, Kazakhstan reformed its **crop insurance** system from obligatory to voluntary with a view to expand crop insurance markets in the country. The obligatory crop insurance, introduced in 2004 to provide producers of grain, oilseeds and other field crops with a minimum level of protection against catastrophic climatic events, had not performed well and farmers complained that insurance payments did not cover even minimal production costs (Broka et al., 2016[3]). The new voluntary insurance system is established for both crops and livestock production and 50% of the insurance premium are subsidised by the government. Moreover, the insurance policy will be accepted as additional collateral for loans. The insurance contract, payment and other details will be administered electronically.

Until 2020, insurance in animal husbandry was practically absent in Kazakhstan and livestock was insured as property. Taking into account the current epizootic situation, so-called multi-risk insurance products have been developed together with foreign reinsurers. Farmers can insure livestock against diseases and other risks on the territory of their farm, as well as on the territory of neighbouring farms within a 5 km radius. The risks include infectious and especially dangerous diseases, fire, malicious acts of third parties, dangerous natural phenomena, as well as accidents – explosion, lightning strike, strangulation, animal attack, snake or insect bite, traumatic injuries. In 2020, KZT 2.5 billion (USD 6 million) was allocated from the state budget for livestock insurance support.

Within the framework of updating the 2021 State Programme, changes in the organisation and structure of the government-owned financial institution KazAgro have been implemented in 2020 to address its poor performance and duplicative functions between its subsidiaries. KazAgro has reduced the number of its subsidiaries from seven to three: i) the Agrarian Credit Corporation (ACC) is in charge of loan programmes, lending to commercial banks, credit and microcredit unions, and leasing companies; ii) the Fund for Financial Support in Agriculture (FFSA) serves small and medium agribusiness and agricultural co-operation; and iii) KazAgroFinance focuses on the leasing of machinery and equipment and no longer provides credits. Within the framework of the Address of the President to the people of Kazakhstan on 1 September 2020, the two state financial development institutions “Baiterek” and “Kazagro” will be merged in March 2021.

Kazakhstan continues to reform **land use** legislation towards providing more transparency to agricultural land use and several amendments were made to the land regulations and laws in 2020. Some procedures for the provision of land plots were simplified and new amendments would provide monthly public updates of available land plots, which will be “sold” (i.e. the lease rights will be granted) at auctions or through electronic bidding.

Also the regulation on unused land was updated. The updated law provides for: an accelerated process for returning unused agricultural land into production; a 20-fold increase of base tax rates on unused agricultural land; and the introduction of preventive monitoring of land use based on satellite data and remote sensing. So far, unused land can be seized only through the courts and the procedure takes between two and three years.

In 2020, the Ministry of Agriculture completed the creation of soil maps for 26 million hectares, geobotanical maps for 25 million hectares and agricultural maps for 6.5 million hectares (or 3% of agricultural land). In 2021-22, coverage will be increased to 40 million hectares for soil and geobotanical maps and to 33.2 million hectares for agricultural maps. As part of the 2022-26 State Programme for the development of the agro-industrial complex of the Republic of Kazakhstan it is planned to convert all the prepared maps to digital form.

In 2021, Kazakhstan launched a large-scale programme to modernise the **irrigation** system, KZT 274 billion (USD 663 million) were allocated for this purpose. Over the next two years, the reconstruction of 6 785 kilometres of canals, 4 reservoirs, 4 hydroelectric complexes, 239 vertical drainage wells and 23 000 other water facilities is foreseen. The implementation of the project will increase the irrigated area by a total of 500 000 hectares (about 24% of land equipped for irrigation) in Almaty, Zhambyl, Turkestan, Kyzylorda and Aktobe regions.

On the **agricultural innovation system**, the structure of subsidiaries of the National Agrarian Research and Education Center NJSC was transformed in 2020 to make it more responsive to business needs. Twenty-two centres for the dissemination of knowledge have been created and permanent consulting centres have also been organised. Also, work is underway to ensure sufficient funding for agricultural science. Funding of KZT 50.4 billion (USD 122 million) was approved to develop 36 scientific and technical programmes in 10 priority areas of research (crop production, animal husbandry, veterinary medicine, processing of agricultural raw materials, etc.) over the next three years.

Starting from January 2020, the Ministry of Agriculture established a new type of subsidy to compensate 80% of the farmer's expenses for purchasing services from Kazakhstani scientific and research organisations. This subsidy is expected to facilitate the implementation of new and innovative technologies in agriculture.

To modernise and increase productivity in agriculture, new technologies are introduced into the work of agricultural facilities. For example, 49 "smart" farms have been created and projects are being implemented to label agricultural products and create an electronic trading platform for selling agricultural products.

In 2020, the Ministry of Agriculture carried out a large-scale work on **digitalisation** of public services and industry-specific business processes. By the end of 2020, 94% of the public services and industry-specific business processes are automated, and 34% of the Ministry's services are provided in electronic format. All application and distribution procedures of subsidies are 100% automated, as well as the processes of registration of agricultural machinery, accreditation of procurement organisations and the work of the commission to guarantee microcredits. Also, the Ministry of Agriculture has digitised the registration of animals and farmers who participate in the breed transformation, carry out the selection and pedigree work.

An **Import Substitution Council** was set up in 2020 by the National Chamber of Entrepreneurs (Atameken). Its main goal is to analyse the best practices used by the successful enterprises in the manufacturing and agricultural sectors and to develop and submit to the government proposals for import substitution. The Council will also focus on local content development, regulated procurement practices, customs and tariff policies, technical regulations, mineral resources base expansion, infrastructure development, government support mechanisms, industrial co-operation, sub-contractor development, and other issues relating to development of the manufacturing sector. The Import Substitution Council consists of representatives of the Kazakhstani business community and government agencies and organisations.

On **food safety**, due to the outbreak of bird flu, temporary restrictions on the import and transit of live poultry and poultry products from the Russian Federation were introduced in early August and September 2020. Also an amount of KZT 295.3 million (USD 0.7 million) was paid to compensate poultry farmers for the cost of seized and destroyed sick birds.

Domestic policy responses to the COVID-19 pandemic

The anti-crisis package entailed support of KZT 5.4 trillion (USD 13 billion) or 9% of GDP. Immediate policy actions have included trade restrictions and regulated prices for socially-important goods, cash transfers to vulnerable households, and targeted assistance to hard-hit sectors and small and medium-sized enterprises, including a deferral of loan payments. Near- to medium-term plans include improving public administration through civil service reform, enhancing competitiveness in priority sectors such as agriculture, manufacturing and pharmaceutical, and adopting social policies to support the welfare of the population.

In order to help carry out spring sowing in a timely manner, KZT 170 billion (more than USD 411 million) worth of loans was allocated for farmers. Credit will be repayable at rates of 5-6% per annum, as opposed to the 13-15% rates usually available on the open market. Furthermore, the government has pledged to buy the output of agricultural producers six months in advance.

Agricultural producers were also eligible for new tax concessions, including 15% discounts on diesel fuel and exemption from the land tax for agricultural land.

As part of its COVID-19 response, the value added tax (VAT) rate for food products was reduced (from 12% to 8%) and certain customs duties were eliminated through October 2020. Also payment of VAT tax on imported cattle and breeding chicken was deferred.

The government created a panel to set ceiling prices for socially important food products, such as flour, bread, pasta, buckwheat, rice, beef, eggs and sunflower oil. Prices were set separately for each region and a fine of up to KZT 530 200 (USD 1 283) was imposed if the maximum permissible level of retail prices was exceeded.

Trade policy developments in 2020-21

In 2020, a draft law on the ratification of the Agreement on measures aimed at unifying the selection and breeding work with agricultural animals within the EAEU was presented to the Parliament. For the development and implementation of innovative technologies in the field of livestock breeding and genomic selection in the EAEU states, the Agreement provides for the establishment of a unified procedure for co-ordination and analytical support of selection and breeding work in the field of livestock breeding.

In 2020, an agreement on a veterinary certificate for the export of meat, raw meat and offal of horses from the Republic of Kazakhstan to **Japan** was reached.

As a member of the EAEU, efforts are on-going to harmonise **veterinary and phytosanitary** standards with several export destinations, including the People's Republic of China (hereafter "China"), Iran and Saudi Arabia. Veterinary requirements are being harmonised for beef, sheep and camels, various varieties of honey, and fish. In turn, work on phytosanitary requirements concerns flax, beans, peas, safflower, melon seeds, alfalfa and oil cake. To date, protocols have been signed for the export to **China** of 19 types of crop and livestock products, including wheat, flax seeds, barley, alfalfa, corn, wheat bran and feed, rapeseed meal, wheat flour, honey, wool, dairy products, beef, lamb and pork.

Trade policy responses to the COVID-19 pandemic

In late March 2020 Kazakhstan implemented a number of temporary export restrictions and bans for a range of food commodities. In particular, wheat and wheat flour were subject to export quotas, while buckwheat and many vegetable and oilseed products were prohibited for export while Kazakhstan remained under an emergency situation related to COVID-19. The country's state of emergency ended on 11 May and the restrictions were lifted on 1 June 2020. Also, there was a ban on exports of live cattle from January 2020 until November 2020.

Contextual information

Kazakhstan has the ninth largest land area in the world and is one of the least densely populated countries. It has the second-highest per-capita availability of arable land in the world. Kazakhstan is also an important exporter of mineral fuels. The country is an upper middle-income economy and the richest country in Central Asia, but its economy remains highly dependent on fluctuations in the oil and commodity markets. An important bottleneck to Kazakhstan's economic development is the state of infrastructure systems, particularly in transport. The share of trade in GDP (26%) is substantially higher than the corresponding value for all countries analysed in the report.

Although the contribution of agriculture to the economy has declined sharply over time, agriculture remains an important pillar of economic development, contributing to about 4% of GDP and to 15% of total employment. Approximately 75% of the country's territory is suitable for agricultural production, but only about 30% of the land is currently under agricultural production. Kazakhstan is one of the top ten grain exporters in the world, exporting to over 70 countries. The country's major crops are wheat, barley, cotton and rice, with wheat exports a major source of foreign currency. Farmers raise sheep and cattle, and livestock products include dairy goods, leather, meat and wool.

The farm structure is dualistic: large-scale and often highly integrated operations dominate the grain sector, while rural households produce the majority of beef and milk. Kazakhstan's agriculture and mining sectors are particularly vulnerable to the effects of climate change, as increasingly frequent hot weather and severe droughts threaten the availability of water.

Table 17.3. Kazakhstan: Contextual indicators

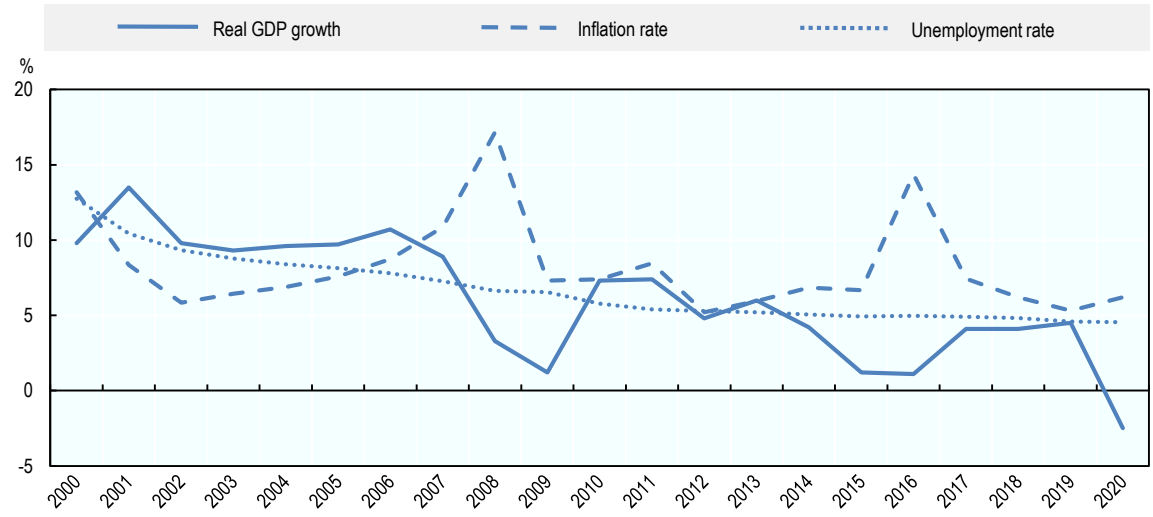
	Kazakhstan		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	115	508	0.3%	0.4%
Population (million)	15	19	0.3%	0.4%
Land area (thousand km^2)	2 700	2 700	3.2%	3.2%
Agricultural area (AA) (thousand ha)	215 393	216 037	7.0%	7.1%
			All countries[1]	
Population density (inhabitants/km^2)	6	7	53	63
GDP per capita (USD in PPPs)	7 734	27 444	9 265	21 975
Trade as % of GDP	37	26	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	8.1	4.5	2.9	3.5
Agriculture share in employment (%)	36.6	15.8	-	-
Agro-food exports (% of total exports)	2.0	5.8	6.2	7.3
Agro-food imports (% of total imports)	0.7	9.9	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	56	55	-	-
Livestock in total agricultural production (%)	44	44	-	-
Share of arable land in AA (%)	14	14	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

The COVID-19 pandemic has hit the economy more than the crises in 2008 and 2015. In 2020, the economy contracted by 3% and domestic demand fell sharply because of job losses and lower disposable income (Azamat, 2020[4]). But unlike past recessions, the pandemic has hit severely retail, hospitality, wholesale and transport sectors, which account for about 30% of total employment. Inflation has increased during the coronavirus lockdown, primarily driven by a rise in food prices. Hoarding, driven by a fear of supply disruptions associated with restrictions on movement, likely caused higher demand and boosted food prices. Kazakhstan's poverty rate are estimated to have increased up to 4% in 2020 from, equivalent to 1.5 million additional poor people, with the most significant increase in the number of the poor expected to be in rural areas (Azamat, 2020[4]).

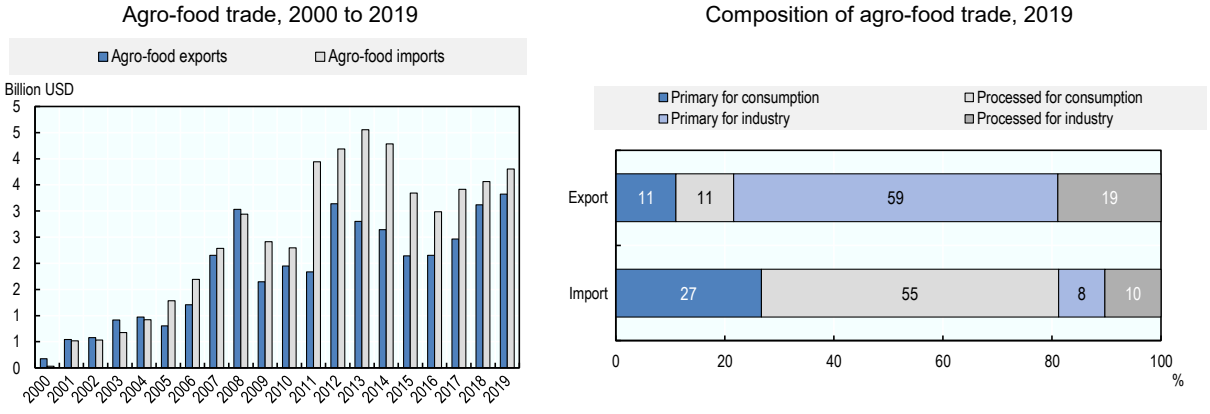
Kazakhstan has been a net agro-food importer since the mid-2000s, yet is one of the world's largest wheat exporters. More than 60% of agro-food exports are in primary commodities, most of which go to processing. More than 60% of agro-food imports are in processed commodities, the bulk of which are for final consumption.

Figure 17.5. Kazakhstan: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI and "Kazakhstan Economic Update"; and ILO estimates and projections.

Figure 17.6. Kazakhstan: Agro-food trade

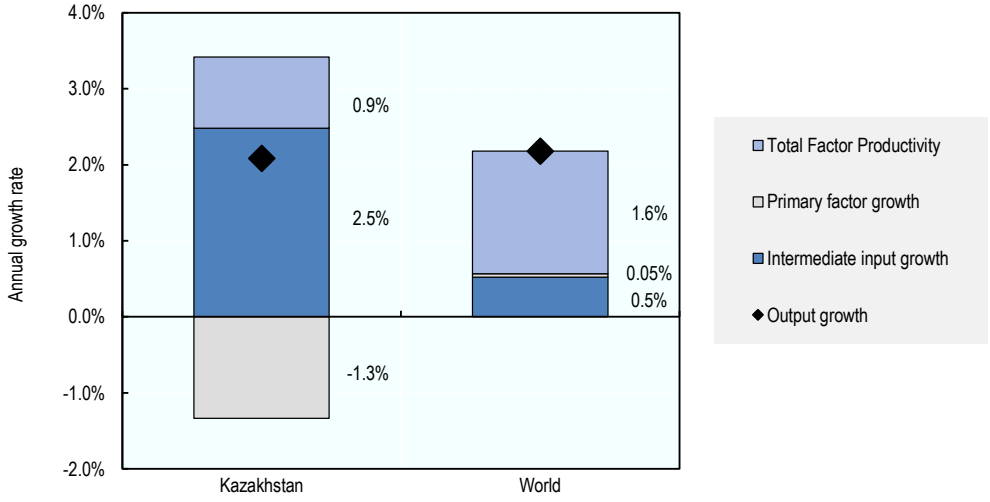


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

The average annual TFP growth rate (the difference between the growth rate of total output and the growth rate of total inputs) of 0.9% between 2007 and 2016 underscores the remaining gap to achieve productivity growth rates similar to the world average. Output grew by 2.5% per year. Although the use of intermediate input such as fertilisers and machinery increased faster than the output, the reduction of primary factors, particularly the amount of labour employed in agriculture led to a small positive TFP growth.

Moreover, the negative average nutrient balances suggests that in the long term such trend could lead to a decline in both soil fertility and productivity growth. Agriculture's share of energy use declined considerably between 1991-2000 and 2007-16. Agriculture's share of GHG emissions remained unchanged during the period and above the OECD average, a comparison that should be qualified by the higher contribution of agriculture to the country's GDP than the OECD average. The share of irrigated land remains low at 0.9%. The share of agriculture in abstracted water has declined, but still remains much higher than the OECD average.

Figure 17.7. Kazakhstan: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 17.4. Kazakhstan: Productivity and environmental indicators

	Kazakhstan		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	6.1%	0.9%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	-14.4	-13.4	33.2	28.9
Phosphorus balance, kg/ha	-2.7	-2.4	3.4	2.6
Agriculture share of total energy use (%)	4.0	3.9	1.7	2.0
Agriculture share of GHG emissions (%)	12.4	9.1	8.4	9.5
Share of irrigated land in AA (%)	0.5	..	-	-
Share of agriculture in water abstractions (%)	68.1	61.8	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

References

Azamat, R. (2020), *A Slow Recovery Through the COVID-19 Crisis in 2020: Kazakhstan-Economic-Update*, Washington, D.C.: World Bank Group, http://documents.worldbank.org/curated/en/792601609750238730/Kazakhstan-Economic-Update-A-Slow-Recovery-Through-the-COVID-19-Crisis. [4]

Baubekova, A., A. Tikhonova and A. Kvasha (2021), "Evolution of Agricultural Policy in Kazakhstan", in *Kazakhstan's Developmental Journey*, Springer Singapore, http://dx.doi.org/10.1007/978-981-15-6899-2_3. [1]

Broka, S. et al. (2016), *Kazakhstan Agricultural Sector Risk Assessment*, http://www.worldbank.org. [3]

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18 Korea

Support to agriculture

Korea reduced its support to agriculture over the past thirty years. Producer support declined from 62.3% of gross farm receipts in 1986-88 to 46.7% in 2018-20, still well above the OECD average. Potentially most-distorting transfers dominate producer support, due to tariff rate quotas (TRQ) with high out-of-quota tariffs. Since 2015, all import restrictions on agricultural products apply in the form of tariffs and TRQs.

Transfers to specific commodities, mainly due to market price support (MPS), represented 90% of total support to farmers in 2018-20.[1] MPS is also the main component of single commodity transfers (SCT). The share of SCT in commodity gross farm receipts is over 60% for soybeans, red pepper, garlic, barley and rice.

Most remaining producer support goes towards direct payment programmes, agricultural insurance scheme and subsidies based on input use. Initial expenditure in 2020 on a new direct payment programme affected the level of support.

General services expenditures (GSSE) amounted to 12% of agricultural value-added in 2018-20, well above the OECD average. Of this, 80% went to the knowledge and innovation system, and the development and maintenance of infrastructure. Total support to agriculture (TSE) declined from 7.6% of GDP in 1986-88 to 1.5% in 2018-20, a proportion that remains much higher than the OECD average.

Recent policy changes

A new direct payment scheme that integrates former direct payment programmes for rice, upland crops and less-favoured areas began in 2020. Due to this reform, rice payments are now based on historical entitlements and decoupled from current production. The scheme also reinforces environmental cross-compliance requirements.

The 2050 Carbon Neutral Strategy of Korea, a long-term plan for greenhouse gas (GHG) emission mitigation, was released in December 2020. It includes a national vision for GHG emission reduction and a strategic plan for agriculture, such as transition to smart farming, development of low-carbon agricultural practices and scaling-up of eco-friendly energy deployment.

Policy measures were implemented to attract young people to rural areas and to foster female farmers. These include facilitating the application of digital technology to the sector, providing education and training services, and expanding rural infrastructure. The 5th Master Plan for Fostering Female Farmers 2020-25 was also announced in 2020.

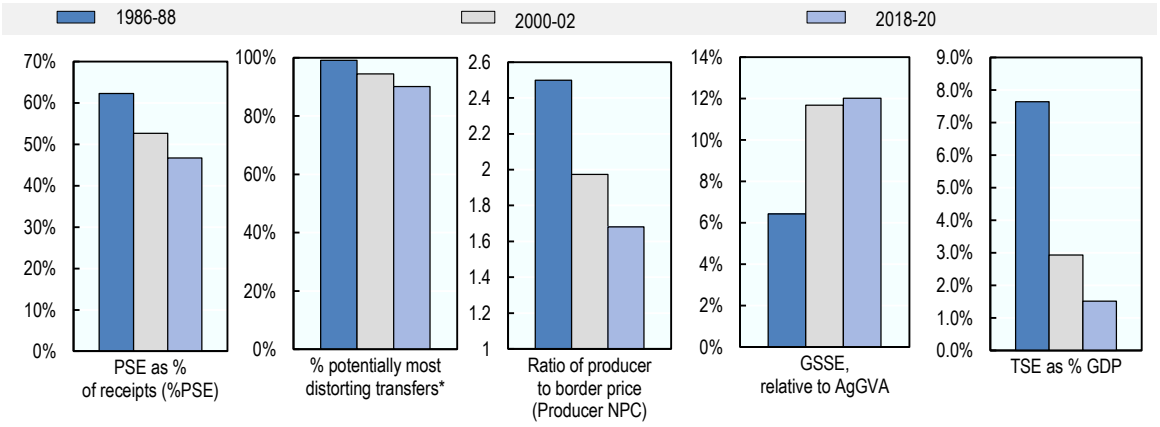
The government continues to promote advanced technologies to improve competitiveness in the agricultural sector. The Smart Agriculture Project includes construction of the Smart Farm Innovation Valleys that implement related policies including education for youth and demonstration of technology and equipment.

In response to the COVID-19 pandemic, the government provided emergency loans with concessional interest rates to farming households to address liquidity problems. Leasing fees for agricultural machinery and equipment were also subsidised on a temporary basis. To address the shortage of seasonal migrant workers in rural areas, the government alleviated visa regulations and increased the number of local job-matching centres. Also, efforts were made to respond to shifts in consumer demand, such as finding alternative distribution channels, launching nationwide promotion campaigns (for horticultural and floricultural products), and providing vouchers for local market purchases.

Assessment and recommendations

- The agricultural sector faces a declining and ageing farm population, and pressures to improve productivity and meet societal demands such as the preservation of natural resources and the environment. Despite reforms, some agricultural policies still do not align with these objectives. The high level of support to producers, 2.6 times the OECD average, is dominated by market price support that distorts producers' decision-making, has potential to harm the environment and natural resources, and hinders agricultural innovation and the sector's capacity to adapt to climate change.
- Reforms of direct payments were finalised in 2020 and integrated the rice income compensation programme, which had been the most significant direct payment in Korea, into a new scheme. This is important to reducing market distortion through less commodity-specific support and diversification of agricultural production. Detailed policy measures and monitoring systems at the local level are required to facilitate farm-level implementation of the new scheme.
- Environmentally-friendly agriculture and preserving the ecosystem should become priorities to assure agricultural sustainability. The 2050 Carbon Neutral Strategy (2020) and the Climate Change Response Plan 2020-40 (2019) establish roadmaps for GHG emission reduction and climate change adaptation. Specific policy instruments need to be developed for the agricultural sector to achieve these targets. Further efforts are needed to reduce nutrient surpluses by improving animal waste management, and to manage irrigation water use in a sustainable way.
- Despite the latest policy measures to attract more people to the rural sector, the lack of young and skilled workers in agriculture, and the widening income gap remain key obstacles. Further efforts to develop rural infrastructure, create employment opportunities, facilitate social security payments for aged farmers wanting to exit the sector, and diversify income sources are needed to address labour shortage and low-income issues.
- Korea continues to promote digital technology through its "Smart Agriculture project". Although public investment in agricultural research and development (R&D) has grown over time, the government-led R&D scheme could still address the various needs of stakeholders. Private-sector investment and participation need to be strengthened to establish a more competitive, demand-driven R&D system.
- With swift policy responses to COVID-19, Korea avoided extensive lockdowns and limited economic damage to the agro-food industry. Nevertheless, economic recession and weaknesses in demand are likely to affect production, investment and employment in the sector. Furthermore, as this pandemic may bring long-term changes in production and consumption of agro-food products, the focus of policy or budget expenditure will need to change with market trends.

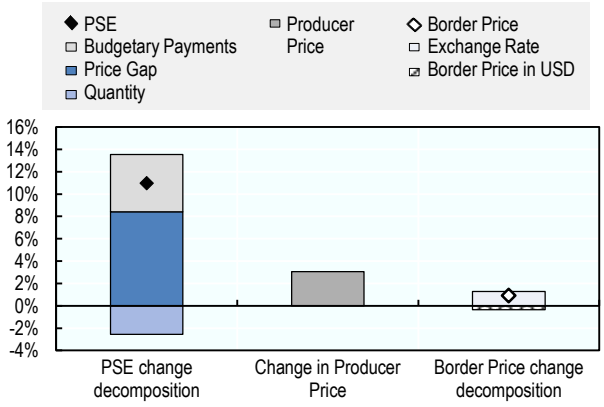
Figure 18.1. Korea: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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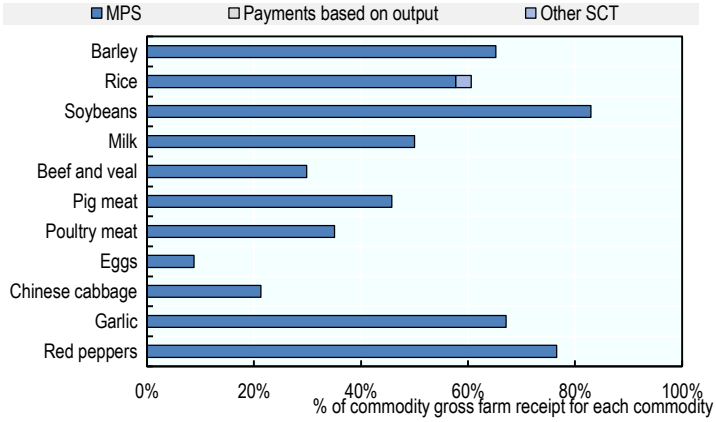
Figure 18.2. Korea: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/0mbicg

Figure 18.3. Korea: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/9qu0vt

Table 18.1. Korea: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**16 985**	**26 360**	**43 495**	**45 493**	**42 633**	**42 357**
***of which:** share of MPS commodities (%)*	74.3	63.3	60.9	60.4	60.8	61.7
Total value of consumption (at farm gate)	**17 247**	**33 199**	**60 191**	**63 367**	**59 280**	**57 928**
Producer Support Estimate (PSE)	**10 682**	**14 461**	**21 383**	**23 038**	**19 616**	**21 495**
Support based on commodity output	10 562	13 500	19 096	20 837	17 772	18 679
Market Price Support[1]	10 562	13 500	19 096	20 837	17 772	18 679
Positive Market Price Support	10 562	13 500	19 096	20 837	17 772	18 679
Negative Market Price Support	0	0	0	0	0	0
Payments based on output	0	0	0	0	0	0
Payments based on input use	90	470	574	603	571	547
Based on variable input use	29	207	222	278	193	196
with input constraints	4	34	45	46	44	46
Based on fixed capital formation	57	246	175	185	198	142
with input constraints	0	18	37	34	37	41
Based on on-farm services	4	17	176	141	180	209
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	29	490	564	813	540	338
Based on Receipts / Income	29	292	76	70	78	80
Based on Area planted / Animal numbers	0	198	488	743	462	258
with input constraints	0	160	35	41	37	28
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	1 150	785	733	1 931
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	0	1 150	785	733	1 931
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	1	0	0	0	0
Based on long-term resource retirement	0	1	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**62.3**	**52.6**	**46.7**	**48.3**	**44.1**	**47.6**
Producer NPC (coeff.)	**2.50**	**1.97**	**1.68**	**1.72**	**1.62**	**1.71**
Producer NAC (coeff.)	**2.65**	**2.11**	**1.88**	**1.93**	**1.79**	**1.91**
General Services Support Estimate (GSSE)	**1 066**	**2 676**	**3 754**	**4 025**	**4 001**	**3 236**
Agricultural knowledge and innovation system	67	243	883	912	869	868
Inspection and control	26	126	320	355	316	289
Development and maintenance of infrastructure	467	1 811	2 133	2 354	2 314	1 730
Marketing and promotion	0	26	38	40	37	38
Cost of public stockholding	505	471	380	364	465	311
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**8.9**	**15.6**	**14.9**	**14.9**	**16.9**	**13.1**
Consumer Support Estimate (CSE)	**-10 147**	**-15 369**	**-24 791**	**-26 948**	**-23 597**	**-23 829**
Transfers to producers from consumers	-10 015	-12 809	-17 402	-18 973	-16 375	-16 859
Other transfers from consumers	-205	-2 653	-7 424	-8 012	-7 257	-7 003
Transfers to consumers from taxpayers	73	93	35	37	35	33
Excess feed cost	0	0	0	0	0	0
Percentage CSE (%)	**-59.0**	**-46.1**	**-41.2**	**-42.6**	**-39.8**	**-41.2**
Consumer NPC (coeff.)	**2.45**	**1.86**	**1.70**	**1.74**	**1.66**	**1.70**
Consumer NAC (coeff.)	**2.44**	**1.85**	**1.70**	**1.74**	**1.66**	**1.70**
Total Support Estimate (TSE)	**11 821**	**17 230**	**25 172**	**27 100**	**23 653**	**24 764**
Transfers from consumers	10 220	15 462	24 826	26 985	23 632	23 862
Transfers from taxpayers	1 805	4 421	7 770	8 127	7 278	7 905
Budget revenues	-205	-2 653	-7 424	-8 012	-7 257	-7 003
Percentage TSE (% of GDP)	**7.6**	**2.9**	**1.5**	**1.6**	**1.4**	**1.5**
Total Budgetary Support Estimate (TBSE)	**1 258**	**3 731**	**6 076**	**6 264**	**5 881**	**6 084**
Percentage TBSE (% of GDP)	**0.8**	**0.6**	**0.4**	**0.4**	**0.4**	**0.4**
GDP deflator (1986-88=100)	**100**	**209**	**294**	**294**	**292**	**295**
Exchange rate (national currency per USD)	**812.03**	**1 224.03**	**1 148.54**	**1 100.19**	**1 165.29**	**1 180.13**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Korea are: barley, garlic, red pepper, Chinese cabbage, rice, soybean, milk, beef and veal, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Korea's agricultural sector experienced a number of structural changes in a short period, concurrent with rapid industrialisation and associated economic growth. From the 1950s to the 1970s, the government concentrated primarily on increasing crop productivity and achieving self-sufficiency in staple foods, particularly rice.

Through the late 1980s and the 1990s, policy objectives were to restructure the sector and improve its competitiveness, in line with the opening of agricultural markets. With progressive liberalisation of agriculture and food markets, agricultural policies in Korea adopted more diverse objectives, ranging from enhancing productivity to improving long-term agricultural sustainability. Rapid growth and industrialisation led to income disparity between farm and urban households.

Since the first post-2000 decade, emphasis shifted to a broader set of objectives, such as vitalising the rural economy, expanding the export market, enhancing the environmental performance of agriculture and promoting the food industry. Moreover, multilateral and bilateral trade agreements required progressive structural adjustments in the agricultural sector. During the late 1990s and 2000s, non-tariff trade measures on agricultural products gradually converted to tariffs and TRQs, except for rice as agreed in the Uruguay Round Agreement on Agriculture. In January 2015, by a tariff scheme also replaced non-tariff measures on rice (OECD, 2018[1]).

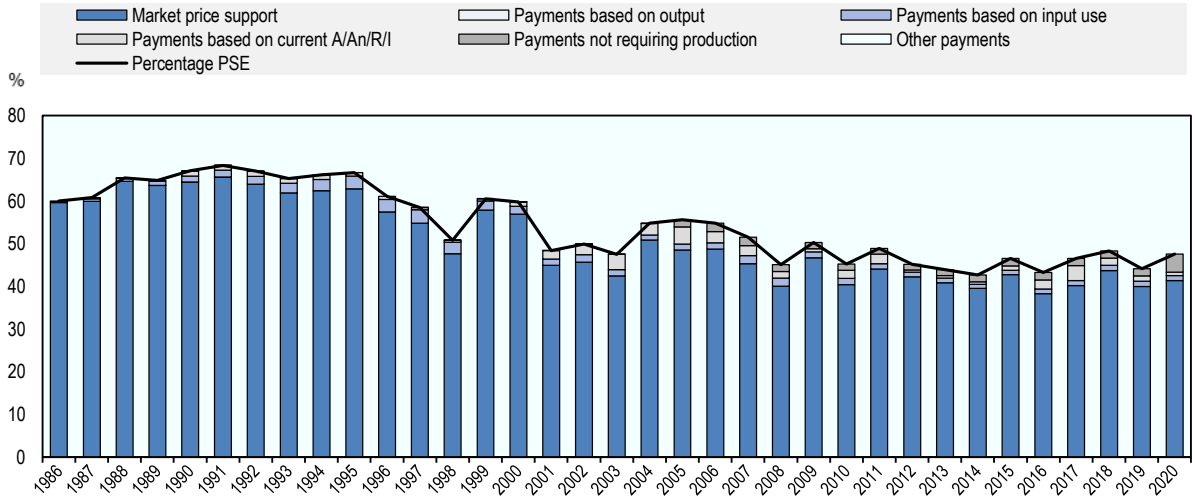
Table 18.2. Korea: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1970s	Relatively closed economy Policy focus on productivity and self-sufficiency	Price supports and government procurement programme for crops Subsidies for inputs (including fertiliser, seeds)
1980-1990	Exposure of domestic producers to open market Structural adjustment programmes	Tariff and non-tariff measures replaced by tariffs and tariff rate quotas (except for rice) Government procurement programme for crops Direct payment programmes (early retirement payments from 1997) Agricultural insurance scheme (from 1997)
2000-present	Responding to changing market demands Diversified policy objectives	Tariffs and tariff rate quotas Tariff concession through Free Trade Agreements Public stockholding scheme for major staple crops Direct payment programme for rice (2005-2019) Direct payment scheme reformed (from 2020) Environment-friendly agricultural programmes

Despite a decline in support to farmers as a share of gross farm receipts, Korea's level remains much higher than the OECD average. Market price support is a dominant component of total support to agriculture. The share of the MPS in total support shows only a moderate decrease during the last three decades (Figure 18.4). The share of support for general services slightly increased over the same period.

Figure 18.4. Korea: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The Framework Act on Agriculture, Rural Community and Food Industry enacted in 2007 sets Korea's agricultural policy framework. It requires the government to establish a national policy plan every five years. The most recent plan, for 2018-22, includes four main policy objectives: (1) strengthening farmers' income safety net; (2) promoting innovation for sustainable agriculture; (3) enhancing food safety in the supply chain; and (4) improving rural welfare.

The public stockholding scheme for rice, known as the Public Storage System for Emergencies, was established in 2005. One of its objectives is to guarantee food security in times of natural disaster, or during a temporary shortage due to mismatching supply and demand. Under the scheme, the government purchases rice from farmers at market price during harvest season and releases the stocks at market prices when necessary. The government has a similar purchasing programme for soybeans.

Several direct payment programmes operate in Korea, including the early retirement payment, a payment scheme to promote environment-friendly production and payments for rural landscape conservation. The income compensation scheme for rice, which had been the main payment scheme in Korea, was integrated into a new direct payment scheme.

An agricultural disaster insurance scheme protects farmers against losses in crop yield and livestock in the form of insurance premium subsidies. The government also implemented a pilot project for agricultural revenue insurance for specific crops.

To promote rural development and sustain livelihoods in rural areas, the government provides support for people who move to farm villages and join agriculture activities. Support services assist with relocation or housing, and education and training programmes for farming. Also, incentives attract the younger population to rural areas.

The government increased investment in information and communication technologies (ICT) via its "Smart Agriculture Project". The programme emphasises the use of digital technologies at farm level, including use of big data, artificial intelligence technology and real-time monitoring of crop growth information. The government expects digital technology to improve predictability and mitigate volatility, increasing agricultural productivity and reducing production costs.

Tariffs and TRQs continue to be the main trade policy measures applied to agriculture in Korea. In-quota rates range from 0% to 50% with out-of-quota rates between 9% and 887%. A TRQ volume of rice (408 700 tonnes, corresponding to about 10.7% of annual rice consumption) is maintained at a 5% tariff rate (the out-of-quota tariff is 513%).

Korea engages in seventeen bilateral and regional Free Trade Agreements (FTA). Some include significant tariff concessions for livestock and fruit products, but rice is excluded from tariff concessions in existing FTAs. Import tariffs on beef from the United States, Australia and Canada are being eliminated over a 15-year period since the entry into force of their respective FTAs (March 2012 with the United States, December 2014 with Australia, and January 2015 with Canada). Tariffs on pork meat from the European Union, the United States and Chile are being phased out over 10 years, and on pork meat from Canada over 13 years. Tariffs on chicken meat from the United States and the European Union are being abolished by tariff line over a period of 10 to 13 years after the respective FTAs came into effect.

Domestic policy developments in 2020-21

A new direct payment system, which combines the direct payments for rice, upland crops and less favoured areas into one scheme, was launched in 2020. The income compensation scheme for rice was turned into a decoupled payment programme primarily based on historical entitlements and accompanied by environmental cross compliance regulations through a reform. The action plans, legislation and budget allocation, which accompanied the launch of this new scheme, were finalised during 2019-20. The reformed scheme entered into force and was applied to farmers in 2020 (Korean Government, 2021[2]).

Given the labour shortage in Korea's rural areas, strengthening capacity of youth and women is one of the key policy concerns. To attract young labour force, financial support (targeted loan or fund), and farmland lease are provided to young farmers. At the same time, the government expands investment in education and training services. In December 2020, a five-year action plan for fostering women farmers was announced. Its objective is to enhance women's empowerment in rural community by promoting participation in business and leadership (Korean Government, 2020[3]).

The coverage of **the agriculture insurance** has been expanded in 2020 adding walnuts, red beans, barley, spinach, and apricots. To better deal with damages caused by natural disasters and to reduce the fiscal and administrative burden of the increased coverage, efforts to develop various insurance products, adjust the insurance subsidy rate, and avoid moral hazard of farmers are ongoing.

The government has focused on preventative measures and monitoring on animal diseases since the first domestic outbreak of African Swine Fever (ASF) in 2019. Government measures include culling of animals, restrictions on transportation of pig and excreta, extensive disinfection around affected areas, strengthened inspection of animal farms, and nationwide informational campaigns.

The Smart Agriculture Project aims at improving the application of advanced technologies in the sector, as well as attracting young and innovative farmers. Young farmers can benefit from leasing of agricultural facilities and farmlands in the smart farm complexes. Furthermore, the government plans to conduct a cross-sectoral research and development (R&D) to develop future technologies available for these smart farms.

In December 2020, the government released **the 2050 Carbon Neutral Strategy of the Republic of Korea** representing a long-term plan for greenhouse gas (GHG) emission mitigation. This plan includes a

national vision and strategic initiatives for achieving the GHG emission reduction target.[2] The strategy sets out four tasks for the agricultural sector: transition to smart farming; development and deployment of low-carbon agricultural practices; promotion of participatory policies for farmers and consumers; scaling-up of eco-friendly energy deployment (Korean Government, 2020[4]).

Domestic policy responses to the COVID-19 pandemic

The government has offered emergency funding to farming households to address liquidity problems. As part of this initiative, farm households may benefit from low interest loans at favourable payment schedules. Leasing fees for agricultural machinery and equipment also temporarily decreased. Farmers and wholesalers in horticulture and floriculture, which have been among the most affected, benefitted from additional budgetary support, for instance, via the lowering wholesale transaction fees or rents, and increasing public procurement.

To address shortages of migrant seasonal workers, the government implemented policy measures to increase the sector's attractiveness and reduce short-term mismatch of the labour force. Visa regulations were temporarily alleviated so that foreign visitors or migrant workers from other industries could work in the agricultural sector. The number of local agriculture job-matching centres increased to attract more seasonal workers and volunteer workers.

Restaurants, food service providers and catering companies have been severely affected by social distancing and school closures. To facilitate the purchase of agro-food products and ease companies' liquidity constraints, the government expanded funds for these companies with further lowered interest rates. The companies are also encouraged to maintain employment through salary and expense subsidies.

As public catering companies were key consumers of organic products, organic producers have been encouraged to find alternative distribution channels. Efforts have been made to sell directly to final consumers via online and other channels. Active co-operation with local governments and agricultural co-operatives have also been undertaken. In addition, the government purchased organic products and provided packaged fruits and vegetables to self-quarantined people, pregnant women, and low-income families.

To recover the consumption level of horticultural and floricultural products, promotion campaigns have been rolled out at the national level through online and offline platforms. Both private and public sectors, including large companies, the central and local governments and public institutions, participated in the campaign.

In addition, various measures have been taken to promote domestic consumption and assure food security: providing vouchers for local market purchases; monitoring food stocks; and ensuring food accessibility for low-income households.

Trade policy developments in 2020-21

The WTO verification procedures regarding a tariff on imported rice were finalised in January 2020. As a result, the tariff rate of 513% on rice was confirmed, and a TRQ of 408 700 tonnes is maintained with a 5% tariff rate. Taking imported volumes during the 2015-17 reference period, 388 700 tonnes were allocated to five countries in 2020 (157 195 tonnes for the People's Republic of China (hereafter "China"), 132 304 tonnes for the United States, 55 112 tonnes for Viet Nam, 28 494 tonnes for Thailand, and 15 595 tonnes for Australia). Korea Agro-Fisheries and Food Trade Corporation, a state trading enterprise, is in charge of managing the rice TRQ.

A new FTA with the United Kingdom has entered into force in January 2021. FTAs with Israel, Indonesia, and RCEP,[3] which were concluded in 2019-20, are under domestic ratification process. RCEP is the world's largest FTA and will lead Korea to further open up its agricultural sector. This could pose both a

challenge and also an opportunity to the sector. It is expected to improve market access for some Korean agricultural products (for example, apples, strawberries, and some liquor).

Trade policy responses to the COVID-19

Given constrained air freight services and increase in transportation cost, the government maintained the existing export subsidies in 2020 and also helped exporters to find alternative export markets by providing market information.

Contextual information

Korea's economy has been growing rapidly over the last two decades led by growth in international trade. Trade represented 32% of GDP in 2019, twice the average of the countries covered in this report. In contrast, the share of agriculture in GDP fell from 4.3% to 1.8%, and the share of agricultural employment declined from 10.6% to 5.1% during the period of 2000-18. Although the proportion of the agricultural sector in total exports slightly increased, Korea still remains a large importer of agricultural products.

Crop production accounted for 60% of the total value of agricultural production in 2019. There has been a significant change in its composition since 2000, due to a change of dietary pattern and diversification of production towards livestock and high value products (Table 18.3).

Table 18.3. Korea: Contextual indicators

	Korea		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	872	2 231	2.2%	2.0%
Population (million)	47	52	1.1%	1.0%
Land area (thousand km²)	96	98	0.1%	0.1%
Agricultural area (AA) (thousand ha)	1 973	1 652	0.1%	0.1%
			All countries[1]	
Population density (inhabitants/km²)	473	521	53	63
GDP per capita (USD in PPPs)	18 551	43 143	9 265	21 975
Trade as % of GDP	29	32	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	4.3	1.8	2.9	3.5
Agriculture share in employment (%)	10.6	5.1	-	-
Agro-food exports (% of total exports)	0.9	1.3	6.2	7.3
Agro-food imports (% of total imports)	5.2	5.5	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	75	60	-	-
Livestock in total agricultural production (%)	25	40	-	-
Share of arable land in AA (%)	87	83	32	34

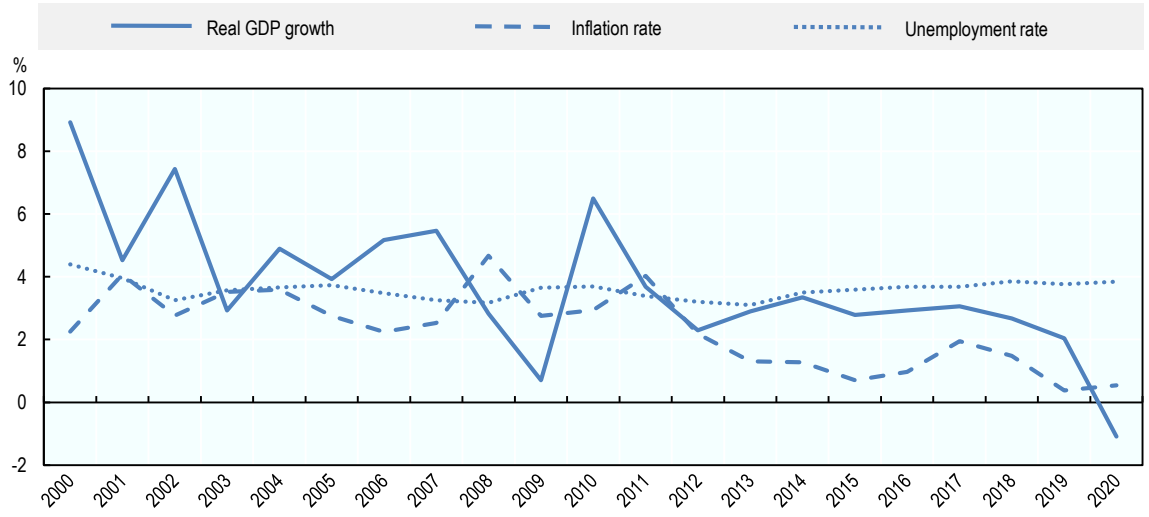
Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Following the outbreak of the COVID-19 pandemic and related disruptions, GDP in Korea, while less affected than in many other countries, declined by 1% in 2020. Nonetheless, both the level of unemployment and inflation have remained low. As an export-oriented economy, Korea is vulnerable to weaknesses in foreign demand and to disruptions in global value chains. In response to COVID-19, a

range of policy measures limited the damage to domestic economy, but further global recession is likely to affect investment and employment (OECD, 2020[5]) (Figure 18.5).

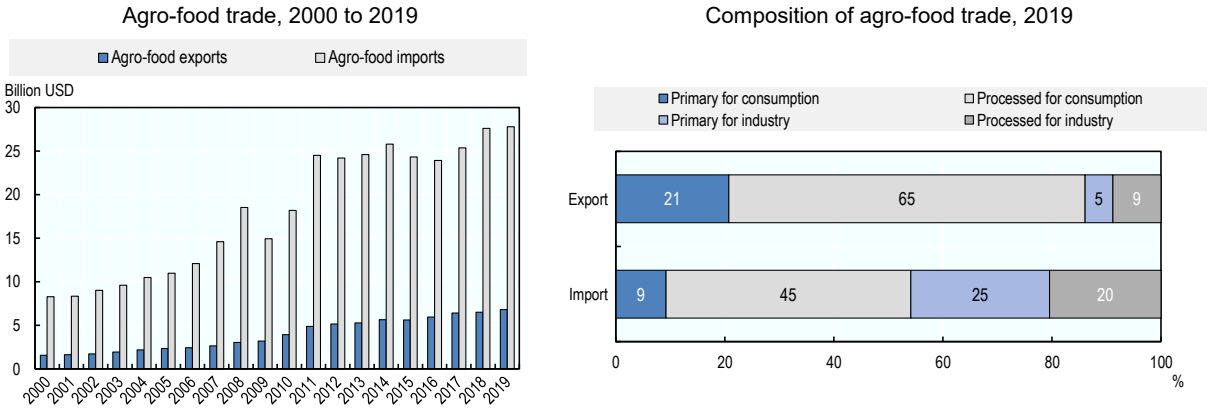
Korea is one of the largest net agro-food importers in the world. While over 85% of agro-food exports are products for final consumption, about half of imports are destined for further processing by the Korean industry. Key imported agricultural commodities include maize, soybeans and wheat for animal feed (Figure 18.6).

Figure 18.5. Korea: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 18.6. Korea: Agro-food trade



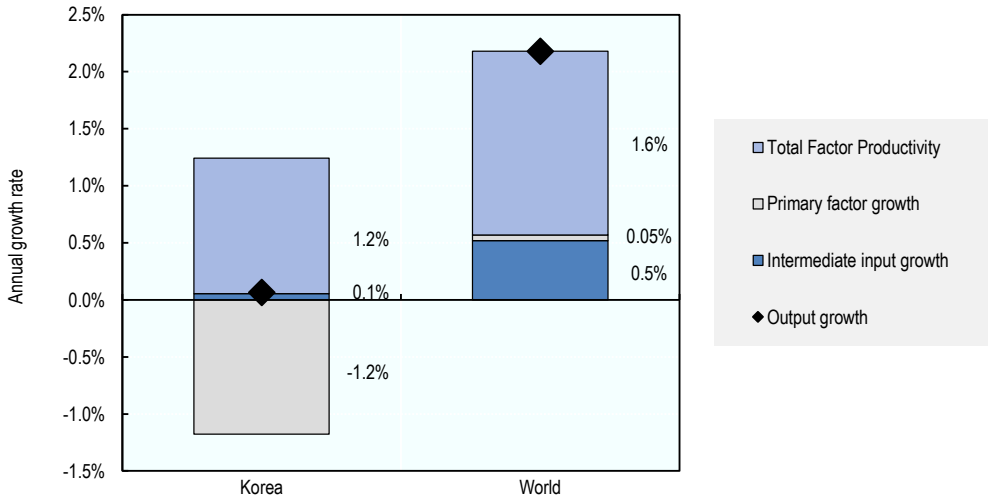
Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

At 1.2% per year, total factor productivity (TFP) growth in Korea was slightly lower than the global average over the period of 2007-16. TFP growth offset the declining use of primary factors, resulting in output to remain largely unchanged (Figure 18.7).

The level of nutrient surplus per hectare has declined over the past two decades. However, average nitrogen and phosphorus surpluses are still well above OECD averages, partly due to intensive livestock

production. The share of agriculture in water withdrawal remains high compared to the OECD average, related to the fact that rice paddy fields account for more than 50% of agricultural land area, and water stress has been increasing and remains high compared to other OECD countries (Table 18.4).

Figure 18.7. Korea: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 18.4. Korea: Productivity and environmental indicators

	Korea		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	3.5%	1.2%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	254.0	212.2	33.2	28.9
Phosphorus balance, kg/ha	50.3	45.9	3.4	2.6
Agriculture share of total energy use (%)	2.9	0.9	1.7	2.0
Agriculture share of GHG emissions (%)	4.2	2.9	8.4	9.5
Share of irrigated land in AA (%)	45.4	42.8	-	-
Share of agriculture in water abstractions (%)	53.4	50.3	46.0	43.4
Water stress indicator	27.1	30.8	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Korean Government (2021), *2021 policy plan of MAFRA*. [2]

Korean Government (2020), *2050 Carbon Neutral Strategy of the Republic of Korea*, https://www.mofa.go.kr/www/brd/m_4080/down.do?brd_id=235&seq=370841&data_tp=A&file_seq=3. [4]

Korean Government (2020), *Basic plan for women farmers 2021-25*. [3]

OECD (2020), *OECD economic survey: Korea (Overview)*, https://www.oecd.org/economy/surveys/korea-2020-OECD-economic-survey-overview.pdf. [5]

OECD (2018), *Innovation, Agricultural Productivity and Sustainability in Korea*, OECD Publishing, Paris, https://doi.org/10.1787/9789264307773-en. [1]

Notes

[1] The method for extrapolating total MPS for the agricultural sector from commodity-specific estimates was revised for Korea this year, as for other countries in the 2020 edition of this report. Commodities are now split in two groups: those for which imports are governed by TRQs, and those to which no TRQs apply. Consequently, time series for total MPS and PSE were revised.

[2] The National Roadmap for the reduction of GHG emissions (October 2019) set a target to reduce the GHG emissions by 37% from the BAU level by 2030, which is 24% lower than the 2017 level.

[3] Korea, 10 ASEAN member countries, China, Japan, India, Australia, New Zealand.

19 Mexico

Support to agriculture

Mexico's average producer support estimate for 2018-20 was 10% of gross farm receipts, about half the OECD average. Around 50% of total transfers to producers were in the form of market price support (MPS) through price regulations and border measures. Sugar and poultry meat had the highest MPS at 44% of total MPS. While trade liberalisation and domestic policy reforms in the 1990s led to considerable reduction in the most production- and trade-distorting support, MPS increased again after 2016.

Other important forms of support are based on electricity use, direct payments based on area and payments for afforestation and agroforestry.

General services expenditures (GSSE) represented 1% of agriculture's value-added and 8% of the agriculture's total support estimate (TSE), lower than the OECD average. Most of those expenditures are directed to agricultural technical institutes and vocational agricultural schools (50%), and inspection and control activities (20%).

Total support to agriculture in Mexico was 0.6% of GDP in 2018-20, similar to the OECD average. Taxpayers provide 65% of these transfers, the remaining 35% coming from consumers.

Recent policy changes

In June 2020, the Mexican government published the Sectoral Programme for Agriculture and Rural Development 2019-2024, which guides implementation of the National Development Plan during those years. The Sectoral Programme focuses on three objectives: (1) improve agricultural productivity for food self-sufficiency, (2) reduce poverty rates in rural areas and (3) increase small-scale agricultural producers' incomes.

The Mexican Ministry for Agriculture and Rural Development (SADER) targeted beneficiaries of area-based payments (Production for Wellbeing) to focus on producers with less than 20 hectares and those in marginalised indigenous communities in the country's south-eastern states. The guaranteed minimum prices programme now includes medium-size maize producers with 5 to 50 hectares.

The Marketing Support Program of the Agency for Marketing Services and Market Development (ASERCA), which provided support for the purchase of financial instruments related to price volatility and contractual agricultural schemes, was dismantled. Support for financial instruments (price hedging, insurance and contractual agriculture) was suspended. Several programmes supporting livestock production and rural development were also dismantled.

SADER and the Ministry of the Environment and Natural Resources (SEMARNAT) are developing the National Strategy for the Conservation and Sustainable Use of Pollinators (ENCUSP) to promote conservation of pollinators and valuate the ecosystem services they provide.

Policy responses to COVID-19 included:

- Expanding by 200 000 the number of beneficiaries of the Sowing Life programme that distributes payments, plants and inputs for agroforestry projects to producers with incomes below the poverty line.
- SADER collaborated with the members of productive chains to make sure food supply, inventories and distribution are not disrupted. Particular attention was given to key chains such as grains, horticulture, poultry, beef, fisheries and aquaculture. Digitalisation services were expanded to speed up food imports. Up to 60% of administrative import is now done remotely by the Centre for Documentation and Judgement (CDD) of the National Service for Health, Safety and Agri-food Quality (SENASICA).
- Government recommendation to reinforce hygiene inspection systems in food production units and encourage consumers to follow hygiene practices when handling and preparing food.

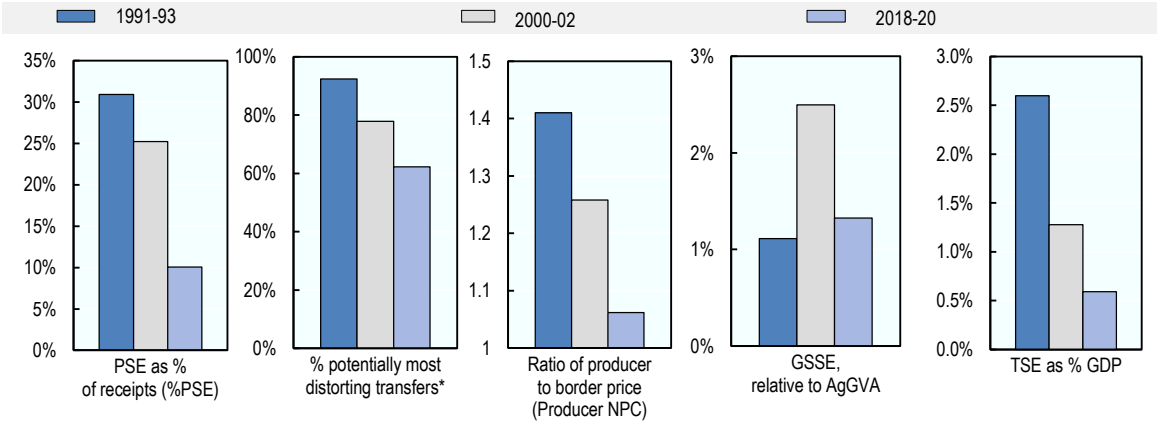
Assessment and recommendations

- Throughout the 1990s and 2000s, Mexico made progress in reducing the most-distorting forms of support, including market price support, and payments based on outputs and on the unconstrained use of variable inputs. Nevertheless, these forms of support have increased since 2016, accounting for 62% of total support to producers and 6% of gross farm receipts by 2018-20. These measures keep farmers in uncompetitive activities, harm the environment, stifle innovation, slow structural and inter-generational change, and weaken resilience. Mexico should consider phasing out price regulations for sugar cane, border measures and payments based on electricity consumption, and continue efforts to re-orient payments to schemes targeting those in need.
- Mexico has advanced on reorienting its payment schemes to focus on those in need and on the provision of public goods. In particular, modifications made to area-based payments (Production for Wellbeing), focused on producers with less than 20 hectares and those in marginalised indigenous communities in the south-eastern states, are useful for improved targeting. The Sowing Life programme was implemented in 2019 to support agroforestry projects led by small farmers (with 2.5 hectares of available land) located in poor municipalities.
- Despite these efforts, improvements to current programmes are needed to ensure they deliver on their intended objectives. Eligibility for the Sowing Life programme needs to be reviewed so as to reduce farmers' incentives to deforest their parcels in order to be considered for the programme.
- The majority of strategic programmes introduced by the current government in 2019 – in-kind loans to livestock producers, guaranteed minimum prices for small-scale producers and transfers to fertiliser consumption – target poor farmers. These can become costly and inefficient measures for helping small-scale and poor farmers, and have negative effects on the environment. For example, distributing fertiliser without consideration for soil needs can threaten water and air quality if applied beyond what is required.
- Transitioning to schemes that promote agrobiodiversity by using local plant genetic resources (one of the main ecosystem services that small-scale farmers in poor areas provide) could be more cost-effective for helping poor farmers and increase the resilience of agricultural systems and the genetic diversity of plants. More broadly, conditioning payments on the implementation of sustainable farming could reduce the sector's environmental impact.
- Investments in general services, mainly related to infrastructure, remain low, at 1.4% of agriculture's value-added. These are crucial for improving the sector's performance and creating an enabling environment. In particular, the sector would benefit from investments in price and weather information systems, agricultural knowledge transfer and research and development.

Support to promote producer associations, market promotion, and access for small-scale and poor farmers could also help overcome barriers related to scale.

- While the share of agriculture in Mexico's greenhouse gas (GHG) emissions has decreased since 2000, it remains high relative to other OECD countries. Mexico's agriculture GHG emissions target of 8% below business-as-usual in 2030 (compared to an overall reduction target of 22%) can improve the sector´s environmental performance and contribute to global mitigation efforts. However, support and financing have been reduced since 2018 for the main strategies to achieve the target, such as increased use of biodigesters in livestock farms as well as conserving and restoring grasslands.

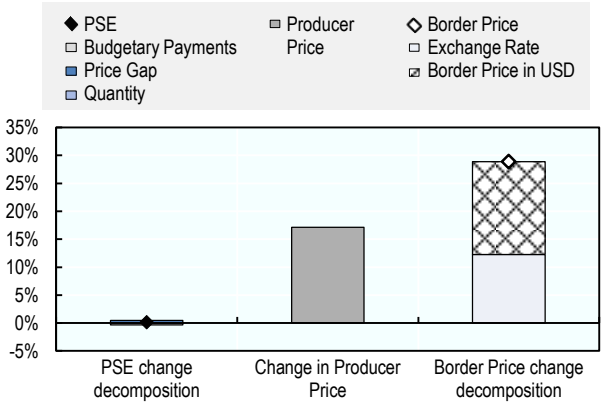
Figure 19.1. Mexico: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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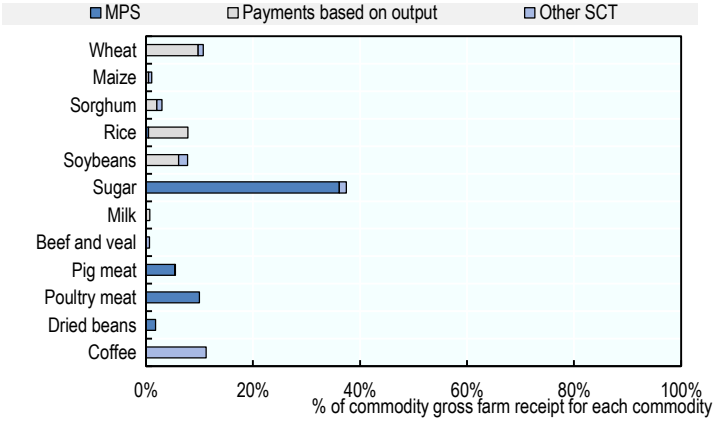
Figure 19.2. Mexico: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/apveqt

Figure 19.3. Mexico: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/3fpdbh

Table 19.1. Mexico: Estimates of support to agriculture

Million USD

	1991-93	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**28 112**	**31 345**	**58 059**	**56 971**	**60 121**	**57 086**
***of which:** share of MPS commodities (%)*	68.3	66.3	61.1	61.7	60.8	60.8
Total value of consumption (at farm gate)	**28 196**	**34 362**	**68 469**	**67 620**	**71 930**	**65 858**
Producer Support Estimate (PSE)	**9 144**	**8 539**	**6 161**	**6 377**	**6 374**	**5 731**
Support based on commodity output	7 698	6 282	3 330	3 294	3 563	3 134
Market Price Support[1]	7 646	5 967	3 178	3 208	3 321	3 006
Positive Market Price Support	7 693	5 999	3 178	3 208	3 321	3 006
Negative Market Price Support	-47	-32	0	0	0	0
Payments based on output	52	315	152	86	242	129
Payments based on input use	1 443	953	1 481	2 287	1 391	766
Based on variable input use	746	349	507	565	544	413
with input constraints	0	0	1	0	3	0
Based on fixed capital formation	545	362	753	1 411	636	213
with input constraints	0	4	252	611	122	23
Based on on-farm services	152	241	221	311	211	139
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	3	137	116	266	81	0
Based on Receipts / Income	0	59	0	0	0	0
Based on Area planted / Animal numbers	3	78	116	266	81	0
with input constraints	0	0	29	84	3	0
Payments based on non-current A/An/R/I, production required	0	0	535	531	577	499
Payments based on non-current A/An/R/I, production not required	0	1 167	0	0	0	0
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	1 167	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	0	698	0	762	1 332
Based on long-term resource retirement	0	0	698	0	762	1 332
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**30.9**	**25.2**	**10.1**	**10.6**	**10.1**	**9.6**
Producer NPC (coeff.)	**1.41**	**1.26**	**1.06**	**1.06**	**1.06**	**1.06**
Producer NAC (coeff.)	**1.45**	**1.34**	**1.11**	**1.12**	**1.11**	**1.11**
General Services Support Estimate (GSSE)	**1 048**	**621**	**523**	**535**	**485**	**549**
Agricultural knowledge and innovation system	288	304	348	359	355	331
Inspection and control	0	102	83	108	80	60
Development and maintenance of infrastructure	284	112	82	44	46	157
Marketing and promotion	83	103	10	25	5	0
Cost of public stockholding	392	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**9.5**	**6.5**	**7.5**	**7.2**	**6.8**	**8.5**
Consumer Support Estimate (CSE)	**-7 013**	**-5 520**	**-2 129**	**-1 824**	**-2 099**	**-2 463**
Transfers to producers from consumers	-7 668	-5 893	-2 434	-2 305	-2 374	-2 622
Other transfers from consumers	-396	-124	0	0	0	0
Transfers to consumers from taxpayers	852	348	305	481	275	158
Excess feed cost	199	149	0	0	0	0
Percentage CSE (%)	**-25.6**	**-16.3**	**-3.1**	**-2.7**	**-2.9**	**-3.7**
Consumer NPC (coeff.)	**1.40**	**1.21**	**1.04**	**1.04**	**1.03**	**1.04**
Consumer NAC (coeff.)	**1.35**	**1.19**	**1.03**	**1.03**	**1.03**	**1.04**
Total Support Estimate (TSE)	**11 044**	**9 508**	**6 989**	**7 394**	**7 134**	**6 438**
Transfers from consumers	8 064	6 017	2 434	2 305	2 374	2 622
Transfers from taxpayers	3 376	3 616	4 555	5 089	4 760	3 817
Budget revenues	-396	-124	0	0	0	0
Percentage TSE (% of GDP)	**2.6**	**1.3**	**0.6**	**0.6**	**0.6**	**0.6**
Total Budgetary Support Estimate (TBSE)	**3 398**	**3 541**	**3 811**	**4 186**	**3 813**	**3 432**
Percentage TBSE (% of GDP)	**0.8**	**0.5**	**0.3**	**0.3**	**0.3**	**0.3**
GDP deflator (1991-93=100)	**100**	**396**	**946**	**918**	**948**	**973**
Exchange rate (national currency per USD)	**3.08**	**9.49**	**19.93**	**19.18**	**19.22**	**21.40**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Mexico are: wheat, maize, barley, sorghum, coffee, dried beans, tomatoes, rice, soybean, sugar, milk, beef and veal, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). http://dx.doi.org/10.1787/agr-pcse-data-en

Description of policy developments

Overview of policy trends

Significant reforms to price support began in the late 1980s and continue to the present. In 1988–89, guaranteed prices for wheat, sorghum, barley, rice and oilseeds were eliminated, but maintained for maize and beans.

After the enactment of NAFTA in 1994, guaranteed prices for maize and beans were phased out and replaced by a new system of direct income support payments (PROCAMPO) based on historic cultivated crop area. The government withdrew from procurement and marketing except for beans and maize (although the government sharply reduced its involvement in these crops). Input subsidies for seeds, fertiliser, pesticides, machinery and diesel fuel were reduced, but the input subsidy for electricity to pump groundwater still remains. During trade liberalisation, subsidies for financial instruments to reduce financial risks (price hedge instruments) were also put in place.

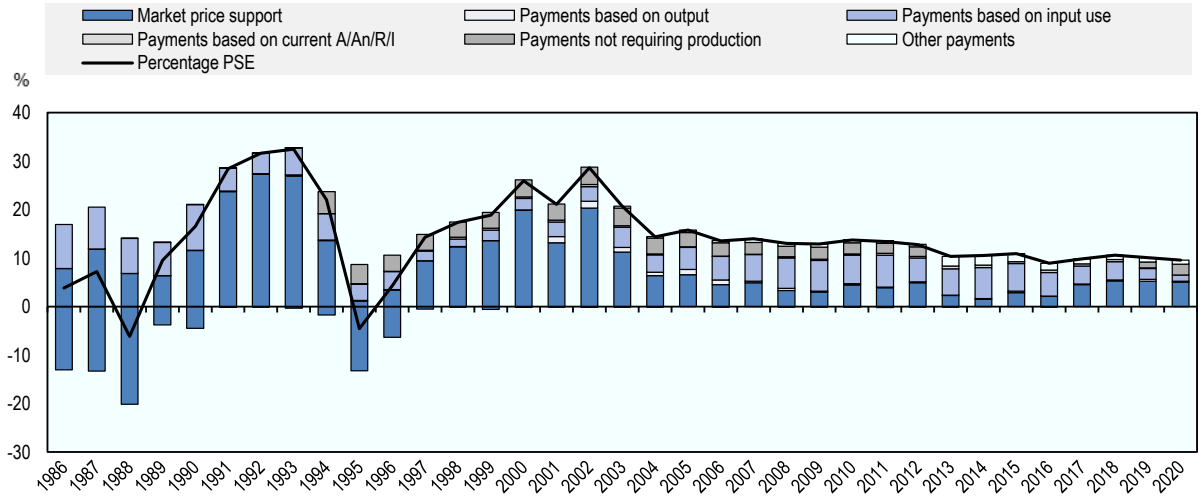
Another shift took place in 2018 to re-direct most payments to small- and medium-scale farmers located in poor rural areas. Some programmes that operated before the 1990s were reinstated, such as minimum guaranteed prices for staple crops and fertiliser subsidies. The PROCAMPO programme was renamed Production for Wellbeing and reformed to provide support only to small- and medium-scale farmers with particular focus on those located in poor communities. Furthermore, price hedge subsidies were dismantled.

Table 19.2. Mexico: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1990s	Import substitution model	Agricultural tariffs and import quotas Minimum prices for staple food (maize, rice, beans, wheat, etc.) State food marketing enterprise (CONASUPO) Subsidies for inputs (fertilisers, seeds, electricity for water pumps) Preferential credit
1990-2018	Trade liberalisation	Dismantling of tariffs on agricultural products (except sugar) Dismantling of state marketing enterprise Elimination of input subsidies (except electricity for water pumps) Elimination of minimum prices Reforms to land tenure NAFTA and other FTAs signed Creation of direct payment to farmers (PROCAMPO) Insurance and price hedge subsidies
2018- present	Reforms	Guaranteed minimum prices on staples (maize, beans, wheat) Direct payment to small- and medium-size producers Preferential credit Electricity subsidies Fertiliser subsidies

Until the early 2000s, producer support comprised mostly market price support. The share of market price support then declined while that of budgetary support grew, until 2016 when market price support and input-based support again became the largest components of producer support.

Figure 19.4. Mexico: Level and PSE composition by support categories, 1986 to 2020



Notes: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Five-year sectoral programmes guide agricultural support policies in Mexico. The strategic guidelines of the Sectoral Programme for Agriculture and Rural Development 2019-2024 focus on three objectives: (1) improve agricultural productivity for food self-sufficiency, (2) bring down poverty rates in rural areas and (3) increase small-scale agricultural producers' incomes.

Mexican agricultural policy focuses on three main programmes: (1) guaranteed prices for small-scale farmers, (2) payments based on area and (3) fertiliser programmes. Except for payments based on area, the programmes are new and covered in the "Domestic policy developments 2020-21" section.

Guaranteed minimum prices are granted to maize, beans, wheat, milk and rice producers. Guaranteed prices are set at levels above market prices. Eligibility criteria vary by commodity but mainly support small- and medium-size producers of maize (up to 5 or up to 30 hectares, respectively), beans (up to 30 rain-fed hectares or 5 irrigable hectares) and milk (up to 100 dairy cows). LICONSA, a state enterprise, purchases beans, maize and milk from small producers and also processes and distributes milk at subsidised prices. Under this programme, small-scale maize producers are eligible for a transportation subsidy. For wheat and rice producers, SEGALMEX (Mexican Food Security) pays the difference between the reference and guaranteed prices, while for medium-scale maize producers, support is provided for the purchase of risk management instruments. The reference price is calculated as the sum of the average future price of maize published in the Chicago Board of Trade, converted to Mexican pesos using Banco de Mexico's published average exchange rate, and a commercialisation fee determined by SEGALMEX. In all cases, there are limits to the support a single farmer can receive.

The Production for Wellbeing programme focuses on area-based payments that target small and medium producers, including from indigenous communities. Payment rates decrease with farm size and differ by product (Table 19.3).

Table 19.3. "Production for Wellbeing" payment rates

Producer type	Area	Payment per ha
Small producers	Up to 5 rain-fed ha	MXN 2 000 (USD 100)
Medium producers	Between 5 and 20 rain-fed ha or Up to 5 irrigated ha	MXN 1 200 (USD 61)
Coffee producers	No limit	MXN 6 200 (USD 314)
Sugar cane producers	No limit	MXN 7 300 (USD 367)

Source: Reglas de Operación del Programa Producción para el Bienestar de la Secretaría de Agricultura y Desarrollo Rural para el ejercicio fiscal 2021, Diario Oficial de la República Mexicana, Mexico, 28/12/2020.

The Fertiliser Programme grants support to producers of maize, beans or rice holding no more than three hectares located in highly marginalised localities in the state of Guerrero. Up to 450 kg of fertiliser per hectare can be granted per producer each year.

SADER implements sanitary and phytosanitary measures for early detection of pests and diseases. This programme supports inspection and monitoring projects of sanitary risks, control and prevention of pests and diseases, establishment of systems to reduce sanitary risks, and promotion of good sanitary practices.

The Secretariat of Wellbeing (Social Development Ministry) operates the Sowing Life programme, which supports agroforestry projects implemented by small-scale farmers (having 2.5 hectares of available land) located in poor municipalities. The programme provides direct payments, in-kind support (e.g. plants, seeds, sowing tools and nurseries) and technical support for afforestation and agroforestry projects. Additional support is provided for on-farm consumption of electricity for water pumping.

Consumer food subsidies are an important poverty alleviation instrument in Mexico. Poor families obtain basic staples through DICONSA (state-owned rural shops selling basic staples in poor localities), while the LICONSA programme sells milk at prices below market levels.

Mexico's pledge to the Paris Climate Conference in December 2015 includes both unconditional and conditional targets. Under the 2020 update of Mexico's Nationally Determined Contributions (NDC), Mexico committed to unconditionally lower GHG emissions by 22% and black carbon[1] emissions by 51% of business-as-usual levels by 2030. Reductions excluding black carbon come from transport (-18%), electricity generation (-31%), residential and commercial electricity consumption (-18%), oil and gas (-14%), industry (-5%), agriculture (-8%) and waste (-28%). Depending on international support, the GHG target could increase to as much as 36% and to 70% of black carbon emissions. In order to achieve such targets, the general strategy for the agricultural sector promotes agricultural practices adapted to climatic and environmental conditions, considering community and scientific knowledge; and adopting agroforestry, agroecology and the use of biodigesters in livestock farms. The strategy also considers adaptation measures in the agricultural sector. It promotes sustainable production and consumption practices, incorporating climate risk into value chains and investment plans, preventing and controlling pests and animal diseases, strengthening environmental policy instruments to protect native crops from climate change, and financing mechanisms in the primary sector to cope with adverse climate change impacts. In addition, the government aims to strengthen the adaptive capacity of at least 50% of municipalities most vulnerable to climate change, establish early warning and risk management systems at every level of government, and reach a 0% net deforestation rate by 2030.

SADER organised venues for technical agro-climatic discussions with the International Maize and Wheat Improvement Center (CIMMYT) and agricultural producers regarding climatic conditions and appropriate adaptation practices to minimise the impact of climate change.

Domestic policy developments in 2020-21

As part of the policy changes, in June 2020, the Mexican Government published the Sectoral Programme for Agriculture and Rural Development 2019-2024 (the Sectoral Programme), which guides the implementation of the National Development Plan for the period 2019-24.

SADER continued with the targeting of beneficiaries of the payments based on area (Production for Wellbeing) payments to focus on small and medium size producers with less than 20 hectares and those in highly marginalised indigenous communities in the states of the southeast of the country. The guaranteed minimum prices programme now includes medium size maize producers (those with 5 to 50 hectares).

For 2021, SADER has the objective to increase the support to women farmers. The share of support provided to women farmers through the fertiliser programme is expected to reach 40% and that provided by payments based on area is expected to reach 30%.

Congress is in the process of approving the new Law of the National Financing of Agricultural Development (Financiera Nacional de Desarrollo Agropecuario, FND, formerly Financiera Rural), which contemplates the merger of the latter with three other financial and insurance promotion entities of the sector: AGROASEMEX, FIRCO and FOCIR. This would integrate, in a single entity, the services of credit granting, price insurance, crop and animal insurance, risk sharing and financing of projects to add value to primary products.

One of the priority objectives of the Sectoral Programme is the “Transition to Sustainable Agriculture for Present and Future Well-being”. It aims to promote sustainable production, the restoration of ecosystems and adaptation to climate change, as well as the use of clean energy in the agricultural and aquaculture-fishing sector.

The SADER and the Ministry of the Environment and Natural Resources (SEMARNAT) are developing the National Strategy for the Conservation and Sustainable Use of Pollinators (ENCUSP) for promoting the conservation of pollinators and valuate the ecosystem services they provide.

SADER dismantled or suspended a number of agencies and programmes. The Marketing Support Program of the Agency for Marketing Services and Market Development (ASERCA), which provided support for the purchase of financial instruments for price volatility and contractual agricultural schemes, was dismantled. Contractual agriculture schemes will be in charge of the above-mentioned Financiera Nacional de Desarrollo Agropecuario (FND), with the ambition to link the price risk management systems with the granting of credit to the sector. Support for financial instruments (price hedging, insurance and contractual agriculture) was suspended. Livestock Credit, Rural Development, Productive Linkage and Livestock Promotion and Quality Standardisation of Livestock Products were dismantled.

The Agriculture Development Programme, the Livestock Development Programme and the Fisheries and Aquaculture Development Programme were merged and subject to substantial budgetary cuts, which led to the cancelation of support to agriculture and livestock under those programmes.

The administrative and institutional restructuring of the Ministry continued in 2020 and 2021. The approval of the new structure of the SADER was published in the Mexican Official Journal on 3 May 2021. Under the new structure, the Under-Secretariat for Rural Development was modified and the Under-Secretariats of Agriculture and Food, and Competitiveness were replaced by an Under-Secretariat for Food Self-Sufficiency and a General Unit for Rural Development. A new General Coordination of Agricultural Market Intelligence was also created.

The Sowing Life programme that distributes payments, plants and inputs for agroforestry projects to producers with incomes below the poverty line, was expanded to include 200 000 more recipients.

SADER worked in collaboration with the members of productive chains to make sure food supply, inventories and distribution are not disrupted. Particular attention is given to key productive chains such as grains, horticulture, poultry, beef, fisheries and aquaculture. Digitalisation services have been expanded for speeding up food imports. Up to 60% of the administrative import processes are now done remotely by the Centre for Documentation and Judgement (CDD) of the National Service for Health, Safety and Agri-food Quality (SENASICA).

The government has recommended reinforcing hygiene inspection systems in food production units and is encouraging consumers to follow hygiene practices when handling and preparing food.

Trade policy developments in 2020-21

On 28 April 2020, the European Union and Mexico finished negotiations on a new EU-Mexico trade agreement, which will supersede the EU-Mexico Global Agreement that has been in force since 2000. The new agreement further liberalises more than 85% of the agricultural tariff lines that were left out of the original accord. For the remainder, market access was negotiated in the form of tariff rate quotas (TRQs). The European Union established TRQs for imports of various Mexican products, including beef, chicken breast, egg yolks, and frozen ham. In turn, Mexico established TRQs for imports of certain European products, including mature cheeses, fresh cheeses, skimmed milk powder, pork and poultry. In addition to improved market access on agricultural products, the agreement promotes co-operation on issues related to animal welfare and antimicrobial resistance (EC, 2018[1]). The agreement is awaiting signature and conclusion from the European Council and the European Parliament.

On 1 July 2020, the Mexico-United States-Canada Agreement (called Tratado entre Mexico, Estados Unidos y Canada - T-MEC - in Mexico) entered into force to replace the former NAFTA from 1994. In contrast to NAFTA, T-MEC establishes that grading standards for agricultural products will be non-discriminatory (they cannot be used to discriminate among products from member countries). There are new provisions that enhance the transparency of the basis used to set sanitary and phytosanitary measures for agricultural products. T-MEC also intends to boost agricultural biotechnology and gene editing trading, by promoting co-operation, information sharing and other trade rules in those areas.

Contextual information

Mexico has a population of 126 million, ranks as the 15th largest world economy and has a per capita GDP just below the average of all countries covered in this report. Agriculture's GDP share has remained stable at 3% since 2000. Despite the decline over the past two decades, however, agriculture's share in total employment remains comparatively high at more than 12% in 2019, indicating that labour productivity in the sector is well below that of other sectors. Trade is an important driver of Mexico's economy: it represents 36% of GDP and has grown 12 percentage points since 2000. Agro-food trade is an important fraction of total trade, both in terms of exports and imports, representing 7.2% and 5.4% of each, respectively. Since 2015, Mexico has registered a positive and growing net agro-food balance. Whereas most agro-food exports are primary and processed for final consumption, more than half of agro-food imports are intermediate products for further processing.

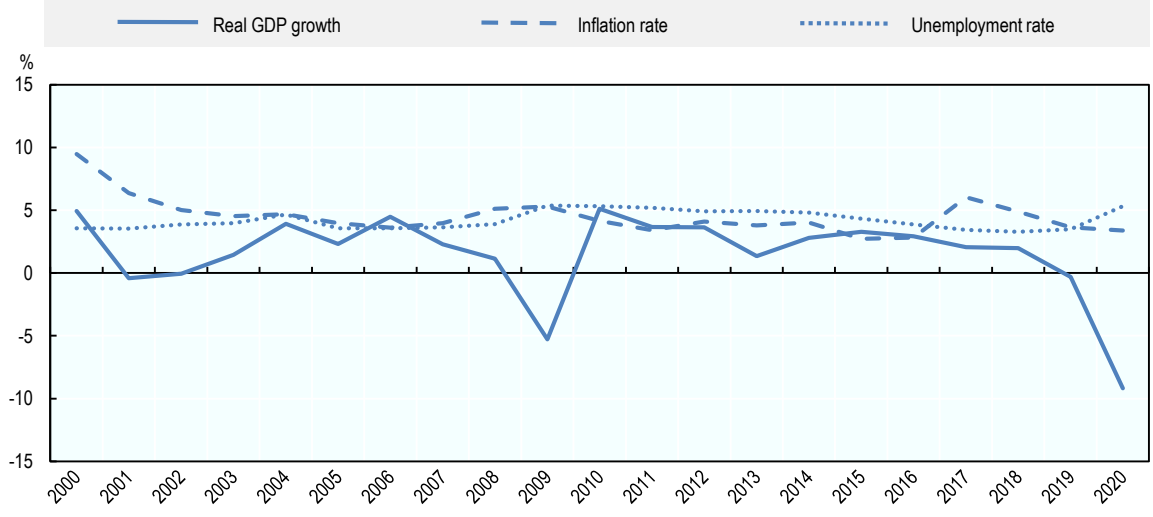
Table 19.4. Mexico: Contextual indicators

	Mexico		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	1 097	2 604	2.7%	2.3%
Population (million)	101	126	2.3%	2.4%
Land area (thousand km²)	1 944	1 944	2.3%	2.3%
Agricultural area (AA) (thousand ha)	106 330	106 891	3.5%	3.5%
			All countries[1]	
Population density (inhabitants/km²)	52	64	53	63
GDP per capita (USD in PPPs)	10 870	20 703	9 265	21 975
Trade as % of GDP	24	36	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	3.3	3.4	2.9	3.5
Agriculture share in employment (%)	17.3	12.5	-	-
Agro-food exports (% of total exports)	4.6	7.2	6.2	7.3
Agro-food imports (% of total imports)	5.5	5.4	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	57	58	-	-
Livestock in total agricultural production (%)	43	42	-	-
Share of arable land in AA (%)	22	22	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

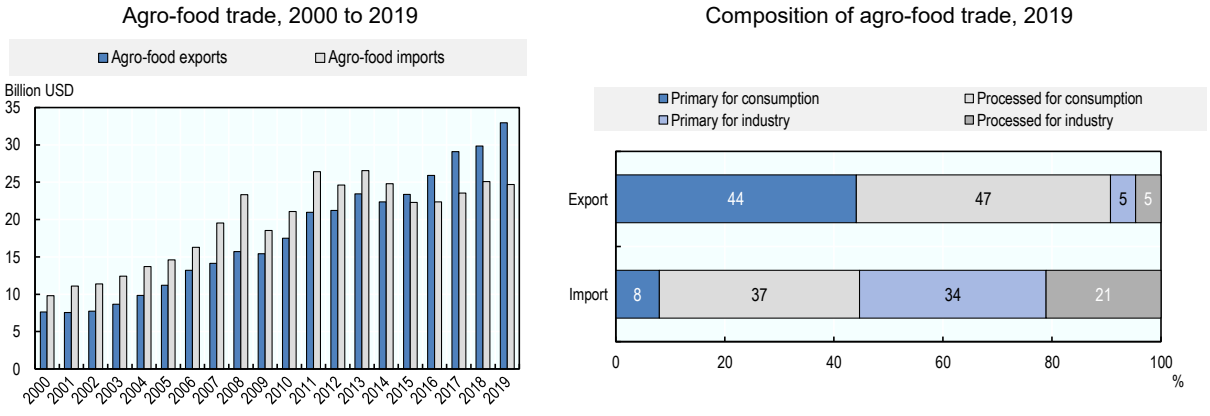
Economic growth has been slowing since 2010 and stalled in 2019. As a result of the COVID-19 pandemic and related restrictions, economic output has fallen by 9% in 2020, one of the strongest contractions in the country's history. The inflation rate has declined since its most recent peak in 2017. The unemployment rate has remained stable at around 3% a year, but increased to more than 5% in 2020.

Figure 19.5. Mexico: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

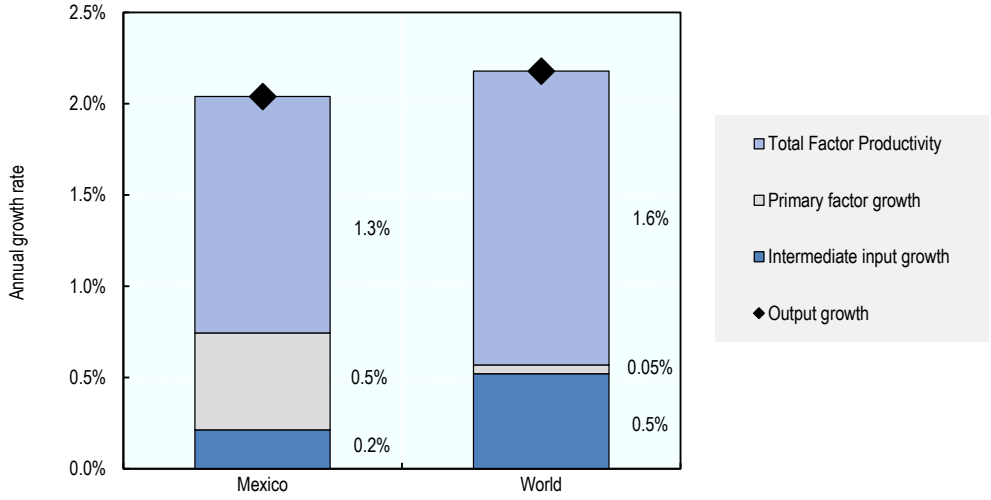
Figure 19.6. Mexico: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Agricultural output in Mexico has been increasing predominantly due to Total Factor Productivity (TFP) growth, and to a limited extent to growth in primary factors and more use of intermediate inputs (fertiliser and feed). TFP growth between 2007 and 2016 is estimated slightly below the global average, and thus has been much less dynamic than during the 1990s. In contrast to the trend observed in the OECD area, nutrient balances in Mexico have increased in the last decade, potentially impacting water and air quality. Agricultural GHG emissions represent 15% of the country's total, higher than the OECD average likely due to the sector's greater importance in the economy compared to many other OECD countries. Water stress is well above the OECD average, and agriculture is partly responsible for this pressure due to its high share on total water abstractions.

Figure 19.7. Mexico: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 19.5. Mexico: Productivity and environmental indicators

	Mexico		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	3.0%	1.3%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	24.7	25.6	33.2	28.9
Phosphorus balance, kg/ha	1.6	2.4	3.4	2.6
Agriculture share of total energy use (%)	3.0	3.6	1.7	2.0
Agriculture share of GHG emissions (%)	17.3	14.6	8.4	9.5
Share of irrigated land in AA (%)	4.5	5.7	-	-
Share of agriculture in water abstractions (%)	82.0	76.0	46.0	43.4
Water stress indicator	15.6	19.5	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

Reference

EC (2018), *New EU-Mexico Agreement: The Agreement in Principle*, European Commission, https://trade.ec.europa.eu/doclib/docs/2018/april/tradoc_156791.pdf. [1]

Note

[1] Black carbon is particular matter formed by the incomplete combustion of fossil, biofuels and biomass; it is a short-lived but powerful climate warming pollutant.

20 New Zealand

Support to agriculture

Since the reform of its agricultural policies in the mid-1980s, production- and trade-distorting policies almost disappeared in New Zealand, and the level of support to agricultural producers has been the lowest among OECD countries. Over the past decade, this support consistently accounted for less than 1% of farm receipts, with an average of 0.7% during 2018-20. Almost all prices align with world market prices. Exceptions are fresh poultry and table eggs, and some bee products, which cannot be imported into New Zealand due to the absence for these products of Import Health Standards (IHS), the biosecurity standards that products considered to pose a biosecurity risk must meet in order to be imported into New Zealand. These restrictions result in some market price support – the only form of support to individual commodities in New Zealand – amounting to 15% and 37% of respective gross farm receipts for these commodities in 2018-20 and representing the majority of the low level of producer support. Support for on-farm services mainly related to animal health and for disaster relief provide additional producer support to a small extent.

The main focus of agricultural policies in New Zealand is on animal disease control, relief payments in the event of natural disasters, and the agricultural knowledge and information system. The government also provides support to community-scale off-farm investments in irrigation systems. Over the past decades, the share of agricultural land under irrigation expanded significantly.

Support for general services equalled just over 4% of agricultural value-added during 2018-20, slightly less than the OECD average. Overall, for most of the past two decades, more than 70% of all support was for general services, with the remainder benefitting producers individually. On average, total support to the sector represented 0.3% of the country's GDP during 2018-20, roughly half the share calculated for the whole OECD.

Recent policy changes

Recent policy changes in New Zealand focused particularly on several adverse events that occurred in 2020, on- and off-farm support for mitigating and adapting to climate change and other environmental challenges, the signing of the Regional Comprehensive Economic Partnership, and responses to the COVID-19 pandemic.

A flooding event in Otago and Southland, and a significant drought affecting large parts of the country that was classified as a large-scale adverse event, triggered public support for recovery and relief, and support for individual farmers in hardship through Rural Assistance Payments.

A number of activities, both strategic and through specific measures, focused on improving the environmental and economic performance of the agricultural sector, and its preparedness for climate change, including:

- A ten-year roadmap for boosting primary-sector export earnings while reducing New Zealand's biogenic methane emissions in accordance with the 2019 Zero Carbon Act.

- The He Waka Eke Noa – Primary Sector Climate Action Partnership, which seeks to reduce agricultural greenhouse gas (GHG) emissions and enhance the sector's resilience with respect to climate change.
- The 2020 Resource Management (National Environment Standards for Freshwater) Regulations, which identifies activities that pose risks to freshwater and freshwater ecosystems.
- Funding for a number of projects under the Sustainable Land Management and Climate Change Research Programmes, focusing in particular on freshwater protection and climate adaptation.

Once in force, the newly signed Regional Comprehensive Economic Partnership (RCEP) will combine and deepen a number of New Zealand's bilateral and regional trade agreements, providing benefits particularly in areas of trade facilitation and non-tariff trade barriers. RCEP partners account for more than half of New Zealand's agro-food exports and imports.

The COVID-19 Response and Recovery Fund Foundational Package included NZD 50 billion (USD 32 billion) economy-wide allocations to support job creation, conservation projects, and employment and upskilling schemes. Projects in the agriculture sector, amounting to NZD 185 million (USD 117 million), focus on facilitating job transition, boosting horticultural activity and growth, containing wallabies and weed wilding pines, and preventing food waste.

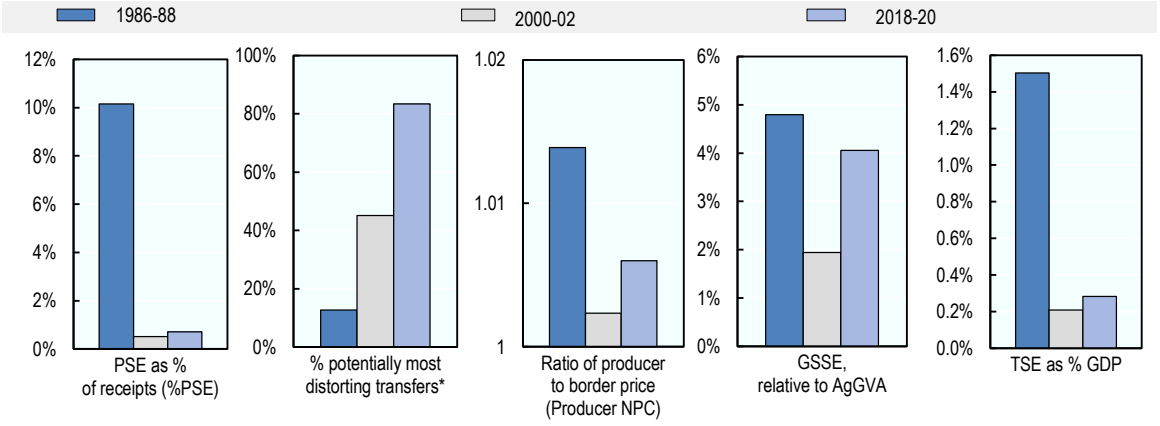
Additional financial support, for unemployed New Zealanders taking on seasonal work, aims to tackle labour shortages in the primary sector due to travel restrictions. The government also allocated funding to infrastructure improvement, and to food and welfare assistance. Finally, a total of NZD 372 million (USD 236 million) was allocated to the International Air Freight Capacity scheme to ensure the provision of required international air connectivity, mainly to maintain freight capacity for exports and for essential imports.

Assessment and recommendations

- New Zealand's open agricultural sector remains focused on foreign markets and trade. Its export orientation, underlined by the country's low level of producer support, is buoyed by New Zealand's engagement in a large number of free trade agreements (FTA), including the recently signed RCEP, the world's largest FTA to date, which combines a number of existing bilateral and regional agreements, creating benefits through trade facilitation related to non-tariff barriers in particular.
- New Zealand's IHS represents a key tool to ensure the country's biosecurity vis-à-vis imported products. While required for all imported products considered to pose a biosecurity risk, some livestock products, including eggs, fresh chicken meat, and honey do not have IHS, meaning that these products cannot be imported into New Zealand. While representing a small share of New Zealand's agricultural output, this deprives consumers of lower prices and larger choice. The development of relevant IHS would benefit consumers while ensuring required biosecurity standards.
- Kiwifruit exports to markets other than Australia by entities besides Zespri, the main company, continue to be regulated by requiring authorisation by Kiwifruit New Zealand. New Zealand should aim to change these restrictions as they burden the participation in kiwifruit exports by other firms wishing to do so, and thus reduce competition and efficiency in kiwifruit trade.
- New Zealand's policy mix focusses on key general services. In addition to pest and disease control, significant investments target the country's agricultural knowledge and innovation system, which should improve agricultural productivity growth, estimated at comparatively low levels in recent years. Mandatory funding from private investors often complements public expenditures for general services, which can help to ensure effective allocation of these investments, and contributions to the provision of services by those who benefit from them.

- Almost half of all GHG emissions in New Zealand originate from the agricultural sector. With the passage of the 2019 Zero Carbon Amendment Act and proposed pricing of livestock and fertiliser emissions from 2025, New Zealand is one of the first countries to bind its climate commitments into law and include objectives for agriculture as an integral component. The country's engagement in a number of climate-related research activities at national and international levels complements planned economic incentives for emission reductions.
- Available data suggests that New Zealand's agricultural sector faces large and, in the case of nitrogen, increasing nutrient surpluses related to the country's large livestock sector and increased fertiliser use, representing risks to soil, water and air quality. While the 2020 Resource Management Regulations aim to limit agricultural pollution of freshwater ecosystems and could reduce such pressures, this might require greater attention.
- Recent OECD work identified New Zealand's good practices in building resilience and managing natural hazards, including clear and consistent policy signals that farmers are primarily responsible for managing natural hazard risk; investments in stakeholders' resilience capacities; and a holistic approach to building agricultural resilience that takes into account social and cultural factors (Casalini, Bagherzadeh and Gray, 2021[1]). Nevertheless, New Zealand could place greater emphasis on identifying and assessing natural hazard risks, including improved data collection on disaster impacts. Extension services could also play a greater role in informing stakeholders about changes in the risk landscape.

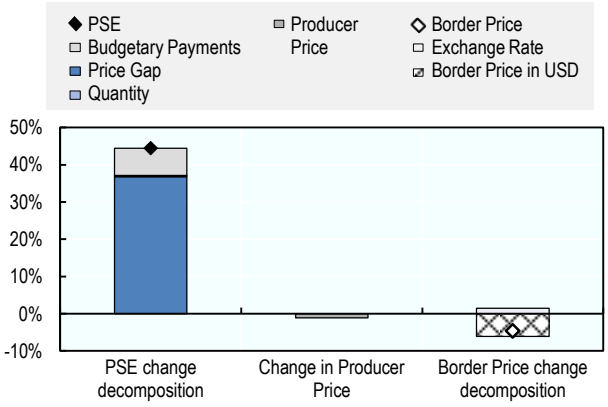
Figure 20.1. New Zealand: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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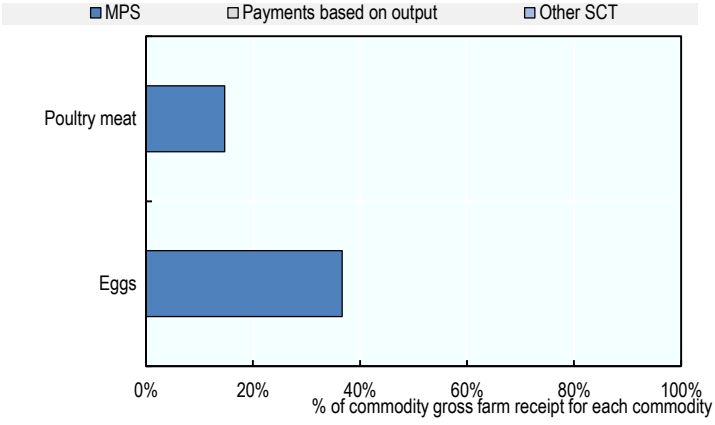
Figure 20.2. New Zealand: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/u6kfwl

Figure 20.3. New Zealand: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/tdgw5l

Table 20.1. New Zealand: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**4 067**	**6 371**	**19 659**	**19 557**	**19 711**	**19 711**
of which: *share of MPS commodities (%)*	72.1	73.1	73.3	74.3	73.2	72.3
Total value of consumption (at farm gate)	**1 624**	**2 626**	**9 936**	**9 508**	**9 871**	**10 429**
Producer Support Estimate (PSE)	**424**	**33**	**139**	**92**	**135**	**192**
Support based on commodity output	54	15	116	70	115	163
Market Price Support[1]	53	15	116	70	115	163
Positive Market Price Support	53	15	116	70	115	163
Negative Market Price Support	0	0	0	0	0	0
Payments based on output	1	0	0	0	0	0
Payments based on input use	179	17	23	20	19	29
Based on variable input use	2	0	0	0	0	0
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	154	0	0	0	0	0
with input constraints	0	0	0	0	0	0
Based on on-farm services	23	17	23	20	19	29
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	26	1	0	1	0	0
Based on Receipts / Income	26	1	0	1	0	0
Based on Area planted / Animal numbers	0	0	0	0	0	0
with input constraints	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	165	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0	0
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**10.2**	**0.5**	**0.7**	**0.5**	**0.7**	**1.0**
Producer NPC (coeff.)	**1.01**	**1.00**	**1.01**	**1.00**	**1.01**	**1.01**
Producer NAC (coeff.)	**1.11**	**1.01**	**1.01**	**1.00**	**1.01**	**1.01**
General Services Support Estimate (GSSE)	**119**	**85**	**426**	**393**	**483**	**403**
Agricultural knowledge and innovation system	60	46	202	170	244	190
Inspection and control	31	28	191	174	211	189
Development and maintenance of infrastructure	27	11	34	49	27	24
Marketing and promotion	0	0	0	0	0	0
Cost of public stockholding	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**21.0**	**72.0**	**74.4**	**81.1**	**78.2**	**65.6**
Consumer Support Estimate (CSE)	**-53**	**-13**	**-107**	**-70**	**-109**	**-143**
Transfers to producers from consumers	-51	-13	-112	-68	-109	-161
Other transfers from consumers	-2	0	-2	-3	0	-2
Transfers to consumers from taxpayers	0	0	6	0	0	19
Excess feed cost	0	0	0	0	0	0
Percentage CSE (%)	**-3.4**	**-0.5**	**-1.1**	**-0.7**	**-1.1**	**-1.4**
Consumer NPC (coeff.)	**1.03**	**1.01**	**1.01**	**1.01**	**1.01**	**1.02**
Consumer NAC (coeff.)	**1.03**	**1.01**	**1.01**	**1.01**	**1.01**	**1.01**
Total Support Estimate (TSE)	**542**	**118**	**572**	**485**	**618**	**614**
Transfers from consumers	53	13	114	70	109	162
Transfers from taxpayers	491	105	460	417	509	454
Budget revenues	-2	0	-2	-3	0	-2
Percentage TSE (% of GDP)	**1.5**	**0.2**	**0.3**	**0.2**	**0.3**	**0.3**
Total Budgetary Support Estimate (TBSE)	**489**	**103**	**456**	**414**	**503**	**451**
Percentage TBSE (% of GDP)	**1.4**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
GDP deflator (1986-88=100)	**100**	**138**	**205**	**200**	**204**	**210**
Exchange rate (national currency per USD)	**1.71**	**2.25**	**1.50**	**1.45**	**1.52**	**1.54**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for New Zealand are: wheat, maize, oats, barley, milk, beef and veal, sheep meat, wool, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Prior to the 1970s, while New Zealand exported more than half its agricultural production to the United Kingdom, support for agricultural producers was largely inexistent, with the exception of some import-competing sectors such as eggs and poultry. In turn, New Zealand's Statutory Marketing Boards, operating since the end of World War I, enjoyed significant rights to regulate supply and trade of several key export products. Overall, relative to the more protected manufacturing sectors, agriculture was implicitly taxed (Anderson et al., 2008[2]).

The accession of the United Kingdom to the European Economic Community in 1973 worsened New Zealand's access to its most important market, and the oil shock of the mid-1970s generated significant foreign exchange shortfalls given the country's dependence on oil imports. In response, the government introduced support measures to encourage farmers to increase production (MPI, 2017[3]). These included input subsidies, minimum prices supported by import barriers and export incentives, tax concessions, low-interest loans and development grants (MPI, 2017[3]; Harris and Rae, 2004[4]).

Following macroeconomic problems, including the unsustainable fiscal costs of these support measures, a new government undertook significant economic reforms implemented during the second half of the 1980s. By the end of that decade, production and trade distorting policies supporting the farm sector practically disappeared (Table 20.2). In the context of these reforms, New Zealand's Statutory Marketing Boards lost most of their original authority or were dissolved (Nayga and Rae, 1993[5]).

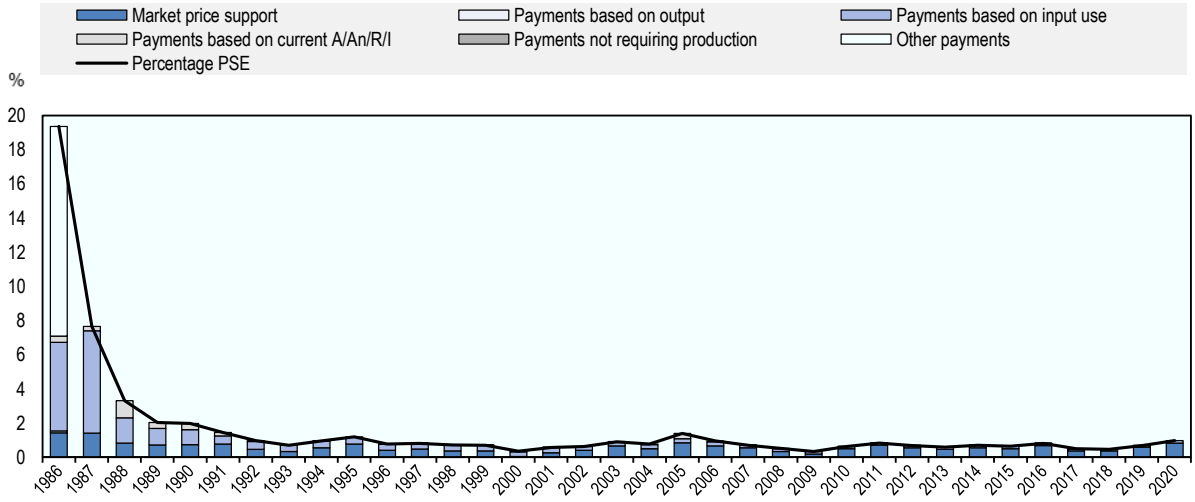
Table 20.2. New Zealand: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1975	Export-oriented agriculture with little policy intervention. Implicit taxation notably of exporting agriculture relative to the manufacturing sector	Statutory Marketing Boards with significant authority to regulate production and trade of key export products Agricultural and manufacturing import tariffs Limited farm support, including some input subsidies
1975-1984	Incentivising agricultural production	Introduction of significant farm support measures: price support, input subsidies, tax concessions, low-interest loans, development grants
Late 1980s	Reforms to market and trade liberalisation	Dismantling of price support and most other forms of direct farm support, along with economy-wide reforms liberalising the manufacturing industry as well Restricted function or dismantling of the Statutory Marketing Boards. Exit packages and debt restructuring programmes for farmers who had to stop operating
1990-present	Continuing trade liberalisation	Focus on general services and disaster aid

Since the policy reforms in the late 1980s, New Zealand's level of support to agricultural producers has been the lowest among OECD countries (Figure 20.4). Consequently, for the last three decades, total support to the sector was driven mainly by policies related to general services to agriculture, such as agricultural research and biosecurity controls for pests and diseases.

Figure 20.4. New Zealand: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

New Zealand limits its agricultural support largely to expenditures on general services, such as agricultural research, and biosecurity controls for pests and diseases. A significant share of the costs of regulatory and operational functions, including for border control, is charged to beneficiaries or those who create risks.

Practically all of New Zealand's agricultural production and trade is free from economic regulation. Since the phasing out of restrictions on dairy exports to specific tariff quota markets by the end of 2010, such **export rights** were allocated to dairy companies based on the proportion of milk-solids collected. **Export regulations** continue to exist for kiwifruit: the New Zealand company Zespri has the default, but not exclusive right to export kiwifruit to all markets other than Australia. Other traders can export kiwifruit to non-Australian markets in collaboration with Zespri, subject to approval by the relevant regulatory body, Kiwifruit New Zealand. Kiwifruit exporters to Australia are required to hold an **export licence** under the **New Zealand Horticulture Export Authority Act 1987,** which provides for multiple exporters to that market.

The 2017 amendments to the **Kiwifruit Export Regulations 1999** allow Zespri shareholders to set rules around maximum shareholding and eligibility for dividend payments; clarify the activities Zespri can undertake as a matter of core business; and enhance the independence and transparency of the industry regulator, Kiwifruit New Zealand.

The **Food Act 2014** came into force on 1 March 2016. Since March 2019, all business operates under this new law. The Food Act 2014 applies a risk-based approach focused on the outcome of safe and suitable food, rather than using prescriptive regulation. It aligns the domestic food system with the risk-based approach of other New Zealand food statutes that have more of an export focus, and with international trends in food regulation.

Import Health Standards (IHS) are issued under the **Biosecurity Act 1993**. They state the requirements to meet before importing risk goods into New Zealand. Risk goods can be imported only with an IHS in place, and with the product meeting all relevant IHS measures. For some products (table eggs, uncooked chicken meat, honey), no IHS is in place. These products therefore cannot be imported, leading to some market price support as their domestic prices are above the world market level.

"**Industry good**" activities[1] (such as research and development, forming and developing marketing strategies, and providing technical advice) previously undertaken by statutory marketing boards are now managed through producer levy-funded industry organisations under the **Commodity Levies Act 1990**. Under this legislation, levies can only be imposed when supported by producers, and producers themselves decide how to spend the levies. With a limited number of exceptions, levy funds may not be spent on commercial or trading activities. As a provision for accountability to levy payers, the Act requires that levying organisations seek a new mandate to collect levies every six years through a referendum of levy payers held prior to the expiry of their levy orders.

The New Zealand Government engages with industry and stakeholders to build biosecurity readiness and response capability. The **Government Industry Agreement for Biosecurity Readiness and Response (GIA)** established an integrated approach to preparing for and responding to biosecurity risks through voluntary partnerships between the government and primary industry sector groups. Signatories share decision-making, costs and responsibility in preparing for and responding to biosecurity incursions. The number of industry groups having joined with the Ministry for Primary Industries under GIA remains at 20.

Overseer is a tool used to set and manage nutrients within environmental limits. Overseer estimates nutrient losses from farm systems, helping farmers and growers improve their productivity, reduce nutrients leaching into waterways, and reduce GHG emissions. The intellectual property is jointly owned by the Ministry for Primary Industries, AgResearch Limited, and the Fertiliser Association of New Zealand. Regional councils increasingly used Overseer to implement the National Policy Statement on Freshwater Management.

Pastoral Genomics was a New Zealand partnership programme for forage improvement through biotechnology, funded by the Ministry of Business, Innovation and Employment (MBIE), DairyNZ, Beef+Lamb New Zealand, Grasslands Innovation, NZ Agriseeds, DEEResearch, AgResearch, and Dairy Australia. The programme ended on 30 June 2020. The partnership supported the private-sector seeds companies PGG Wrightson Seeds and Agriseeds in exploring the adoption of genomic selection (a non-regulated technology enabling more rapid uptake by partners and companies) to accelerate the improvement of ryegrass and clover.

Sustainable Food and Fibre Futures (SFF Futures) finances projects that create value and improve sustainability in the food and fibre industries. SFF Futures has a budget of NZD 40 million (USD 25 million) per year and provides a single gateway for farmers, growers, harvesters and industry to apply for investment in a range of projects that deliver economic, environmental and social benefits. Projects range from small, one-off initiatives to long-running multi-million dollar partnerships. Community projects require co-investment from the partner organisation of at least 20% of costs. Commercially-driven projects require a co-investment of at least 60% of costs.

The Ministry for Primary Industries' **Productive and Sustainable Land Use** package promotes practices aimed at improving value creation and environmental outcomes. One part of the programme, **Extension Services**, supports and enables producers to improve environmental, social and wellbeing outcomes in their communities by driving their own solutions. Extension Services emphasises partnering with farmers, regional stakeholders and agricultural professionals to ensure services are relevant to the needs and priorities of local communities. The programme's NZD 35 million (USD 22 million) budget over four years from July 2019 supports up to 2 200 producers across targeted catchments and regions.

The **Māori Agribusiness: Pathway to Increased Productivity (MAPIP)** framework supports Māori primary sector asset owners who seek to sustainably increase the productivity of their primary sector assets, including land, agriculture, horticulture, forestry, and seafood. Introduced in 2015, the MAPIP programme offers a one-on-one approach to achieving primary sector aspirations. The **Māori Agribusiness Extension Programme (MABx)** enables the Crown to partner with Māori (in a one-to-many approach) to achieve economic, environmental, social and cultural aspirations through sustainable development of primary sector assets. The government committed NZD 12 million (USD 7.6 million) to facilitate MAPIP projects.

Although no longer accepting new applications for financial support, **Crown Irrigation Investments Limited (CIIL)** manages three investments under existing contracts: completion of Central Plains Water Stage 2 (Canterbury plains); construction of the Kurow-Duntroon scheme (Kurow, South Canterbury); and construction of the Waimea Community dam (Nelson/Tasman). CIIL focuses on water storage solutions for use in agricultural irrigation providing farmers and growers with a reliable supply of water throughout the year.

The **One Billion Trees programme** aims to double the current planting rate (including re-planting following harvest and new planting) to plant one billion trees over the decade from 2018-28. The programme is supported both by direct government investment (such as the One Billion Trees Fund and joint ventures between Crown Forestry and private landowners), and adjustments to regulatory settings (such as the Emissions Trading Scheme) to encourage and support tree planting.

The **One Billion Trees Fund** launched in November 2018 as part of the One Billion Trees programme. The Fund has provided NZD 94 million (USD 60 million) for tree planting grants to landowners including farmers, in order to generate environmental, landscape and productivity benefits. The Fund has also provided NZD 108 million (USD 68 million) for partnership initiatives that underpin successful tree planting. The Fund expires in June 2021 and decisions on its future are soon to be made by the new Minister of Forestry.

The **Sustainable Land Management Hill Country Erosion Programme (HCEP)** aims to protect New Zealand's estimated 1.4 million hectares of pastoral hill country classified as erosion prone. It funds councils to develop four-year erosion control projects. The government approved a total of NZD 35.3 million (USD 22.4 million) for the period 2019-23.[2] Selected projects include: the development of whole-farm plans to manage erosion on farms with highly erodible land, the development of agroforestry plans, wide-spaced planting of poplars and willows, land retirement from production to revert to native vegetation, and soil conservation and sustainable land management programmes. Although the main purpose of the HCEP is to reduce erosion, it also reduces sediment loss to waterways, increases on-farm biodiversity, and contributes to the sequestration of carbon in small-scale forests and through planting of poplars and willows.

The **New Zealand Emissions Trading Scheme (NZ ETS)** is the main policy tool to reduce greenhouse gas (GHG) emissions. It requires companies in the agricultural supply chain (e.g. meat processors, dairy processors, nitrogen fertiliser manufacturers and importers) to report on their agricultural emissions. However, these companies are not required to pay for their emissions. The NZ ETS also imposes a cost on emissions from transport fuels, electricity production, synthetic GHGs, waste and industrial processes.

The New Zealand Government researches and develops mitigation technologies to reduce agricultural GHG emissions. It does so primarily through the **New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC)**, the **Pastoral Greenhouse Gas Research Consortium (PGgRc)**, and in co-ordination with the 64 member countries of the **Global Research Alliance on Agricultural Greenhouse Gases (GRA)**.

The NZAGRC, funded by the Ministry for Primary Industries, brings together nine organisations that conduct research to reduce New Zealand's agricultural GHG emissions.[3] Research focuses on practical

ways to reduce on-farm methane and nitrous oxide emissions while improving productivity and sequestering soil carbon. The PGgRc is a partnership funded 50:50 by government and industry, which aims to provide livestock farmers with information to mitigate their GHG emissions. The PGgRc focuses mainly on research to reduce methane emissions in ruminant animals.

The GRA was established in 2009. New Zealand hosts the Secretariat and GRA Special Representative, and is a co-chair of its Livestock Research Group. GRA member countries collaborate on research, development and extension of technologies and practices to deliver more climate-resilient food systems without growing GHG emissions. In 2020, New Zealand provided more than NZD 2.6 million (USD 1.6 million) to support several scholarship programmes for students at Masters and PhD level from developing countries. These joint initiatives utilise relationships built through the GRA. Other funders include the Climate Change, Agriculture and Food Security programme of the **Consultative Group on International Agricultural Research (CGIAR-CCAFS)** and the **Government of the Netherlands**.

In support of the GRA, New Zealand committed to providing NZD 20 million (USD 12.7 million) over four years to internationally collaborative research. The aim is to accelerate global research in mitigating GHG emissions from pastoral livestock farming. The focus is priority research topics identified by the GRA and relevant to New Zealand's agricultural production systems. Research challenges include manipulating rumen function, reducing nitrous oxide emissions from soils, manipulating rates of soil carbon change, and improving tools and practices for minimising farm system-level greenhouse gas emissions intensity.

The **Zero Carbon Amendment Act** sets separate long-term emission reduction targets for long-lived and short-lived GHG emissions, including a target for biogenic methane. In particular, the proposed emissions reduction targets set out in the Zero Carbon Act aim to reduce all GHG emissions (except biogenic methane) to net zero by 2050; and reduce gross biogenic methane emissions by 10% by 2030 and by 24-47% by 2050 (below 2017 levels). These targets are consistent with the Paris Agreement's objective of limiting global warming temperature rise to 1.5°C above pre-industrial levels.

The National Science Challenges were established in 2014 to tackle New Zealand's biggest science-based issues and opportunities. A core part of the government's investment in science, at just over NZD 680 million (USD 431 million) over ten years, is dedicated to the Challenges. Past and current projects related to agriculture include the *Deep South Challenge: Changing with our Climate* to enable New Zealanders to adapt, manage risk and thrive in a changing climate; *Climate Change & Its Effect on Our Agricultural Land* to better understand the impacts of climate change on land use suitability; and *Primary Sector Preparedness for Climate Change* to assess the impact of rapid and slow-onset climate changes to the primary sector and evaluate the role and cost of adaptation for resilience.

The **Overseas Investment Amendment Act 2018**, in force since October 2018, brought residential and lifestyle land under the definition of "sensitive" land. The key change replaced the large farm directive with a broader, rural land directive that applies to all rural land larger than five hectares, other than forestry. As a result, most New Zealand land is now "sensitive", meaning that transactions of such land involving "overseas persons" as defined under the Act require the consent of the Overseas Investment Office. The Amendment Act also places conditions on overseas investors – they must now demonstrate how their investment will benefit the country.

As a trade-dependent economy geographically distant from export markets, New Zealand currently has ten **FTAs** in force, which account for approximately two-thirds both of the value of New Zealand's total exports and of its agro-food exports. Three additional agreements are concluded but not yet in force: the Regional Comprehensive Economic Partnership (RCEP);[4] the New Zealand-Gulf Co-operation Council FTA (involving Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates); and the Anti-Counterfeiting Trade Agreement (ACTA).[5] Negotiations between New Zealand and the countries of the **Pacific Alliance**[6] and negotiations for a **New Zealand-European Union FTA** and a **New Zealand-United Kingdom FTA** are ongoing.

Domestic policy developments in 2020-21

In July 2020, the **Dairy Industry Restructuring Act 2001 (DIRA)** was amended to remove regulatory requirements deemed no longer necessary. The amended Act provides the Fonterra Co-operative with more flexibility to manage its operations, and increases clarity on regulatory aspects affecting Fonterra and other dairy industry stakeholders. The DIRA was originally established to promote the efficient operation of the New Zealand dairy industry. In particular, it aims to ensure that dairy farmers can easily enter and exit the Fonterra Co-operative, and that other dairy processors can obtain raw milk in order to be competitive in dairy markets.

The government launched **Fit for a Better World – Accelerating our Economic Potential** in July 2020. It is a ten-year roadmap designed to boost primary sector export earnings, especially forestry, seafood and horticulture, by NZD 44 billion (USD 28 billion) over the next decade, containing specific targets for the food and fibre sectors related to the environment and to the country's recovery from COVID-19. Among others, the Roadmap specifies the targets of reducing New Zealand's biogenic methane to 24-47% below 2017 levels by 2050; of restoring New Zealand's freshwater to a healthy state within a generation; and of increasing domestic employment in the food and fibre sector by 10% by 2030.

A significant rainfall event in autumn 2020 caused **flooding** in Otago and Southland. Support totalling NZD 77 930 (USD 49 400) was provided to the two Rural Support Trusts to co-ordinate recovery activities for farmers. Significant **drought** affected many parts of New Zealand in 2020. The drought conditions in the North Island, top of the South Island (Tasman, Marlborough, and Kaikoura), North Canterbury, and the Chatham Islands were classified as a large-scale adverse event (the last large-scale adverse event classification for drought was in 2013). Such a classification enables the government to provide additional funding to co-ordinate and deliver support farmers and growers. Support totalling NZD 2.07 million (USD 1.31 million) was provided in 2020 for rural support trusts, recovery coordinators and mayoral drought relief funds. A further NZD 3.5 million (USD 2.2 million) has been made available for professional planning advice through the Drought Recovery Advice Fund.

Rural Assistance Payments (RAPs) were also made available in response to the 2020 drought. RAPs are only available on case-by-case basis to farmers in real hardship and cover essential living costs for those farmers whose income is severely impacted by a medium-scale (or greater) adverse event and who have no other means of supporting their family. In calendar year 2020, a total support of NZD 180 157 (USD 114 200) was received by 34 families.

In July 2017, following the discovery for the first time in New Zealand of the bacterial infection ***Mycoplasma bovis*** in cattle in South Canterbury, the Ministry for Primary Industries declared a biosecurity response. Government and agricultural sector leaders agreed to work together to eradicate *Mycoplasma bovis* from New Zealand. The ten-year eradication programme is ongoing with compensation payments to farmers for slaughtered cattle, estimated at NZD 166 million (USD 105 million) as of July 2020. Until mid-2021, the focus of the programme is on ensuring all infected herds have been found, before the focus moves to the long-term surveillance phase to prove absence of the disease. This will involve ongoing bulk tank milk surveillance and on-farm herd testing.

The ***Mycoplasma bovis*** **Recovery Advice Service** helps farmers pay for business and technical advice on recovering from the effects of *Mycoplasma bovis*. The Ministry for Primary Industries makes payments to eligible farmers of up to NZD 5 000 (USD 3 170) per property. In 2020, NZD 144 574 (USD 91 650) was paid to 72 farms.

The **National Animal Identification and Tracing (NAIT)** is a system of livestock tracing enabling MPI to respond quickly in case of a serious biosecurity outbreak or natural disaster. The 2019 amendments to the National Animal Identification and Tracing Act 2012 included provisions to strengthen the requirements for tagging, incentivise greater rates of compliance, and provide better access to, and use of, NAIT data. In June 2020, further requirements for transporting animals took effect, placing accountability on animal

transporters to ensure that animals are transported in compliance with the scheme. From December 2020, persons in charge of NAIT animals must only use tags issued for the place where the animal originates. This requirement aims at more effective tracing by providing a link between the NAIT tag and the birthplace of the animal.

The **Farm Debt Mediation Act 2019** came fully into force on 1 July 2020. It requires secured creditors to farm businesses to offer statutory mediation before taking any enforcement actions in relation to debt held over that business. The Act aims to provide for fair, equitable and timely resolution of farm debt issues, thereby supporting the mental, emotional and financial wellbeing of farmers and farming families. The scheme applies to all secured lenders, including non-bank lenders.

In September 2020, a Consortium was appointed to establish the prototype **Food and Fibre Centre of Vocational Excellence (Food and Fibre CoVE)** to support better training for New Zealand's primary sector workers. The Consortium is a collaboration of 54 organisations across the entire food and fibre sector including industry associations, tertiary providers, Māori, employers and employees. The Food and Fibre CoVE will define vocational excellence, identify and fund specialised projects aimed at building excellence across regions and sectors. It is one of up to three prototype sector-based Centres of Vocational Excellence to be established, with funding of NZD 18 million (USD 11.4 million) committed over up to 4 years.

Following up on the Zero Carbon Act, in October 2020 the New Zealand Government announced the pricing of livestock emissions at the farm gate and fertiliser emissions at the manufacturer and importer level from 2025 at the latest. In the meantime, the government agreed to work with the food and fibre sector and Māori on the **He Waka Eke Noa – Primary Sector Climate Action Partnership**. The partnership aims to implement a framework by 2025 to reduce agricultural greenhouse gas emissions and build the agricultural sector's resilience to climate change. This is to be achieved through a) measuring, managing and reducing on-farm emissions; b) recognising, maintaining or increasing integrated sequestration on farms; and c) adapting to a changing climate.

The **Resource Management (National Environment Standards for Freshwater) Regulations 2020** set requirements regulating activities that pose risks to freshwater and freshwater ecosystems. The new standards include a number of policies with impacts on the agricultural sector as they are aimed to limit pollution from the sector. Key actions include binding limits on nitrate and suspended sediment concentrations in waterways; restricting major agricultural intensification; implementing stronger controls for feedlots and stockholding areas; reducing excessive nitrogen use through a cap on synthetic fertilisers; excluding stock from waterways; and ensuring intensive winter grazing of forage crops meet standards. The regulations also aim to reduce soil loss by strictly managing activities such as earthworks and land clearance; maintaining existing ecosystems by protecting streams and wetlands from draining or development; and controlling activities that can affect sources of drinking water.

The **Sustainable Land Management and Climate Change (SLMCC) Research Programmes** help agricultural and forestry sectors with the challenges arising from climate change. In 2020, the government committed:

- NZD 14.4 million (USD 9.1 million) for 12 freshwater mitigation projects that assess the effectiveness of methods for protecting water health and reducing nutrient runoff.
- NZD 2.8 million (USD 1.8 million) for seven climate adaptation projects aimed at improving food and fibre sector resilience to a changing climate and help farmers move towards low carbon farming, for example through assessing risks and planning for resilience to adverse events, and sustainable irrigation.
- NZD 800 000 (USD 507 000) for three extension projects focused on translating the latest scientific research into practical application on farm.

Domestic policy responses to the COVID-19 pandemic

The **COVID-19 Response and Recovery Fund (CRRF) Foundational Package** was introduced in the 2020 Budget and NZD 50 billion (USD 32 billion) was allocated to support the recovery response to COVID-19. The support includes boosting job creation, conservation projects, and various employment and upskilling schemes to deliver economic, social, cultural and environmental benefits to society. Proposals submitted to the CRRF are assessed under a wellbeing framework. The overall programme is equally available to the agricultural sector as to the non-agricultural sectors. Of the total funding available, some NZD 185 million (USD 117 million) is allocated to individual projects in the primary agriculture sector. These include:

- addressing primary sector workforce shortfall with job transition support (NZD 19.3 million)
- boosting economic activity and future growth in the horticulture sector (NZD 38.54 million)
- containing wallabies to protect agriculture, forestry and native plants, and boost regional economies (NZD 27.47 million)
- the national wilding conifer control programme[7] to boost regional economies and employment (NZD 100 million).

COVID-19 caused labour shortages in the primary sector due to travel restrictions limiting the number of overseas workers coming to New Zealand, and increased unemployment among New Zealanders across all sectors. In November 2020, the government introduced additional financial support for unemployed New Zealanders taking on seasonal work, including NZD 200 (USD 127) per week towards accommodation costs for up to 13 weeks and NZD 1 000 (USD 634) for workers who complete jobs of six weeks or longer. Changes have also been made to the Seasonal Work Assistance Programme to provide the equivalent of the minimum wage to seasonal workers who cannot work due to bad weather, for up to 40 hours a week depending on the number of hours lost.

In June 2020, the government allocated up to NZD 100 million (USD 63 million) for waterway fencing, riparian planting and stock water reticulation as part of a package of measures to boost employment post-COVID-19. The funding is repurposed Provincial Growth Fund (PGF)[8] money and unallocated funding from the Regional Investment Opportunities Contingency.

The government provided NZD 30 million (USD 19 million) to support the delivery of food and welfare assistance by local authorities and Civil Defence Emergency Management Groups during New Zealand's COVID-19 Alert Levels 3 and 4. The funding was used to bolster the organisation of food parcels and provide upfront funding or reimbursement to food banks, community food organisation and other welfare providers. The above-mentioned CRRF package also includes funding for a project aiming to reduce food waste[9] (NZD 14.9 million, USD 9.4 million).

Trade policy developments in 2020-21

In November 2020, New Zealand and 14 other countries[10] signed the Regional Comprehensive Economic Partnership (RCEP). Once in force, RCEP will be the largest free trade agreement in the world covering nearly a third of both the global population and its GDP. It combines and deepens a number of existing bilateral and regional agreements, benefitting New Zealand's trade particularly in the area of trade facilitation and non-tariff trade barriers. RCEP partners account for more than half of both New Zealand's total agro-food exports and imports. Negotiations for a New Zealand-United Kingdom FTA were launched in June 2020.

In January 2021, New Zealand and the People's Republic of China (hereafter "China") signed the upgraded New Zealand-China Free Trade Agreement, for which negotiations had been concluded in November 2019. The upgraded FTA includes a number of provisions with a direct impact on agro-food products. This concerns areas such as certificates of origin (introducing the option for 'approved exporters' to self-declare

the origin of their goods) as well as simplifying administrative processes and trade documentation for goods in transit. Further operational improvements cover expedited six-hour clearance times for perishable products, release of such goods outside normal business hours, and appropriate storage. Remaining safeguard-related tariffs on New Zealand dairy exports to China will be phased out by 2024.

Negotiations with Costa Rica, Iceland, Norway, Fiji and Switzerland on the Agreement on Climate Change, Trade and Sustainability (ACCTS) are ongoing. The agreement aims to bring together some of the inter-related elements of the climate change, trade and sustainable development agendas.

Trade policy responses to the COVID-19 pandemic

The government originally allocated NZD 330 million to the International Air Freight Capacity (IAFC) scheme, extending this by an estimated NZD 42 million to keep the scheme in place until March 2021 (USD 209 million and USD 27 million, respectively). The IAFC scheme helps ensure a predictable and regular schedule of air services to safeguard New Zealand's international connectivity. The primary objectives of the scheme are to maintain some airfreight capacity for exports and for essential imports such as medical supplies. Secondary objectives are to maintain air connectivity for passengers and future tourism capacity, international relations and the competitiveness and sustainability of the aviation sector. The scheme is market led with importers and exporters paying airlines for freight services. Airfreight rates out of New Zealand remain significantly higher than they were pre-COVID. Only flights that do not get enough passengers and freight to break-even are eligible for support.

In March 2020, New Zealand and Singapore announced a World Trade Organization plurilateral trade declaration to ensure supply chain connectivity through COVID-19. The declaration makes commitments with regard to tariff elimination, export restrictions, non-tariff barriers, and the facilitation of trade in essential goods (covering medical goods as well as essential food products). Other WTO members are encouraged to join the initiative.

Contextual information

New Zealand is a relatively small and thinly populated economy with per capita GDP slightly above the OECD average, but well above the average of all countries covered by the report. Its market openness is related to its high dependency on international trade. Agriculture has a comparatively high, albeit slowly shrinking, importance to the economy, as it accounts for around 6% of both GDP and employment. Moreover, agro-food products account for close to two-thirds of New Zealand's total exports.

With little arable land, grass-fed livestock products represent the backbone of the agricultural sector. New Zealand is the world's largest exporter of sheep meat, and among the largest exporters of dairy products. Beef, fruit and horticultural products also contribute significantly to the country's agro-food exports.

Table 20.3. New Zealand: Contextual indicators

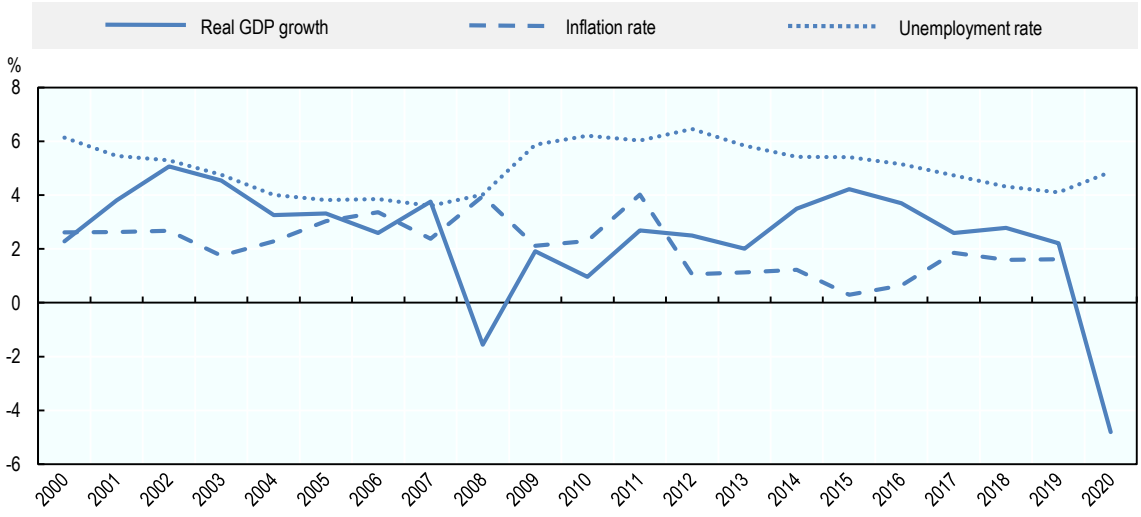
	New Zealand		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	83	216	0.21%	0.19%
Population (million)	4	5	0.09%	0.10%
Land area (thousand km^2)	263	263	0.32%	0.31%
Agricultural area (AA) (thousand ha)	15 413	10 467	0.50%	0.34%
			All countries[1]	
Population density (inhabitants/km^2)	15	19	53	63
GDP per capita (USD in PPPs)	21 476	43 774	9 265	21 975
Trade as % of GDP	25	20	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	8.3	6.4	2.9	3.5
Agriculture share in employment (%)	8.5	5.8	-	-
Agro-food exports (% of total exports)	50.7	66.2	6.2	7.3
Agro-food imports (% of total imports)	7.9	11.6	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	18	24	-	-
Livestock in total agricultural production (%)	82	76	-	-
Share of arable land in AA (%)	10	5	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

New Zealand has a stable economy having featured robust growth and a relatively low inflation rate for most of the past decade. However, the COVID-19 pandemic and related restrictions led to a drop in New Zealand's GDP by almost 5% in 2020.

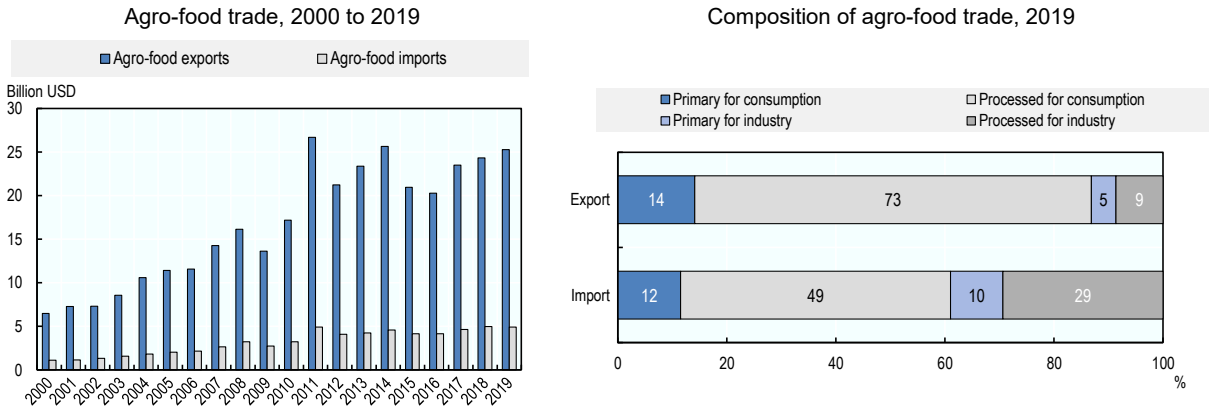
New Zealand is a consistent and growing net exporter of agro-food products, which after some drops in 2015 and 2016 due to, among others, lower dairy prices, have picked up again since 2017. Most of New Zealand's agro-food trade, particularly its exports, is processed food for final consumption. On the import side, however, intermediary products represent two-fifths of the trade basket.

Figure 20.5. New Zealand: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 20.6. New Zealand: Agro-food trade

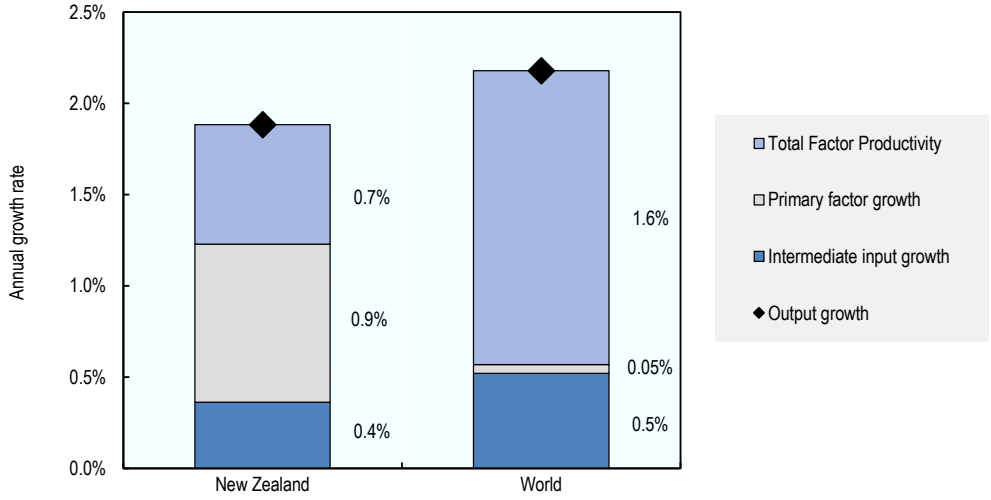


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

New Zealand's growth in agricultural output over the 2007-16 decade has been below global average, driven by relatively low productivity growth: at 0.7%, the estimated average growth in total factor productivity (TFP) is well below the global average and among the lowest of all countries covered by this report. It is also well below the TFP growth measured for the 1990s.

Given the large share of renewables in electricity generation and the dominant role of dairy and ruminant meat, agriculture is the main source of New Zealand's GHG emissions, and nutrient surpluses are also well above the respective OECD averages. The sector is also the country's prime consumer of freshwater as irrigated land is expanded, including to respond to climate related uncertainties. Nonetheless, its overall level of water stress, while higher than in the 1990s, is relatively low.

Figure 20.7. New Zealand: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 20.4. New Zealand: Productivity and environmental indicators

	New Zealand		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	1.7%	0.7%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	36.7	63.9	33.2	28.9
Phosphorus balance, kg/ha	13.2	9.6	3.4	2.6
Agriculture share of total energy use (%)	3.5	4.3	1.7	2.0
Agriculture share of GHG emissions (%)	48.6	47.8	8.4	9.5
Share of irrigated land in AA (%)[1]	3.7	6.9	-	-
Share of agriculture in water abstractions (%)	..	61.7	46.0	43.4
Water stress indicator	0.7	2.2	9.3	8.5

Notes: * or closest available year.
1. Data are not comparable between time periods due to change in methodology.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Notes

[1] Activities “beneficial to the industry, but whose benefits cannot be captured by those who fund or provide the activity”, or “long-term investments in the industry made with the expectation of accelerating delivery of better technology and products for the industry” (NZIER, 2007[6]).

[2] The HCEP existed before the One Billion Trees programme but has received significant funding from it.

[3] The seven member Crown research institutes and universities are: AgResearch, Landcare Research, Lincoln University, Massey University, National Institute of Water and Atmospheric Research, Plant Food Research and Scion. The two other organisations involved are DairyNZ and the Pastoral Greenhouse Gas Research Consortium.

[4] RCEP comprises the ten countries that make up the Association of South East Asian Nations (ASEAN), Australia, the People’s Republic of China (hereafter “China”), India, Japan, Korea and New Zealand.

[5] Other ACTA signatories include Australia, Canada, the European Union and 22 of its Member States, Korea, Japan, Mexico, Morocco, Singapore, and the United States.

[6] Pacific Alliance countries are Chile, Colombia, Mexico and Peru.

[7] Wilding pines are weeds that overwhelm the native landscape and have the potential to spread across 7.5 hectares of vulnerable land within 30 years if there is no national intervention. The national wilding conifer control programme funds projects that preserve natural landscapes on both private and rural land and crown owned conservation estate land from encroachment of pine trees that have accidentally seeded.

[8] The PGF, established in 2018 and available to all sectors, is administered by the Provincial Development Unit, part of the Ministry of Business, Innovation, and Employment.

[9] This initiative redirects food from the primary sector that would otherwise be wasted. It includes an additional 100 000 fruit and vegetable boxes distributed to children over 10 weeks via school and community programmes. The government also met the cost of purchasing, processing and distributing an oversupply of New Zealand pork to families in need. (The temporary oversupply of pork arose as a result of pork producers’ normal retail outlets and butchers being closed by government order during the New Zealand lockdown). A further five initiatives will receive funding of up to NZD 100 000 each for a ten-week trial period with the aim of developing long-term solutions.

[10] These include the ten members of ASEAN Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam; as well as Australia, China, Japan and Korea.

21 Norway

Support to agriculture

In Norway, reforms of agricultural policies have been modest and support is among the highest within the OECD. Norway uses an array of policy measures to regulate the market and support agricultural producers, including a complex system of payments and several tax concessions. The main agricultural sectors remain insulated from the world market and subject to production-distorting support.

The level of support to producers relative to gross farm receipts (%PSE) declined gradually since the mid-1980s. In 2018-20, support was around 56% of gross farm receipts, which implies that, on average, the value of support is higher than that of agricultural production valued at world market prices. Moreover, at 56%, Norway's %PSE is the second highest across all OECD, and emerging and developing countries for which it is calculated, at more than three times the OECD average.

The share of potentially most-distorting support decreased, but is still more than half of farmers' support. Market price support is the main component. The level of support in 2020 declined mainly due to the increase in border prices, which more than offset the increase in producer prices and budgetary payments. Effective prices received by farmers were on average 1.8 times world prices in 2018-20. Single commodity transfers (SCT) accounted for 57.5% of the total producer support estimate (PSE). The share of SCTs is over 30% of commodity gross receipts for all commodities. Expenditures on general services (GSSE) for the sector as a whole are relatively small at around 5% of the total support estimate (TSE) and 1.9% of agricultural value-added, and declined significantly relative to the size of the sector. Support to general services mostly finances the agricultural knowledge and innovation system. Total support to agriculture as a share of GDP declined significantly over time. About 93% of the total support goes to individual farmers.

Recent policy changes

An agreement concerning target prices and the budgetary framework for payments to farmers was reached between the government and the two farmers' organisations involved in agricultural negotiations. The main changes in the agreement were: an increase in target prices and budgetary support; a transfer of NOK 93.4 million (USD 9.8 million) from the 2020 budget to the 2021 budget; strengthening of small and medium-sized farms; increased support for areas with poor conditions for agricultural production; and increased support for investments in vegetable production and sectors with potential for increased market share of domestic production.

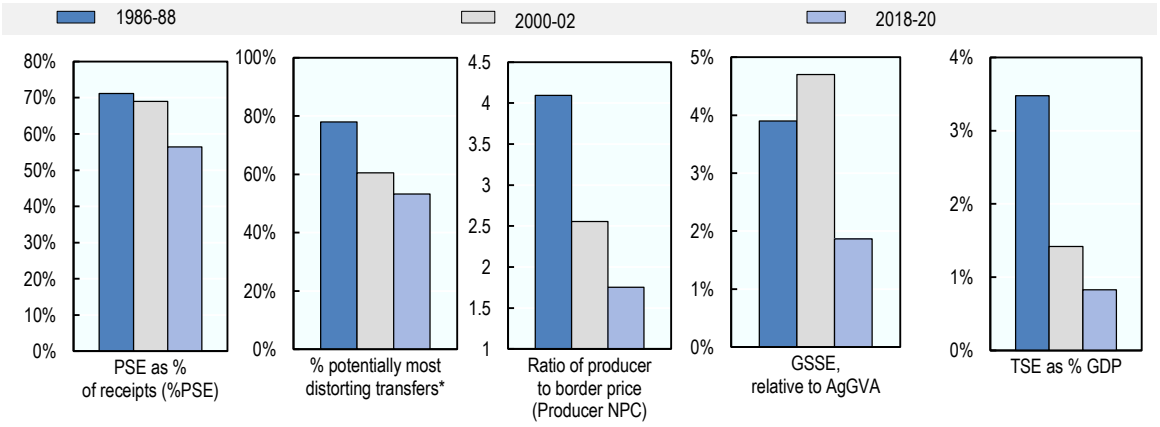
Norway eliminated its last export subsidies on cheese and processed agricultural products as of the end of 2020.

In response to the COVID-19 pandemic, Norway implemented a number of measures relevant to the agricultural sector, including support to farmers who were unable to harvest in 2020 due to lack of seasonal works, temporary lifting of maximum ceilings within the scheme for investment aid for rural development purposes, and elevated vigilance for personnel working at border stations or with meat control at slaughterhouses to avoid infections.

Assessment and recommendations

- There is scope to accelerate the pace of reforms, to achieve stated goals at lower cost to taxpayers and consumers. A change in agricultural policy towards long-term productivity growth and environmental sustainability could help.[1] Specifically, further policy actions should reduce potentially most-distorting support in order to increase exposure to market signals and eliminate output-related measures.
- The efficiency of agricultural support measures in achieving stated policy objectives such as food security, sustaining rural economies and landscape amenities at lower costs, would improve if the intended beneficiaries of such measures were identified and policy measures targeted to specific outcomes.
- Norway should gradually reduce border protection and commodity-specific support in a predictable way to let markets play their role in allocating production resources.
- Phasing out export subsidies is a positive step and should reduce market distortions associated with these measures.
- Re-orienting support towards general services – especially for the agricultural knowledge and innovation system – could increase productivity growth while maintaining environmental protection and sustainable natural resource management. Norway should strengthen efforts to provide farmers with tailored advice about sustainable technologies and practices by paying attention to supporting activities, such as technology monitoring, training advisors, and the production, collection and distribution of technical knowledge.
- Climate change and agriculture rank high in the national agricultural policy debate, but commodities that generate the highest greenhouse gas (GHG) emissions are currently those most heavily supported. Moreover, farmers are exempt from GHG emission taxes and the cap-and-trade system. Norway faces a sizeable emission-reduction challenge, and reducing GHG emissions from agriculture will be difficult without significant policy reform. Norway should restructure support and treat agriculture similarly to other sectors in the economy to intensify GHG reduction. Recent legislation restricting cultivation on peatlands – if applied with enough ambition – could significantly reduce GHG emissions from agriculture and should be carefully monitored.
- Norway's co-operative approach to develop policies for controlling GHGs and food waste in the agro-food sector has merit. The climate change agreement between the government and farmer organisations facilitates buy-in to reform proposals by stakeholders. However, agreed climate measures should be consistent with the mitigation actions stated in the 2016-27 White Paper and should not lead to increased subsidies to agriculture.

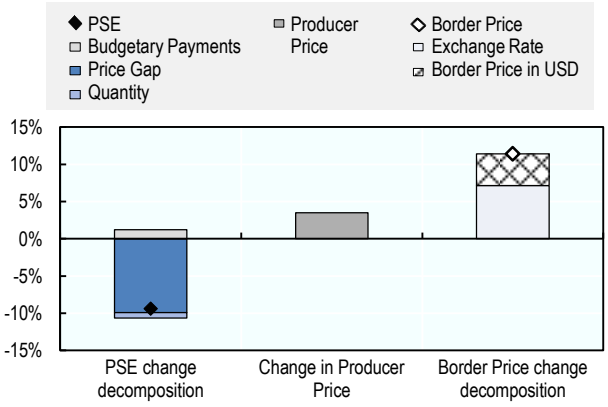
Figure 21.1. Norway: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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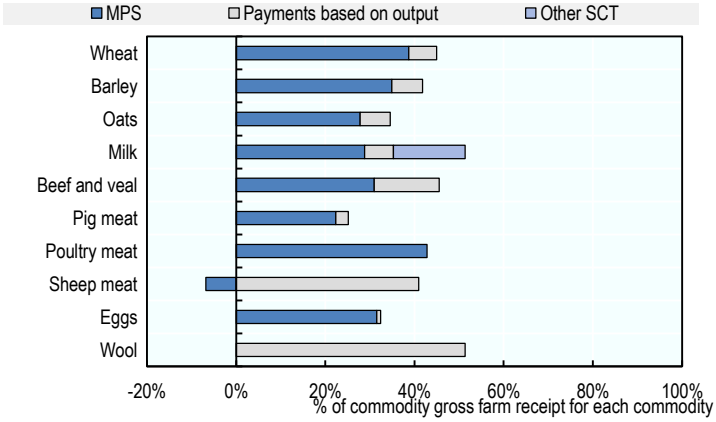
Figure 21.2. Norway: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/7siahu

Figure 21.3. Norway: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/yrdfmq

Table 21.1. Norway: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**2 533**	**2 052**	**3 535**	**3 704**	**3 554**	**3 348**
***of which:** share of MPS commodities (%)*	73.3	80.8	76.0	74.6	76.3	77.1
Total value of consumption (at farm gate)	**2 667**	**2 084**	**3 831**	**4 370**	**3 478**	**3 644**
Producer Support Estimate (PSE)	**2 833**	**2 337**	**3 049**	**3 536**	**3 038**	**2 572**
Support based on commodity output	2 059	1 346	1 522	1 839	1 561	1 166
Market Price Support[1]	1 386	1 009	1 208	1 503	1 252	869
Positive Market Price Support	1 386	1 009	1 222	1 515	1 267	882
Negative Market Price Support	0	0	-14	-12	-16	-14
Payments based on output	673	337	314	336	309	297
Payments based on input use	250	117	181	183	187	175
Based on variable input use	149	71	91	97	90	86
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	91	38	81	75	88	79
with input constraints	0	0	0	0	0	0
Based on on-farm services	11	8	10	10	10	10
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	524	871	995	1 147	945	895
Based on Receipts / Income	0	49	79	83	76	79
Based on Area planted / Animal numbers	524	822	916	1 063	869	816
with input constraints	371	644	683	704	678	666
Payments based on non-current A/An/R/I, production required	0	0	344	358	341	333
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0	0
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	3	6	10	4	4
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	3	6	10	4	4
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**71.2**	**69.0**	**56.4**	**61.6**	**56.9**	**50.9**
Producer NPC (coeff.)	**4.09**	**2.56**	**1.75**	**1.93**	**1.73**	**1.63**
Producer NAC (coeff.)	**3.47**	**3.22**	**2.30**	**2.61**	**2.32**	**2.04**
General Services Support Estimate (GSSE)	**129**	**158**	**160**	**171**	**159**	**150**
Agricultural knowledge and innovation system	74	62	104	110	104	98
Inspection and control	5	25	33	38	32	29
Development and maintenance of infrastructure	29	54	14	14	15	14
Marketing and promotion	21	15	9	9	9	9
Cost of public stockholding	0	2	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**4.1**	**6.2**	**4.8**	**4.5**	**4.8**	**5.2**
Consumer Support Estimate (CSE)	**-1 374**	**-1 034**	**-1 326**	**-1 814**	**-1 194**	**-969**
Transfers to producers from consumers	-1 671	-1 100	-1 335	-1 559	-1 303	-1 144
Other transfers from consumers	-167	-75	-192	-401	-32	-143
Transfers to consumers from taxpayers	220	71	119	104	121	133
Excess feed cost	244	70	82	42	19	186
Percentage CSE (%)	**-56.2**	**-51.1**	**-35.3**	**-42.5**	**-35.6**	**-27.6**
Consumer NPC (coeff.)	**3.22**	**2.28**	**1.66**	**1.81**	**1.62**	**1.55**
Consumer NAC (coeff.)	**2.28**	**2.04**	**1.55**	**1.74**	**1.55**	**1.38**
Total Support Estimate (TSE)	**3 182**	**2 566**	**3 328**	**3 811**	**3 318**	**2 854**
Transfers from consumers	1 838	1 175	1 527	1 960	1 334	1 287
Transfers from taxpayers	1 511	1 466	1 992	2 252	2 015	1 710
Budget revenues	-167	-75	-192	-401	-32	-143
Percentage TSE (% of GDP)	**3.5**	**1.4**	**0.8**	**0.9**	**0.8**	**0.8**
Total Budgetary Support Estimate (TBSE)	**1 796**	**1 557**	**2 120**	**2 308**	**2 066**	**1 986**
Percentage TBSE (% of GDP)	**2.0**	**0.9**	**0.5**	**0.5**	**0.5**	**0.6**
GDP deflator (1986-88=100)	**100**	**163**	**282**	**287**	**285**	**275**
Exchange rate (national currency per USD)	**6.88**	**8.59**	**8.78**	**8.13**	**8.80**	**9.41**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Norway are: wheat, barley, oats, milk, beef and veal, sheep meat, wool, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Historically, Norway's agricultural policies relate to food security, farm incomes, and regional distribution of production and employment objectives. Today, they also address consumer and societal concerns, including food safety and animal welfare, environmental issues, climate, cultural landscape, innovation, agro-tourism, and small-scale food industry. These are implemented through four pillars: i) border protection; ii) legal frameworks to secure family-owned farms; iii) annual negotiations between the state and farmers' organisations to determine producer prices, budget transfers and allocation of funds; and iv) domestic regulations to balance the market through producer co-operatives. Agricultural support is a component of Norway's regional and rural policies.

Overall, since the mid-1980s there was modest policy reform towards market orientation, and modest reduction in the level of support. Farmers in Norway are heavily supported through border measures, domestic market regulations, budgetary payments and tax breaks.

Prompted by the WTO Uruguay Agreement on Agriculture, a number of changes were introduced to agricultural policies, to improve cost efficiency and market orientation, including increased flexibility in milk quotas, removal of administered prices for eggs, poultry, beef and sheep, and phasing out of export subsidies as of the end of 2020. But high levels of protection remain against imports of the most important and sensitive agricultural products, such as meat, dairy, eggs and grains, and about 61% of production still has some form of administered price. Moreover, the primary agricultural sector is exempt from standard competition law.

Norwegian agricultural policies are underpinned by the premise that certain environmental public goods are positive externalities of agricultural commodity production, and implementation costs of alternative policies are high. Environmental cross-compliance was introduced in 1991 and the Acreage and Cultural landscape Programme grants payments on the condition that farmers meet cultural landscape requirements.

Table 21.2. Norway: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1985	Closed economy	High agricultural import tariffs and non-tariff measures Administered prices of agricultural products Production quotas of certain products
1985-1994	Modest domestic reforms	Modest reduction in agricultural import tariffs Removal of several administered prices Increased flexibility in the milk quota system
1995-2000	Implementation of the WTO Uruguay Agreement on Agriculture; more emphasis on environmental sustainability issues	Modest import tariff reduction; tariffication of non-tariff measures Introduction of environmental cross-compliance
2000-present	Continuation of trade reforms	Lower border protection Abolition of export subsidies

Source: (OECD, 2021[1]).

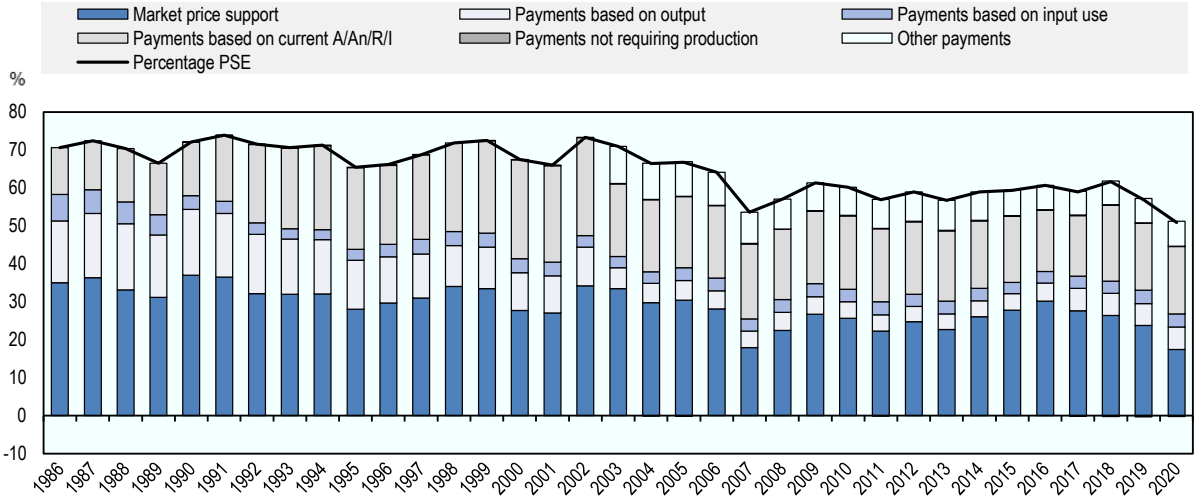
The share of potentially most-distorting support (support based on commodity output and payments based on variable inputs without constraints) declined significantly. But such measures still account for over half of support to farmers, due to continued reliance on market price support.

Market price support, mainly due to border protection and domestic market regulation, remains the main component of support to producers and its 39% share of PSE remains unchanged since 1995

(Figure 21.4). Payments based on output are now around one-third of 1986-88 levels, whereas payments based on current production factors increased. Agriculture in Norway remains among the most highly protected in the OECD.

Figure 21.4. Norway: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The strategic objectives of agricultural and food policies, as set out in White Paper No. 11 (2016–17), "Change and development – A future-oriented agricultural production", are: food security; agriculture throughout the country; creating more added value; and sustainable agriculture. The agricultural policy aims at sustainable use of natural resources, developing know-how and contributing to the creation of employment and value-added in farming and farm-based products throughout the country.

The principal policy instruments supporting agriculture include border measures, domestic market regulation, based on the Marketing Act, and budgetary payments. The Marketing Act covers certain types of meat (beef, mutton, pork and poultry); milk, butter and cheese; eggs; cereals and oilseeds; potatoes, vegetables, fruit and berries; and fur skins.

Target prices are provided for milk, pork, grains and some fruits and vegetables. The government and farmers' organisations annually negotiate target prices and the budgetary framework for payments to farmers. Marketing fees collected from producers finance marketing activities dealing with surpluses (until 2020 also including export subsidies for livestock products). Milk production quotas were introduced in 1983 and a system of buying and selling quotas was introduced in 1997.

Various direct payments are provided to farmers, including area and headage payments as well as payments based on product quantities (meat). Many of these are differentiated by region and farm size in order to equalise incomes across all types of farms and regions. Environmental levies are applied on agricultural pesticides.

The National Agri-Environmental Programme (NAP) structures agri-environmental measures and provides a central framework and national goals. It contains the main agri-environmental measures, such as the Acreage Cultural Landscape Support, payments to extensive grazing, payments for grazing animals and payments for organic agriculture. Agri-environmental measures are organised at national, regional and local levels. Measures included in the NAP are not targeted to specific environmental activity of the farmers as such, but are generally conditioned on the adoption by farmers of good agricultural practices. More targeted support schemes are the Regional Environmental Programmes (REP) and special environmental measures in agriculture, organised on the regional and local level, and targeted at issues not addressed in national schemes. For example, the programmes include payments to reduce water pollution from agricultural fields, environmentally-friendly spreading of manure, mowing small (abandoned) fields with high or special biodiversity in forest and mountain areas, grazing on islands, maintenance around heritage sites in the agricultural landscape, etc.

The 2017 Climate Change Act establishes Norway's targets to reduce emissions by 2030 and to become a low-emission society by 2050. Norway signed and ratified the Paris Agreement and a bilateral agreement with the European Union, under which it commits to reducing GHG emissions by 2030 by at least 50% and up to 55% of 1990 levels. Carbon dioxide emissions from fossil fuel use in agriculture are subject to a carbon dioxide tax similar to that in place for other sectors. Other GHG emissions from agriculture are not subject to such taxation nor are they included in the European Emission Trading System (ETS). Instead, a combination of regulatory, financial and advisory measures reduce GHG emissions from agriculture.

In October 2019, the European Union, Iceland and Norway formally agreed to extend their climate co-operation for 2021-30 by including the Effort Sharing Regulation and the regulation on greenhouse gas emissions and removals from land use, land use change and forestry (the LULUCF-Regulation), into the European Economic Area (EEA) Agreement. According to the agreement, Norway will fulfil its respective GHG reduction target for 1 January 2021 to 31 December 2030 in accordance with the Emissions Trading System Directive, LULUCF-Regulation and the Effort Sharing Regulation.

In 2016, the government published the national strategy on bio-economy. This was a broad cross-sectoral strategy developed by eight ministries, including the Norwegian Ministry of Agriculture and Food. The strategy has three overarching objectives – increased value creation, reduced GHG emissions, and increased resource use efficiency and sustainability – and four focus areas: i) co-operation across sectors, industries and thematic areas; ii) markets for renewable bio-based products; iii) efficient use and profitable processing of renewable biological resources; and iv) sustainable production and extraction of renewable biological resources.

Most of Norway's tariff-rate-quotas were eliminated in 2000 when the WTO bound tariff rates became equal to the in-tariff quota rates. Tariffs for some products, particularly livestock products are set between 100% and 400% though there is a system of "open periods" for imports at reduced tariff rates when domestic prices rise above threshold levels. Since 1 January 2015, Norway unilaterally eliminated import duties on 114 agricultural tariff lines. While these duties were low (and not important for protecting Norwegian agricultural production), their elimination resulted in reduced customs procedures and administrative costs. Export subsidies were abolished at the end of 2020.

Article 19 of the EEA agreement concerning trade in basic agricultural products is reviewed periodically. The last round of these reviews was finalised in April 2017 and changes agreed entered into force in October 2018. Under the EEA, tariff rate quotas (TRQ) expanded on several products, including meat, cheese, vegetables and certain products used in the food industry for making processed agricultural goods.

Domestic policy developments in 2020-21

The coalition government formed in January 2019 broadly supports the strategic orientations of the White paper No. 11 (2016-17). The government aims to enhance the efficiency and competitiveness of the sector,

while maintaining the overall system of market regulation and border protection. Agricultural policy is to continue to build on four pillars: i) the system of annual agricultural negotiations and agreements; ii) a well-functioning border protection; iii) farmers' responsibility for balancing supply and demand on the domestic market through producer co-operatives; and iv) continuation of the property regulations in agriculture to protect the family-based ownership of farms. Other key elements of the political platform include: continuation of the milk quota system; introduction of the Act on Good Business Conduct during 2020; following up the soil protection strategy; stimulating organic farming; reinforcing the focus on animal welfare; strengthen R&D; and continuing the policy for low antibiotic use and low prevalence of antibiotic resistance in animal husbandry.

In May 2020, an agreement was reached between the government and the two farmers' organisations involved in the agricultural negotiations. The main changes in the agreement were:

- an increase in target prices with a total budgetary effect by NOK 300 million (USD 32 million) from 1 July 2020
- an increase in budgetary support by NOK 350 million (USD 37 million) from 2020 to 2021
- a transfer of NOK 93.4 million (USD 9.8 million) from the 2020 budget to the 2021 budget
- further strengthening of small and medium-sized farms
- increased support for areas with poor conditions for agricultural production
- increased support for investments in vegetable production and in sectors with potential for increased market share of domestic production.

A system for buying and selling milk quotas was put into place in 1997. The milk quota system serves to regulate milk production in proportion to the market situation. Each year the basic quota volumes are multiplied by a factor to fix the amount of milk each producer can deliver to a dairy (i.e. actual production possibility). For 2021, the quota volumes were multiplied by a factor of 1.07 in order to balance the market. The milk production prognosis is 1 537 million litres.

Due to an agreement between the government and one of the farmers' organisations, the government bought about 35 million litres of milk quotas from the market in 2020. According to the agreement, the quota scheme will be reintroduced in the market from 2022. Farmers selling cow milk quota will then be allowed to sell 60% of their quota directly to other producers within a production region (mainly defined as the county), but a minimum of 40% has to be sold to the government at a fixed price. There are 14 production regions within which redistribution can take place. The purpose of these regions is to ensure good geographical distribution and equal development opportunities for producers in all regions.

Following the 2018 strategy on **organic** production, a programme was prepared to prioritise measures for organic production over the long-term. A forum was established where representatives from the whole value chain as well as researchers, organisations and the agricultural extension service can discuss relevant challenges and solutions for the development of organic production. In 2020, NOK 116 million (USD 12 million) was provided for measures to support organic production and NOK 34 million (USD 0.4 million) to different projects on information and demonstration projects.

The budget for the **Regional Environmental Programmes** (REP) has increased to NOK 528 million (USD 56 million) for 2020. Payments under these programmes finance measures such as the reduction of run-off from agricultural fields, environmentally friendly spreading of manure, maintenance of fields with high or special biodiversity in the forest and mountains areas, grazing on islands, and maintenance around heritage sites in the agricultural landscape.

On **bio-economy**, the Research Council of Norway, Innovation Norway and Industrial Development Corporation of Norway (Siva) have developed a common Action Plan for the implementation of the recommendations of the strategy, which was published in February 2020. Work on developing a strategy

on circular economy is in progress, with nine ministries involved in the process, including the Ministry of Agriculture and Food.

In June 2019, the government and farmers' organisations negotiated a **climate agreement** for agriculture. The agreement sets targets for the abatement of GHG emissions and uptake from agriculture over 2021-30. Improvement in on-farm livestock, manure and soil management will be key to reach these targets, alongside improvements in consumption and reduction in food losses and waste.

The **rural development** aspects of Norwegian agricultural policy include several programmes designed to stimulate innovation and the establishment of alternative businesses on farms and alternative employment in rural areas. Most of the funding is financed through the Agricultural Development Fund. For 2020, the total allocation of funds for rural development (within the Agricultural Agreement) was NOK 1 251 million (USD 132 million).

Domestic policy responses to the COVID-19 pandemic

Norway has implemented several measures in response to the COVID-19 pandemic, many of which are relevant to the agricultural sector. Farmers who are unable to harvest in 2020 due to lack of seasonal workers were eligible for payment under the crop insurance compensation scheme. The temporary measure applied to farmers of fruits, berries, vegetables or potatoes. Compensation up to NOK 2 million (USD 200 000) could be approved for significant crop failures of more than 30% compared to the average production in a five-year period. The application deadline was 31 October 2020.

Certain adjustments have also been made to the scheme for investment aid for rural development purposes. For a temporary period until 31 December 2020, investment aid could exceed the maximum ceilings of NOK 2 million (USD 200 000) and 35% of total cost estimates, if the project can document significantly higher costs or reduced liquidity as a consequence of the COVID-19 pandemic and falling exchange rate.

The Norwegian Food Safety Authority elevated vigilance for personnel working with meat control at slaughterhouses and control at border stations to avoid personnel being infected or quarantined. The Norwegian Food Safety Authority is continuously assessing measures to limit contamination to critical personnel.

Trade policy developments in 2020-21

Following the WTO Ministerial Decision on agriculture in Nairobi in December 2015, Norway eliminated its remaining export subsidies on cheese and processed agricultural products as of the end of 2020.

Through the European Free Trade Association (EFTA), Norway has negotiated 29 Free Trade Agreements (FTAs) with 40 partner countries. Norway and its EFTA partners revised their chapter on trade and sustainable development, which now includes an article on trade and sustainable agriculture and food systems. The agreement with Ecuador, which was concluded in 2018, entered into force 1 November 2020. Ecuador accounts for about 0.03% of Norwegian agro-food exports and agro-food imports. There are ongoing free trade negotiations between EFTA and India, Viet Nam and Malaysia. Negotiations with MERCOSUR were concluded in August 2019. EFTA has also started re-negotiations of free trade agreements with Chile and the Southern African Customs Union (SACU) (Botswana, Lesotho, Namibia, South Africa and Swaziland). These Free Trade Agreements and negotiations include processed agricultural products and a range of primary agricultural products. In 2020, Norway and the People's Republic of China made further progress in bilateral negotiations on a trade agreement.

Contextual information

Norway has a shortage of arable land, but an abundance of grass and pasture. Agricultural land accounts for only 3% of the country's total area; therefore, the most favourable lands are mostly allocated to arable crops as a matter of policy design, while ruminant livestock is allocated to regions with less favourable conditions. As a result, production of cow and goat milk, and bovine and sheep meat takes place in rural areas, and production of grains, poultry and eggs mainly takes place in central parts of Norway.

Due to unfavourable climatic conditions, the agricultural sector produces a rather narrow range of commodities. In addition to sheep farming, the primary activity has traditionally been cattle (for milk and meat) and cereals (mainly used as animal feed). The farm structure is dominated by relatively small family farms, many of which are in remote locations.

Table 21.3. Norway: Contextual indicators

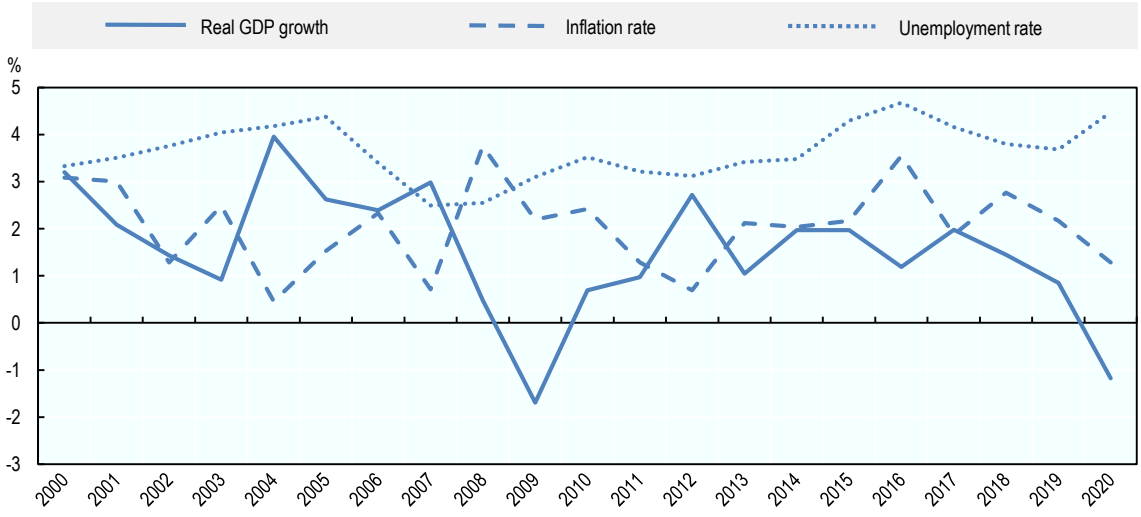
	Norway		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	166	357	0.4%	0.3%
Population (million)	4	5	0.1%	0.1%
Land area (thousand km²)	365	365	0.4%	0.4%
Agricultural area (AA) (thousand ha)	1 042	986	0.03%	0.03%
			All countries[1]	
Population density (inhabitants/km²)	14	17	53	63
GDP per capita (USD in PPPs)	36 950	66 831	9 265	21 975
Trade as % of GDP	28	23	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	2.1	2.2	2.9	3.5
Agriculture share in employment (%)	4.1	2.0	-	-
Agro-food exports (% of total exports)	0.8	1.2	6.2	7.3
Agro-food imports (% of total imports)	5.6	8.9	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	28	30	-	-
Livestock in total agricultural production (%)	72	70	-	-
Share of arable land in AA (%)	84	81	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Natural resource wealth and a regulative framework conducive to business development have helped to boost Norway's per capita GDP, which is now one of the highest in the world. Combined with its "Nordic model" ensuring inclusiveness and low inequality, Norway exhibits impressive levels of well-being in many dimensions. Sustaining Norway's inclusive society will require diversification away from oil-related activities and finding new opportunities from globalisation and digitalisation. The recent outbreak of COVID-19 and the associated shutdown have had an impact on the economy. According to OECD projections, real GDP is estimated to have fallen by 1.2% in 2020.

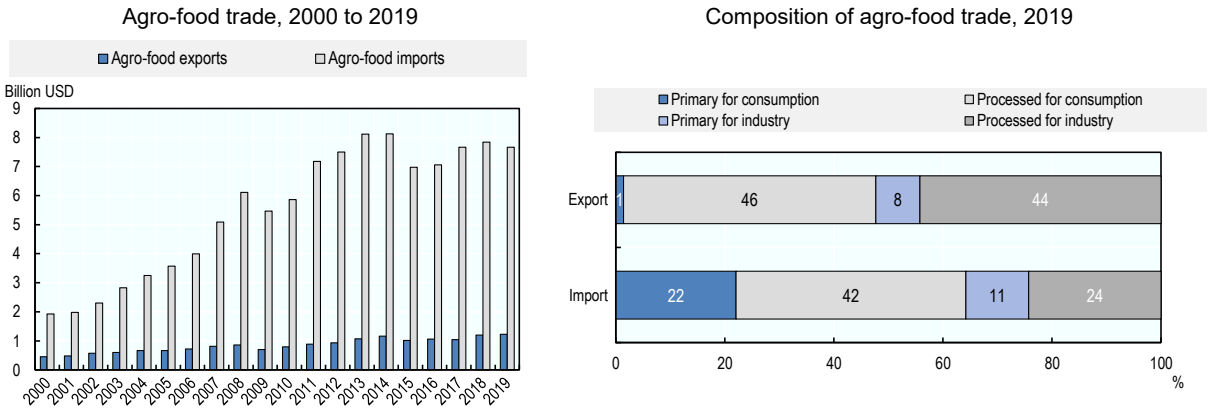
Norway is a net importer of agricultural products: agro-food imports represent around 9% of total imports, while agro-food exports represent 1.2% of total exports. The vast majority of Norway's agricultural production is consumed domestically. Most of the agro-food exports are in products for final consumption, while a small majority of imports are for further processing. The European Union is Norway's main trading partner.

Figure 21.5. Norway: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

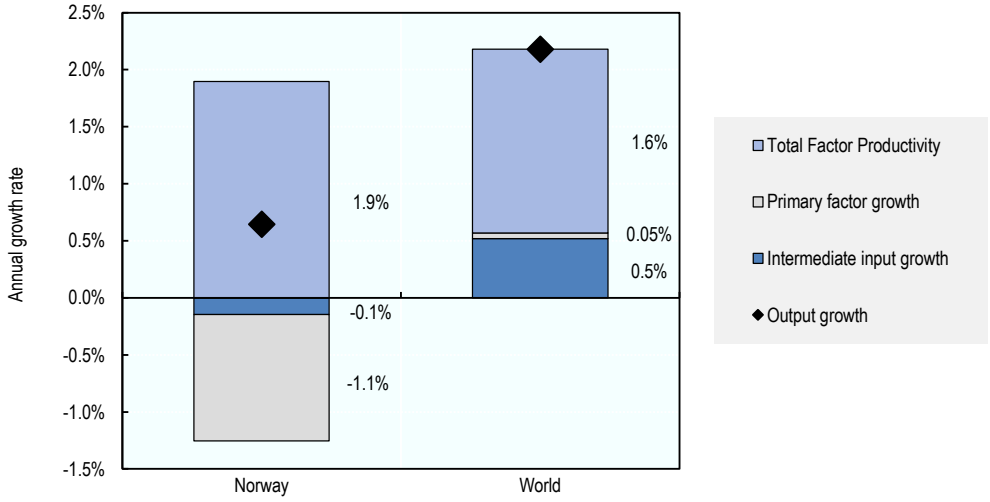
Figure 21.6. Norway: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Over the 2007-16 period, agricultural output is estimated to have increased at a slow annual pace. Variable inputs and fixed factors of production have declined, while total factor productivity is estimated to have increased at a rate that is slightly higher than the world average. Overall, there are signs of improvements in some agri-environmental indicators, but sustainability performance is a concern in terms of emissions, biodiversity and nutrient balances. While policies towards land management and the cultural landscape have had some success, achieving reductions in nutrient balances and meeting both domestic policy goals and international commitments related to GHGs, ammonia emissions and water protection have proved challenging. Norway's nutrient surpluses are among the highest in OECD and have not significantly declined in recent years.

Figure 21.7. Norway: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 21.4. Norway: Productivity and environmental indicators

	Norway		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	0.2%	1.9%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	85.3	94.5	33.2	28.9
Phosphorus balance, kg/ha	12.1	10.6	3.4	2.6
Agriculture share of total energy use (%)	1.6	1.5	1.7	2.0
Agriculture share of GHG emissions (%)	8.3	8.6	8.4	9.5
Share of irrigated land in AA (%)	4.2	3.3	-	-
Share of agriculture in water abstractions (%)	32.8	..	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

Reference

OECD (2021), *Policies for the Future of Farming and Food in Norway*, OECD Agriculture and Food Policy Reviews, OECD Publishing, Paris, https://dx.doi.org/10.1787/20b14991-en. [1]

Note

[1] For more detailed assessment and recommendations see (OECD, 2021[1]).

22 Philippines

Support to agriculture

Support to Philippine farmers in 2018-20 averaged 27.5% of gross farm receipts. This is up from 22% at the beginning of the 2000s, higher than the OECD average and one of the highest levels among all emerging economies covered by this report.

Market price support (MPS), which reflects existing trade barriers (mainly tariffs and Tariff Rate Quotas [TRQs]), is the dominant form of support to Philippine producers, of which rice producers are the main beneficiaries. In addition to rice, import tariffs support the prices of sugarcane, pig meat, and poultry. As a result, domestic producer prices are 40% higher on average than prices on international markets. Payments to farmers support the use of inputs and investments, mainly in the rice sector. The MPS and payments for inputs are considered potentially most production- and trade-distorting, and represent around 90% of support to farmers.

Expenditures for general services (GSSE) more than doubled relative to agricultural value-added from 2000-02 to 2018-20, driven largely by higher investments in irrigation systems and extension programmes. Expenditures on public stockholding (mainly related to rice) are also an important GSSE expenditure. The overall cost of support to the Philippine agricultural sector was 2.5% of GDP in 2018-20, one of the highest across all countries measured, but down from 2.9% estimated for 2000-02.

Recent policy changes

In March 2019, the Philippines replaced quantitative restrictions on rice imports with tariffs. In order to offset the effect of this liberalisation, the government established a Rice Competitiveness Enhancement Fund (RCEF) with an annual PHP 10 billion (USD 192.3 million) appropriation over the following six years. Areas supported in 2020 include investments in machinery and equipment, breeding, and distribution of high quality rice seeds, credit and extension.

Furthermore, an excess rice tariff collection (above the PHP 10 billion financing the RCEF) was provided in the form of an unconditional cash transfer of PHP 5 000 (USD 101) per farm to benefit small rice farmers (less than 1 hectare planted for rice). In 2020, small producers of corn, coconut and sugar cane received a similar support from the budget in the form of cash and food assistance worth the same amount per farm.

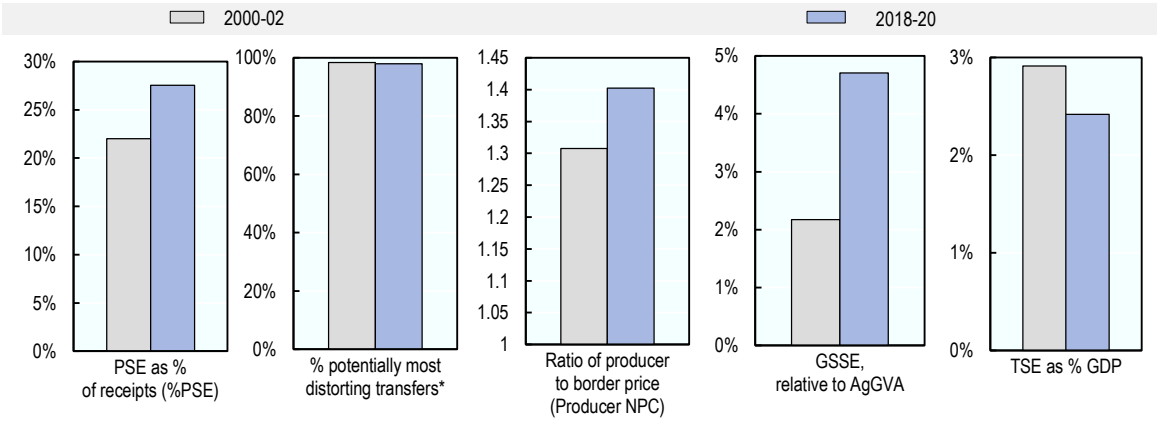
In response to the COVID-19 pandemic, the government took several measures to support the agro-food sector. During the period of quarantine, all farmers, farm workers, fisher folk and agribusiness personnel were exempt from quarantine measures if they observed safety protocols. The Philippine Department of Agriculture implemented the *Plant, Plant, Plant Programme* to enhance food security in response to concerns amidst the COVID-19 pandemic. It is an all-encompassing programme for crops, livestock, poultry and fisheries, realised through specific interventions. The programme involves a Rice Resiliency Project aimed at increasing the country's self-sufficiency level from 87% to 93%. The SURE Aid and Recovery Project extended additional loans and loan guarantees to small farmers. In order to avoid a sharp

rise in retail food prices due to the COVID-19 pandemic, the government imposed retail price controls by implementing suggested retail prices (SRP) on basic food items sold in public markets.

Assessment and recommendations

- The Philippines' agricultural policy focuses on food security and poverty alleviation through a guaranteed supply of staple food (rice) at affordable prices. The goal of self-sufficiency in rice drives a range of policy measures supporting rice producers, in contrast to the trend, elsewhere in Southeast Asia, toward diversification into higher-value commodities. The extension of direct income support to small producers of commodities other than rice, implemented in 2020, is a step in the right direction.
- Rice stocks operated by the National Food Authority (NFA) have the official role of emergency buffer stock. However, the NFA uses these stocks to support prices paid to farmers by buying at administered prices and reducing consumer prices by selling at subsidised prices on retail markets. Hence, these stocks *de facto* represent "intervention stocks" with significant implications for markets and the government budget. The budget financing these interventions could be spent on direct income support, and to finance general services to improve productivity in the sector.
- From 2017, the Philippines reallocated some funding from subsidising variable inputs to infrastructure investments, and through the re-orientation of agricultural knowledge systems. Continuing efforts to refocus spending onto general services to the sector are key for promoting productivity growth, estimated at very low levels in the past decades.
- In view of the Philippines' high susceptibility to typhoons, tropical storms and flooding, the government should take a holistic approach to risk management that adapts policy objectives across programmes and institutions. Moreover, the effectiveness of current risk management tools should be assessed – in particular, the extent to which insurance and cash-transfer schemes encourage risk-reducing decision-making on the farm. Lastly, making information about local conditions, future projections and adaptive solutions more available would increase farmers' awareness and capacity to prepare and adjust.
- The Philippines is particularly vulnerable to climate change. To improve the agricultural sector's capacity to adapt, the government should develop clear and measurable objectives on climate adaptation, and ensure a coherent set of measures to implement across policy programmes and public agencies.

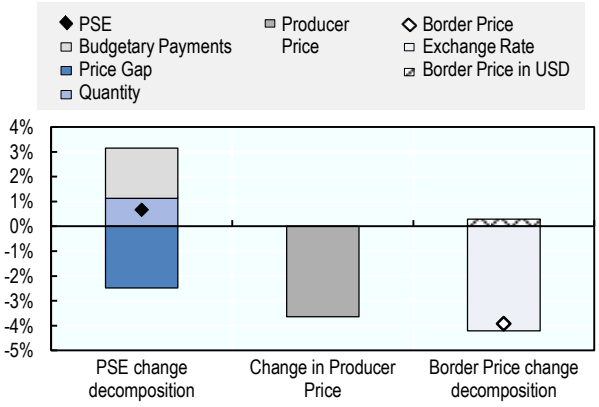
Figure 22.1. Philippines: Development of support to agriculture



Note: * Share of potentially most-distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/0s1pnl

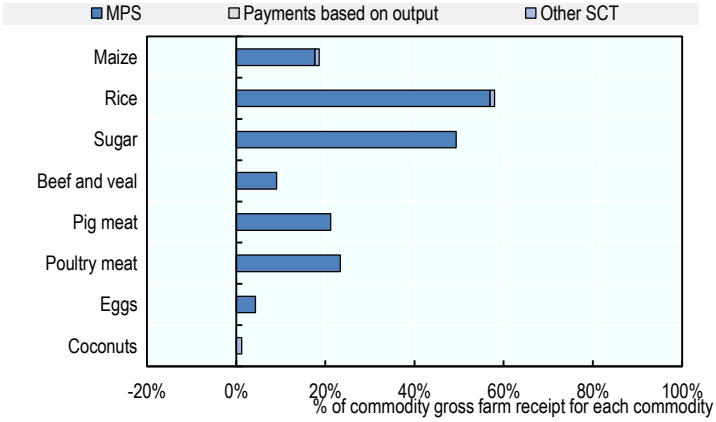
Figure 22.2. Philippines: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/gy51k6

Figure 22.3. Philippines: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/gkfip9

Table 22.1. Philippines: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**9 727**	**27 122**	**27 117**	**26 250**	**28 000**
of which: *share of MPS commodities (%)*	89.2	92.8	92.9	92.7	92.9
Total value of consumption (at farm gate)	**9 950**	**30 532**	**30 526**	**29 606**	**31 463**
Producer Support Estimate (PSE)	**2 167**	**7 552**	**7 730**	**7 278**	**7 648**
Support based on commodity output	2 094	7 242	7 438	7 042	7 248
Market Price Support[1]	2 094	7 242	7 438	7 042	7 248
Positive Market Price Support	2 134	7 242	7 438	7 042	7 248
Negative Market Price Support	-40	0	0	0	0
Payments based on output	0	0	0	0	0
Payments based on input use	69	297	282	224	384
Based on variable input use	36	149	161	128	158
with input constraints	0	0	0	0	0
Based on fixed capital formation	32	148	121	95	226
with input constraints	0	0	0	0	0
Based on on-farm services	0	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	0	0	0	0
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	0	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	5	13	10	13	17
Percentage PSE (%)	**22.0**	**27.5**	**28.2**	**27.5**	**26.9**
Producer NPC (coeff.)	**1.31**	**1.40**	**1.41**	**1.40**	**1.40**
Producer NAC (coeff.)	**1.28**	**1.38**	**1.39**	**1.38**	**1.37**
General Services Support Estimate (GSSE)	**244**	**1 580**	**1 649**	**1 379**	**1 712**
Agricultural knowledge and innovation system	56	324	316	249	408
Inspection and control	14	78	62	73	98
Development and maintenance of infrastructure	155	972	1 070	855	992
Marketing and promotion	6	47	47	45	49
Cost of public stockholding	12	136	133	135	141
Miscellaneous	1	22	21	22	23
Percentage GSSE (% of TSE)	**10.1**	**17.3**	**17.6**	**15.9**	**18.3**
Consumer Support Estimate (CSE)	**-2 250**	**-7 802**	**-7 911**	**-7 658**	**-7 836**
Transfers to producers from consumers	-2 299	-7 696	-7 721	-7 488	-7 880
Other transfers from consumers	-152	-579	-566	-568	-604
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	201	474	376	398	648
Percentage CSE (%)	**-22.5**	**-25.6**	**-25.9**	**-25.9**	**-24.9**
Consumer NPC (coeff.)	**1.32**	**1.37**	**1.37**	**1.37**	**1.37**
Consumer NAC (coeff.)	**1.29**	**1.34**	**1.35**	**1.35**	**1.33**
Total Support Estimate (TSE)	**2 411**	**9 132**	**9 378**	**8 657**	**9 360**
Transfers from consumers	2 451	8 276	8 287	8 056	8 485
Transfers from taxpayers	112	1 435	1 657	1 169	1 480
Budget revenues	-152	-579	-566	-568	-604
Percentage TSE (% of GDP)	**2.9**	**2.5**	**2.7**	**2.3**	**2.5**
Total Budgetary Support Estimate (TBSE)	**318**	**1 889**	**1 941**	**1 615**	**2 112**
Percentage TBSE (% of GDP)	**0.4**	**0.5**	**0.6**	**0.4**	**0.6**
GDP deflator (2000-02=100)	**100**	**180**	**180**	**181**	**..**
Exchange rate (national currency per USD)	**48.96**	**51.36**	**52.67**	**51.80**	**49.62**

.. Not available

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Philippines are: maize, rice, sugar, beef and veal, pig meat, poultry, eggs, bananas, coconut, mango and pineapple.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Heavy government interventions in agricultural markets within a closed economy characterised the period from 1970 to 1986. The government had monopoly control over trade in rice, sugar and maize, operated by the National Grains Authority (NGA) established in 1972 (later renamed the National Food Authority [NFA]). Sugar trade was nationalised under the National Sugar Trading Corporation. At the same time, high-yield rice varieties were introduced. Input subsidies encouraged farmers to use high-yield varieties of rice, as well as fertilisers and pesticides. Public spending in the sector increased (particularly on irrigation), financed by a mix of taxes on major agricultural exports and foreign loans. Access to credit was facilitated by legally obliging financial institutions to provide 25% of their loans to the agricultural sector. Budgetary expenditures financed extension services to the farming sector (OECD, 2017[1]).

Partial liberalisation of the sector was implemented gradually from 1986 to 2000. Reforms undertaken in the 1990s aimed to improve services provided to agriculture, particularly extension services, and infrastructure. Market interventions were gradually reduced, as were tariffs and non-tariff measures on agro-food imports. The policy of self-sufficiency in rice continued. The strategy continued the provision of input subsidies to farmers, mainly fertilisers and certified seeds, but also credit facilitation and support to public services for agriculture, such as investments in irrigation and farm-to-market roads. At the beginning of the 1990s, the Philippines negotiated a number of trade agreements (it is a founding member of the ASEAN free trade area). Upon joining the WTO in 1995, the country committed to removing quantitative restrictions on imports of sensitive agricultural products (with the exception of rice) and to gradual liberalisation of agro-food trade. Public expenditure on agriculture declined substantially in the late 1990s, due to tight fiscal policies adopted in the aftermath of the Asian Financial Crisis (OECD, 2017[1]).

Furthermore, since 1988, the Philippines has undertaken an ambitious **agrarian reform** to redistribute agricultural land to landless farmers and land workers. The reform covered close to three-quarters of the country's agricultural area. By the end of 2015, the redistribution of land was almost complete, but property rights remain to be settled. Almost half of the reform beneficiaries still have collective ownership certificates instead of individual property rights.

During the 2000s, the government undertook policy measures to further reduce market interventions in agriculture. Subsidised credit programmes were terminated, and private traders allowed to import rice at limited levels. However, the focus on food (rice) self-sufficiency was further reinforced and, after the global food price crisis in 2008, spending on agriculture increased substantially. The government increased public expenditure on irrigation and input subsidies to achieve self-sufficiency. The Food Staples Sufficiency Programme launched in 2011 retained the focus on rice and selected other staples, but shifted emphasis away from input subsidies towards public services to agriculture such as extension and infrastructure (OECD, 2017[1]). Following the Uruguay Round Agreement on Agriculture, the system of quantitative restrictions for rice was abolished in March 2019.

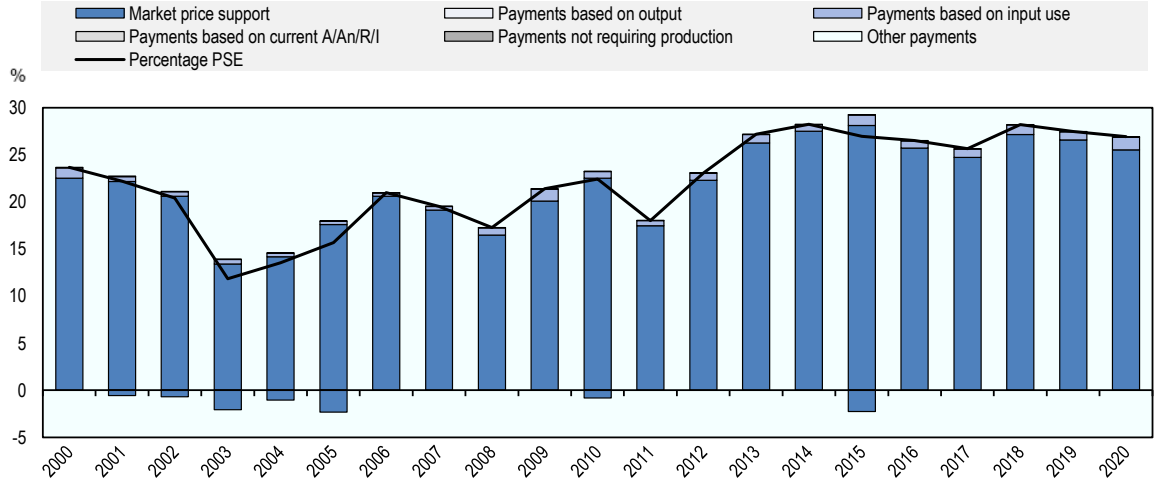
Table 22.2. Philippines: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1986	Closed economy with heavy state interventions in agricultural markets and trade	Agricultural import tariffs; Export taxes on agricultural products State monopoly control over rice and maize trade (NGA, now NFA) Food self-sufficiency (rice and other staples); Increasing support to those commodities Nationalisation of sugar production; Creation of the National Sugar Trading Corporation
1986-2000s	Gradual reforms towards trade liberalisation	Continued policy of food self-sufficiency (rice) Land reform started in 1988 (redistribution of land) National Sugar Trading Corporation reduced its functions and changed to the Sugar Regulatory Administration Investments in general services (irrigation, roads) Input subsidies declined due to the Asian financial crisis Removal of quantitative restrictions of all agricultural products except rice FTAs and WTO accession
2000-present	Minor policy change, some forms of state intervention in markets and trade maintained	Food self-sufficiency (rice) continues to be the main objective Quantitative quotas for rice imports High tariffs of some agricultural products, particularly rice and maize Subsidised credit was dismantled Input subsidies for rice Import quantitative restrictions for rice abolished and replaced by import tariffs (2019) Increased budgetary support to rice producers

Support to farmers as a share of gross farm receipts (percentage PSE) tended to slightly increase and then stabilise over the last 20 years. It is above the OECD average and one of the highest among the emerging economies included in this report. Market price support constitutes a major part of support to farms, while input subsidies and other budgetary payments play a secondary role (Figure 22.4).

Figure 22.4. Philippines: Level and PSE composition by support categories, 2000 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Various measures provide price support to Philippine producers. Price support policies mainly focus on rice and sugar, and comprise a combination of trade barriers (tariffs and TRQs) and domestic market regulations for rice. The NFA implements rice price support by buying buffer stocks at administered prices from domestic producers and selling these stocks at subsidised prices to consumers. For sugar, production quotas and trade barriers (tariffs and TRQs) provide producer price support and market regulation.

Tariff protection is the Philippines' main trade policy tool. Trade liberalisation primarily occurs within regional trade agreements, particularly the ASEAN Free Trade Area. The simple average applied Most Favoured Nation (MFN) tariff on agricultural products was 9.8% in 2016. Tariff lines applied are *ad valorem* and range from 0% to 65%.

Tariff rate quotas are applied to 14 agricultural products, with in-quota tariffs ranging from 30% to 50% and out-of-quota from 35% to 65%. Products covered include live swine, goats and poultry and meat thereof, potatoes, coffee, maize, rice, and sugar. For three others (poultry meat, potatoes and coffee), TRQs only apply to a specific range of tariff lines. Import licensing is required for all regulated products (including those under TRQs), intended to safeguard public health, national security and welfare.

To comply with WTO obligations, the Philippines replaced quantitative restrictions on rice imports with an **import tariff** system as of March 2019, under the Rice Tariffication and Liberalisation Law (RA 1120). In place of a quota on imports from ASEAN countries, a single tariff of 35% applies. For imports from non-ASEAN countries, a TRQ applies. Applied MFN in-quota and out-of-quota tariffs for rice are set at 40% and 180%, respectively. Additionally, grains, grain products and sugar require export permits.

The Rice Tariffication and Liberalisation Law (2019) introduced measures related to the changes in rice trade and related domestic market regulation. The food safety regulatory function, and hence responsibility for issuing permits, licenses, or registering trade and importation of rice was transferred from the NFA to the Bureau of Plant Industry (BPI). Nowadays, the NFA's main role consists of local paddy procurement from domestic producers and management of buffer-stocks, including sales to domestic markets.

To offset the effect of the liberalisation of rice imports on producers' incomes, in 2019 the government established the RCEF with an annual appropriation of PHP 10 billion (USD 202 million) over the following six years (see next section).

Budgetary support to agricultural producers, both through payments provided to farmers individually and to the agricultural sector as a whole (general services), is small compared to the level of price support. Budgetary support to producers focuses on subsidising the use of variable inputs, including seed and fertiliser subsidies.

Domestic policy developments in 2020-21

In 2020, the NFA intervened on the domestic market by increased buying of rice into buffer (intervention) at a price set at PHP 19 (USD 0.38) per kg of rice, and also by selling domestic rice from its buffers at an administered price (generally below the market price) in order to lower consumer prices. Overall, the general strategy of the NFA is buying more rice from farmers and increasing the turnover of the stocks (i.e. more buying in and more selling to consumers from the stocks). Hence, these stocks play more a role of an "intervention stock" rather than an "emergency buffer stock" with two functions: (i) supporting domestic producer prices through buying stocks at administered prices; and (ii) reducing consumer prices in the market by releasing from stocks at subsidised prices.

In order to offset the effect of the liberalisation of rice imports on producers' incomes, the government established in 2019 a *Rice Competitiveness Enhancement Fund* (RCEF) with an annual PHP 10 billion (USD 202 million) appropriation (financed from the receipts from rice import tariffs) through the following six years. In 2020, the expenditures were spent as follows: (i) PHP 5 billion for rice farm machinery and

equipment; (ii) PHP 3 billion for rice seed development, propagation and promotion; (iii) PHP 1 billion for credit to farmers; and (iv) another PHP 1 billion for extension.

Furthermore, an excess rice tariff collection (above the PHP 10 billion financing the RCEF), estimated at PHP 5 billion (USD 101 million) in 2020, was provided in the form of an unconditional cash transfer of PHP 5 000 (USD 101) per farm to benefit small rice farmers (less than 1 hectare planted for rice). Starting from 2020, small producers of corn, coconut and sugar cane received a similar support from the budget in the form of cash and food assistance[1] worth PHP 5 000 per farm.

The Department of Agriculture (DA) developed a new programme to assist farm and fishery co-operatives through a financial grant. The *Enhanced Kadiwa Financial Grant* programme aims to provide co-operatives with additional capital to purchase supplies and equipment, and help them sell their produce directly to consumers.

Domestic policy responses to the COVID-19 pandemic

In the period of quarantine, all farmers, farm workers, fisher folk and agribusiness personnel were exempted from quarantine measures, provided that they observed safety protocols.

The Philippine Department of Agriculture will be implementing a PHP 31 billion (USD 608 million) *Plant, Plant, Plant Programme* to enhance food security in response to concerns amidst the COVID-19 pandemic. It is an all-encompassing programme for crops, livestock, poultry and fisheries and is realised through the implementation of specific interventions including: 1) productivity enhancement projects; 2) income enhancement projects on food markets (logistics and processing); 3) social protection and amelioration projects; and 4) Cash for Work (C4W) projects for displaced workers and unemployed. The programme involves a PHP 8.5 billion (USD 171 million) 'Rice Resiliency Project' aimed at increasing the country's self-sufficiency level from 87% to 93%. Parallel to this programme, the Philippine government plans to import 300 000 tonnes of rice through a government-to-government purchase arrangement.

From April 2020, the Agricultural Credit and Policy Council started to implement the expanded SURE Aid and Recovery Project (SURE COVID-19) for small farmers and fishermen (SFF) and agriculture and fishery micro and small enterprises (MSE) whose livelihoods, agribusiness operations, and incomes were affected by the COVID-19 pandemic. Under this project, additional loans and loan guarantees were extended to SFF and MSEs. Total funding of these programmes represented PHP 2.5 billion (USD 50 million).

The Department of Agriculture (DA) continues to implement major interventions to ensure adequate, accessible, and affordable food to Filipino households, particularly in Metro Manila and other major centres, during the COVID-19 pandemic. The DA is easing its rules on food pass issuance to ensure seamless movement of food and agri-fishery products and inputs especially in Metro Manila and other metropolitan areas in Luzon.

To ensure a stable supply of affordable food for Metro Manila, the DA implemented a *Food Resiliency Action Plan*. The plan monitors on a weekly basis the demand and supply (including the source of supply) for basic food commodities in Metro Manila. A network of government stores ("KADIWA ni A ni at Kita") sells the basic food items to Metro Manila residents at regulated prices.

In order to avoid a sharp rise in retail food prices due to the COVID-19 pandemic, the government imposed a control of retail prices by implementing suggested retail prices (SRPs) on basic food items sold in public markets (pork, poultry, fish, sugar, onion, garlic). In November 2020, the DA extended the SRPs to other basic agriculture commodities (beef, selected vegetables). This followed the Luzon-wide price freeze imposed earlier in response to typhoons that generated significant damage across the country.

Trade policy developments in 2020-21

On 13 June 2019, the government issued Executive Order No. 82, reducing tariff rates for mechanically deboned or mechanically separated poultry from 40% to 5%, while those for frozen whole turkey were reduced from 40% to 20%. These rates were set to remain at the lower tariff until 31 December 2020. Executive Order No. 20, issued in 2017, prescribes the Most Favoured Nation (MFN) tariff schedule until 31 December 2020.

In September 2020, the DA has issued a temporary ban on the importation of domestic and wild pigs, pork products, and by-products from Germany. The ban was imposed as a reaction to the first case of African Swine Fever (ASF) affecting wild boar in Germany.

Trade policy responses to the COVID-19 pandemic

The Philippine Government agreed bilateral commitments with Viet Nam to ensure that the Philippines continues to be supplied with its rice requirement during the pandemic.

The Philippine Government imposed a temporary ban on Brazilian poultry products after the People's Republic of China reported finding traces of the COVID-19 in chicken products from Brazil. The ban was issued as a precautionary measure to ensure the safety and health of Filipino consumers. The DA, through the Bureau of Animal Industry (BAI), is awaiting a reply from the Brazilian Ministry of Agriculture, Livestock and Supply (MAPA), particularly on the requested documents related to COVID-19 prevention and control procedures among Brazilian factory workers in poultry processing facilities.

Contextual information

The Philippines is a mid-size country in terms of land area, but its population of 108 million makes it the world's 13th most populous country. At USD 9 277 in purchasing power parity (PPP), GDP per capita in the Philippines is less than half the average GDP per capita of all countries analysed in this report (Table 22.3). Agriculture is an important sector for the Philippines, accounting for almost a quarter of total employment and 9% of GDP (Table 22.3). Farms tend to be small-sized with the average land size at just 1.3 hectare (OECD, 2017[1]).

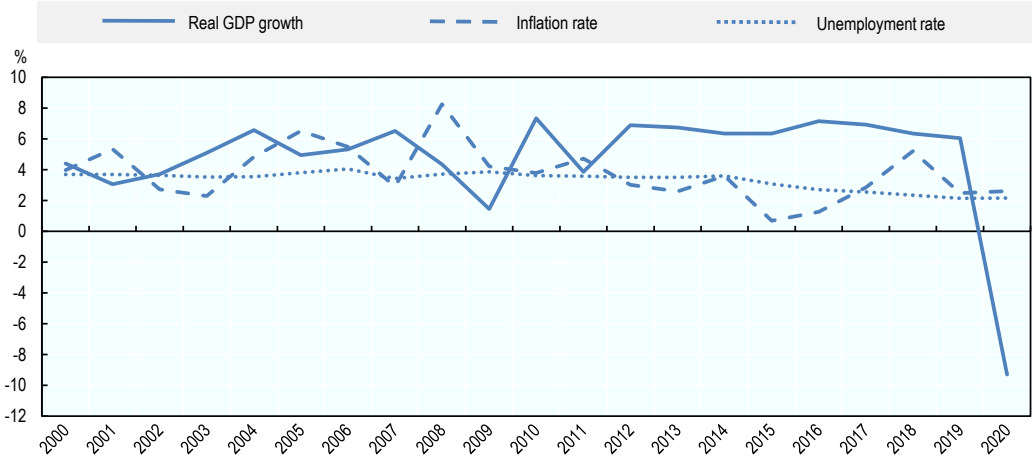
Since 2012, the Philippines has achieved relatively stable growth of around 6% annually, and enjoys comparatively low levels of unemployment at less than 4%. However, due to the COVID-19 pandemic, the GDP fell by around 10% in 2020. Inflation has been fluctuating and was 4% in 2019 and 2020 (Figure 22.5). Overall, the Philippine economy, including its agro-food sector, integrates well in international markets – as measured by the ratio of trade to GDP at 25% in 2019.

Table 22.3. Philippines: Contextual indicators

	Philippines		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	268	1 003	0.7%	0.9%
Population (million)	78	108	1.8%	2.1%
Land area (thousand km²)	298	298	0.4%	0.4%
Agricultural area (AA) (thousand ha)	11 234	12 440	0.4%	0.4%
			All countries[1]	
Population density (inhabitants/km²)	262	363	53	63
GDP per capita (USD in PPPs)	3 440	9 277	9 265	21 975
Trade as % of GDP	45	25	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	13.9	8.8	2.9	3.5
Agriculture share in employment (%)	37.1	23.4	-	-
Agro-food exports (% of total exports)	4.0	8.3	6.2	7.3
Agro-food imports (% of total imports)	7.3	12.0	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	63	53	-	-
Livestock in total agricultural production (%)	37	47	-	-
Share of arable land in AA (%)	45	45	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

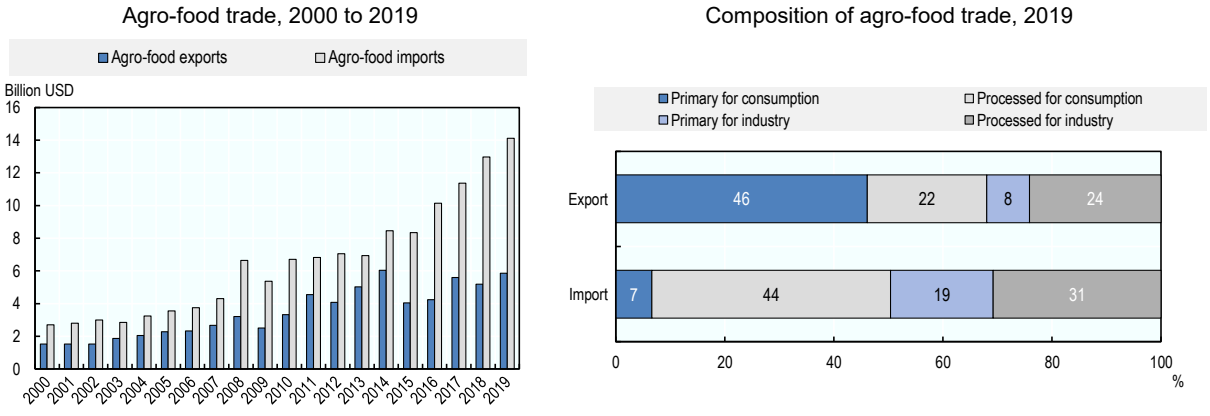
Figure 22.5. Philippines: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; ILO estimates and projections; and Economist Intelligence Unit.

With limited land and a large population, the Philippines is a growing net importer of agro-food products. Of these imports, three-quarters are processed goods that are used directly for (final) consumption or as intermediate inputs by the processing industry. In contrast, almost half of its exports are primary goods for consumption, and close to a quarter of the exports are processed products going to final consumers (Figure 22.6).

Figure 22.6. Philippines: Agro-food trade

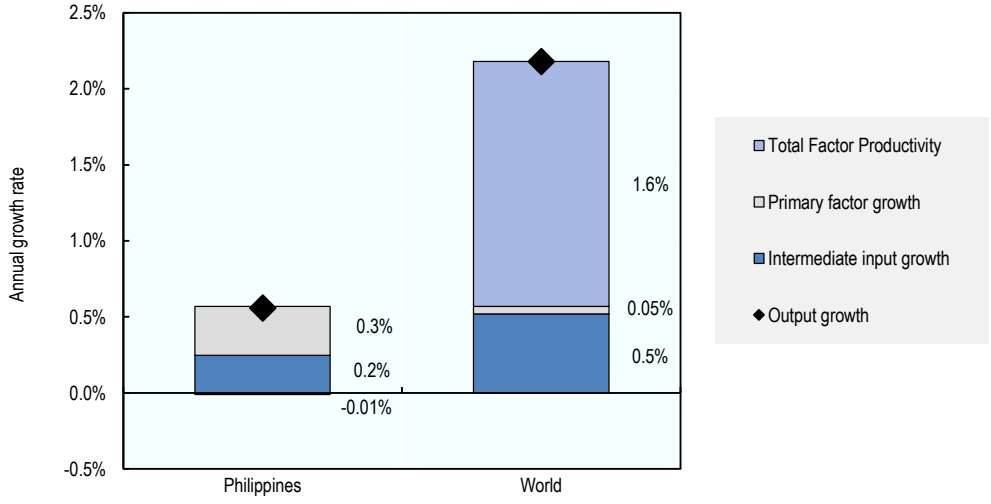


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Total Factor Productivity (TFP) in agriculture is estimated to have stalled over the past ten years, down from already low TFP growth during the 1990s. Agricultural output growth has remained relatively slow and has averaged 0.5% per year, well below the world average (Figure 22.7). It has been driven entirely by increased use of both primary factors and intermediary inputs.

Agricultural land resources are under strain from frequent natural disasters, population growth and urbanisation. The Philippines has abundant water resources, of which the agriculture sector is the main user – accounting for almost three-quarters of total freshwater withdrawals (Table 22.4). Nonetheless, shortages can occur during the dry season in some regions. The share of agriculture in total energy use has increased, but remains well below the OECD average. The Nitrogen balance has slightly increased, while that of Phosphorus has declined, but both remain about double the OECD average.

Figure 22.7. Philippines: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 22.4. Philippines: Productivity and environmental indicators

	Philippines		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	0.8%	-0.01%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	57.9	58.3	33.2	28.9
Phosphorus balance, kg/ha	7.4	6.8	3.4	2.6
Agriculture share of total energy use (%)	0.2	0.7	1.7	2.0
Agriculture share of GHG emissions (%)	29.2	..	8.4	9.5
Share of irrigated land in AA (%)	..	15.2	-	-
Share of agriculture in water abstractions (%)	82.4	73.3	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

Reference

OECD (2017), *Agricultural Policies in the Philippines*, OECD Food and Agricultural Reviews, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264269088-en. [1]

Note

[1] PHP 3 000 in cash and PHP 2 000 in kind (at PHP 1 000 for rice and PHP 1 000 for chicken and eggs). Beneficiaries can obtain rice, chicken, and eggs using an e-voucher system.

23 Russian Federation

Support to agriculture

Support to producers in the Russian Federation (hereafter "Russia") fluctuated significantly in the past, but stabilised somewhat since 2014 at levels between 9% and 13% of gross farm receipts. Average annual support to farms was around 9% in 2018-20.

Around 70% of support to farms is most-distorting, in the form of support based on output (including market price support) and unconstrained variable input use. On average domestic prices are 5% above world market prices. However, aggregate market price support disguises variations in support across commodities: it represents a mix of border protection for imported livestock products and sugar, and implicit and explicit taxation of exported grains and oilseeds. Livestock producers further benefit from domestic grain prices below world levels.

Expenditure financing general services to the sector (GSSE) remains within 3% to 4% of agricultural gross value-added, below the OECD average. Within support to general services, the agricultural knowledge system, development and maintenance of infrastructure, and the inspection and control system absorb the largest shares of public funding. Total support to agriculture (TSE) equalled 0.6% of GDP in 2018-20. This has decreased since the mid-1990s, largely reflecting GDP growth and the declining share of agricultural in the economy.

Recent policy changes

The State Programme for the Development of Agriculture is in its second phase of implementation from 2018 to 2025. The funding structure in 2019 and 2020 was approximately identical. The areas of state support did not change significantly, but some sub-programmes were transformed to finance regional projects. The emphasis on support to agricultural exports continues. The agricultural export component focuses on developing export infrastructure, facilitation of access to foreign markets through phytosanitary improvements, and product promotion and positioning abroad.

The government launched additional measures in May 2020. These included an increase in support for the purchase of agricultural machinery, goods and processing equipment, and an increase in the authorised capital of Rosagroleasing in order to increase the supply of equipment to the farming sector. The railroad subsidies expanded to soybean meals and vegetables. Initially, only grain transportation was subsidised. A new subsidy to support oilseeds production was introduced in 2020 in the form of area payments to soybeans and rapeseed.

Support to producers intended to stimulate production was reformed in 2020. Two new subsidy programmes, "compensatory" and "stimulative" subsidies, replaced the unified subsidy, milk output payments and area payments. The compensatory subsidy includes crop area payments, milk subsidies, support to pedigree livestock, elite seed subsidy, support to locally traditional subsectors, and an agricultural insurance subsidy. The stimulative subsidy includes support to priority subsectors chosen by

regional governments from a state-defined list. It can also provide support to the development of small farming and support to the ten least-developed regions of the country.

On 21 January 2020, the President of the Russian Federation approved the new Food Security Doctrine, which is aimed to systematically address challenges and threats to food security. According to this document, the minimum threshold share of domestic production in domestic consumption ranges from 60% for fruits and berries to 95% for grains.

In response to the COVID-19 crisis, the payment of principal debt due in 2020 was deferred for up to 1 year. Payment of accrued interest for short-term loans, and interest and principal for investment loans was also deferred.

At the end of 2020, to address the decreased real incomes of the population, the government set marginal prices for so-called socially significant food products. To achieve this, the Ministry of Agriculture and the Ministry of Industry and Trade concluded price agreements with food producers and retail chains, valid until the end of March 2021.

On 21 November 2020, the government extended until the end of 2021 the ban on importing agricultural products from countries that apply economic sanctions against Russia. Tariff quotas for wheat, rye, barley and corn exports were established for 2021. For grain exports above the quota, a duty of 50% of the customs value of the exported products (but at least EUR 100 per tonne) applies. Furthermore, from 15 February to 30 June 2021, an export duty of 30% (but no less than EUR 165 per tonne) applies to soybeans, rapeseed and sunflower seed. The export duty on oilseeds will be extended for the second half of 2021, and floating export duty on sunflower oil is planned starting 1 September.

In order to ensure the import of agricultural goods in view of the global pandemic, Rosselkhoznadzor simplified procedures for agricultural imports. In order to minimise the negative economic consequences of COVID-19, to prevent shortages of socially significant goods in Eurasian Economic Union (EAEU) countries, on 31 March 2020, the Eurasian Economic Council (EEC) established restrictions (valid until 30 June 2020) on the export of certain types of agro-food products from EAEU member states. The EEC also approved a list of critical imports to exempt from duties into EAEU countries. The exemption was in effect from 1 April to 30 June 2020.

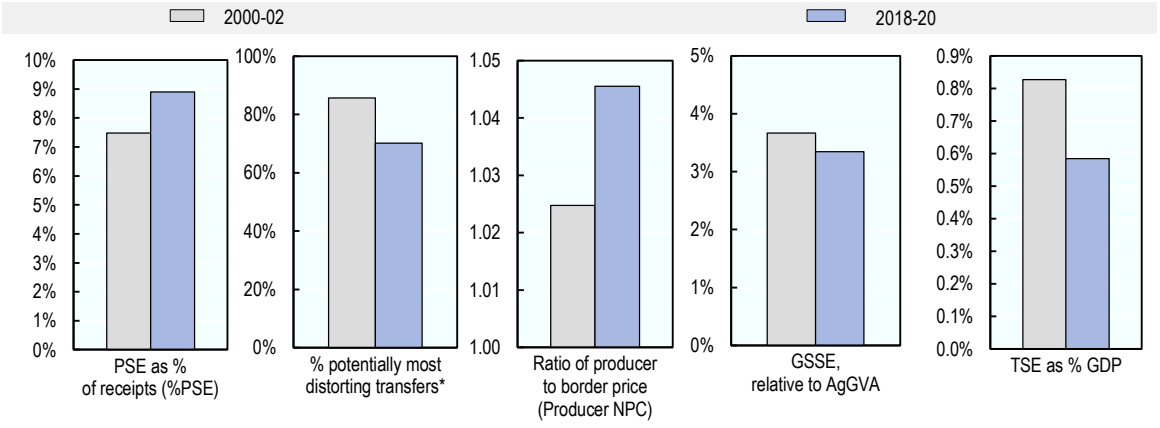
Assessment and recommendations

- The State Programme for Development of Agriculture aims to boost agricultural production and agro-food import substitution. Most recently, the policy orientation expanded to include development of agricultural export potential and tapping markets in large agro-food importers. However, the state programme does not provide a stable policy framework for decision-making by farmers, due to frequent ad hoc changes in the implementation of various policy measures.
- Although there was some shift towards area and per head payments, most-distorting payments and import protection continue to dominate support provided to achieve the stated objectives of import substitution and export development.
- A substantial and sustained improvement in the competitiveness of agriculture would more likely be achieved through a focus on investment in the sector's long-term growth, such as infrastructure, technological innovation, and robust plant and livestock health systems.
- Research and development (R&D) and knowledge transfer are another critical area to improve competitiveness and support long-term growth. This is key to the most recent export development objective, which requires knowledge and skills to seize new demand signals and external market opportunities. Apart from developing new methods and technologies, fostering their uptake by agricultural producers and agribusiness is also important. This challenge goes beyond agricultural

policy and requires improvements in the general environment for investment and doing business, which includes a stable agricultural policy framework.

- Human capital is another key to long-term growth. Consecutive programmes have directed resources to rural development. A substantial increase of such spending is foreseen within the new State Programme on Integrated Development of Rural Territories. This is a positive development, but much work remains to improve living conditions in rural areas and secure skills and knowledge for the rural economy.
- The agricultural sector could be a main beneficiary of the State Programme for the Preservation of the Environment through its effects on improved waste management, reduced water and air pollution, forest rehabilitation, and support for the best available technologies. The agricultural sector should use these opportunities to seize potentially considerable demand for environmentally friendly products, both domestically and abroad.
- The success of R&D, rural development and environmental programmes will depend, among other things, on the consistency of actual funding with declared financial targets. As these programmes significantly rely on sources other than the state budget, it is important to ensure that the planned activities and administration costs of these programmes are sufficiently attractive for commercial investors.

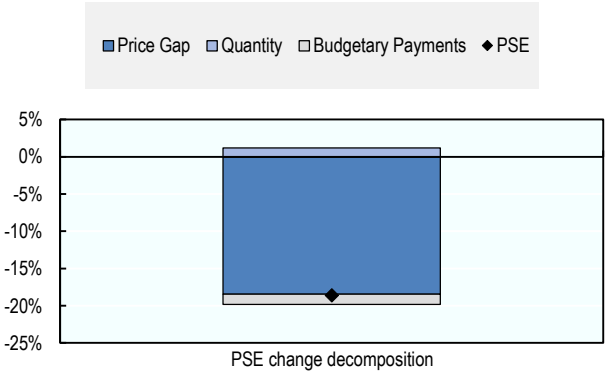
Figure 23.1. Russia: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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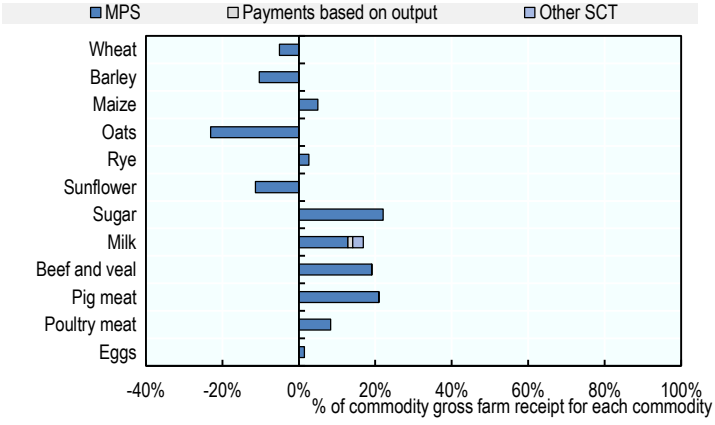
Figure 23.2. Russia: Drivers of the change in PSE, 2019 to 2020



Note: The producer price change and the border price change are not calculated when the negative price gap occurs at the commodity level for the current or previous year.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Figure 23.3. Russia: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/klzpqe

Table 23.1. Russia: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**25 436**	**77 750**	**73 707**	**80 162**	**79 380**
of which: *share of MPS commodities (%)*	81.7	77.7	78.2	77.3	77.7
Total value of consumption (at farm gate)	**30 143**	**75 832**	**74 473**	**78 393**	**74 628**
Producer Support Estimate (PSE)	**1 968**	**7 341**	**8 892**	**7 599**	**5 531**
Support based on commodity output	967	3 737	5 224	3 801	2 188
Market Price Support[1]	770	3 583	5 052	3 627	2 071
Positive Market Price Support	2 017	5 150	6 816	4 300	4 332
Negative Market Price Support	-1 247	-1 566	-1 764	-674	-2 260
Payments based on output	198	154	172	174	116
Payments based on input use	719	2 258	2 343	2 471	1 959
Based on variable input use	359	479	565	476	395
with input constraints	0	0	0	0	0
Based on fixed capital formation	318	1 709	1 700	1 905	1 523
with input constraints	0	0	0	0	0
Based on on-farm services	42	70	78	89	42
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	515	732	752	60
Based on Receipts / Income	0	40	39	67	14
Based on Area planted / Animal numbers	0	475	693	685	46
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	282	831	592	576	1 324
Percentage PSE (%)	**7.5**	**8.9**	**11.5**	**9.0**	**6.7**
Producer NPC (coeff.)	**1.02**	**1.05**	**1.07**	**1.05**	**1.02**
Producer NAC (coeff.)	**1.08**	**1.10**	**1.13**	**1.10**	**1.07**
General Services Support Estimate (GSSE)	**684**	**1 781**	**1 891**	**1 912**	**1 540**
Agricultural knowledge and innovation system	175	635	709	632	564
Inspection and control	203	482	475	521	450
Development and maintenance of infrastructure	230	440	429	491	400
Marketing and promotion	2	70	54	90	64
Cost of public stockholding	1	67	130	72	0
Miscellaneous	73	87	94	106	62
Percentage GSSE (% of TSE)	**25.3**	**19.2**	**17.2**	**19.7**	**21.2**
Consumer Support Estimate (CSE)	**-1 471**	**-4 591**	**-6 654**	**-4 084**	**-3 035**
Transfers to producers from consumers	-477	-3 657	-5 136	-3 544	-2 290
Other transfers from consumers	-661	-949	-1 283	-855	-708
Transfers to consumers from taxpayers	25	208	231	218	175
Excess feed cost	-359	-193	-466	98	-212
Percentage CSE (%)	**-5.1**	**-6.0**	**-9.0**	**-5.2**	**-4.1**
Consumer NPC (coeff.)	**1.04**	**1.06**	**1.09**	**1.06**	**1.04**
Consumer NAC (coeff.)	**1.05**	**1.06**	**1.10**	**1.06**	**1.04**
Total Support Estimate (TSE)	**2 677**	**9 330**	**11 015**	**9 729**	**7 246**
Transfers from consumers	1 138	4 606	6 420	4 400	2 998
Transfers from taxpayers	2 201	5 673	5 878	6 184	4 956
Budget revenues	-661	-949	-1 283	-855	-708
Percentage TSE (% of GDP)	**0.8**	**0.6**	**0.7**	**0.6**	**0.5**
Total Budgetary Support Estimate (TBSE)	**1 908**	**5 746**	**5 962**	**6 102**	**5 174**
Percentage TBSE (% of GDP)	**0.6**	**0.4**	**0.4**	**0.4**	**0.4**
GDP deflator (2000-02=100)	**100**	**627**	**619**	**643**	**619**
Exchange rate (national currency per USD)	**29.56**	**66.61**	**62.81**	**64.71**	**72.32**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Russia are: wheat, maize, rye, barley, oats, sunflower, sugar, potatoes, milk, beef and veal, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Prior to the 1990s, during the Soviet era, a centrally planned system regulated all sectors of the economy, including agriculture. State enterprises controlled the supply chains of the agricultural sector, food processing and distribution from the farm to the table. Prices at almost all levels were administered by the state. In addition to financial support from the budget, administered exchanged rates generated significant transfers through inflated domestic producer prices compared to relatively low world prices expressed in national currency. No private land ownership existed, and large-scale state farms (*sovkhoses*) or collective farms (*kolkhozes*) operated all agricultural activities (OECD, 1998[1]).

The move from a planned to a market economy reduced budgetary support to both producers and consumers, dismantled domestic market regulation and liberalised prices (both for farm products and inputs). Increasingly, investment support to farms was provided in the form of soft loans (OECD, 1998[1]).

Since the mid-2000s, border measures dominate agricultural support policies. The meat and sugar sectors in particular continue to benefit from high protection. In contrast, the export-oriented grain sector (grains and oilseeds) continues to have negative support resulting from various export barriers, in particular export taxes. The implementation of some domestic support policies, such as concessional credit and leasing, strongly relies on state-supported companies.

From 2013, the policy goals shifted to increased self-sufficiency and import substitution. While taxation of exports of competitive crop products (grain, oilseeds) continued, policies were implemented to increase the export potential of livestock products.

Table 23.2. Russia: Agricultural policy trends

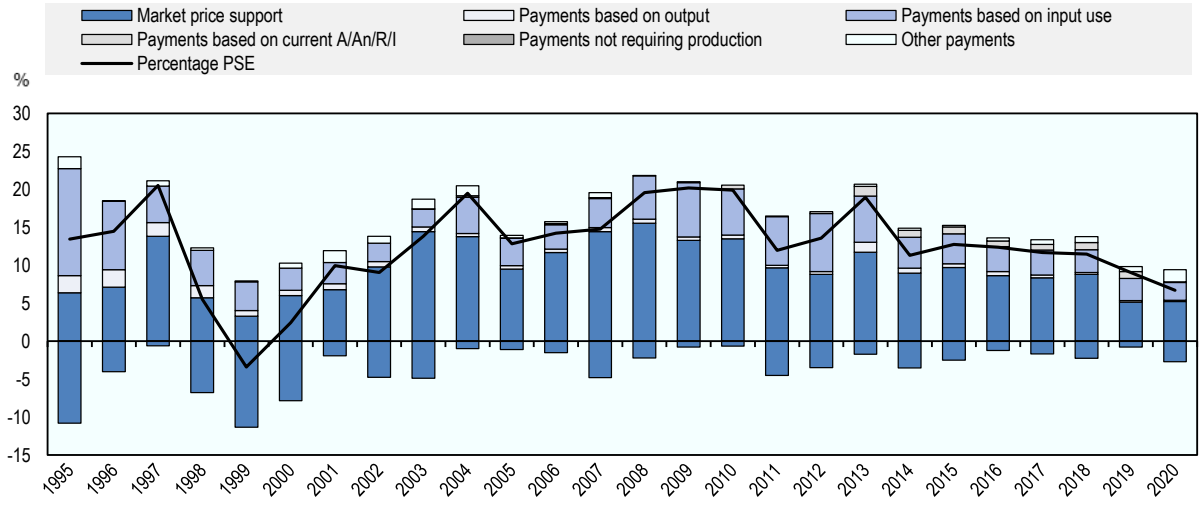
Period	Broader framework	Changes in agricultural policies
Prior to 1992	Planned economy	State owned enterprises plan and market agricultural production Administered prices both at farm and consumer level Budgetary allocation subsidises both farms and consumers State trading with agricultural inputs and agro-food products
1992- 2007	Transition period: gradual reform towards market economy	State marketing enterprises dismantled or functions reduced Reduction of budgetary subsidies Soft loans to farms by state or parastatal lenders emerge Reduction of agricultural tariffs of both outputs and inputs National Priority Project on Agriculture Development (2006-2007)
2008 - 2012	Agricultural sector recovery	First mid-term State Programme (2008-2012) Increase of state support to the sector Concessional short-term and long-term credits to agriculture Tariff and non-tariff barriers Special attention to small forms in agriculture and development of cooperatives WTO accession (2012)
2013-present	Increasing role for the state	Second State Programme (2013-2025) Prioritisation of import substitution (since 2013) Orientation towards export support (since 2017) Export taxes for grains and oilseeds

Since 2000, the country has kept overall positive total support to the sector. Support to farmers as a share of gross farm receipts stabilised around 10% since 2014 and declined in 2018-20. The overall positive producer support (PSE) is due to budgetary support and market price support for livestock products and sugar, partly offset by negative price support to exported commodities such as grains and oilseeds.

Budgetary transfers to producers are dominated by subsidies to variable inputs use and investments (Figure 23.4).

Figure 23.4. Russia: Level and PSE composition by support categories, 1995 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Since its launch in 2013, the current State Programme for Development of Agriculture (hereafter, State Programme for Agriculture) underwent amendments in response to changing economic conditions. Its sub-programmes were reconfigured in 2015 and 2017 to meet new goals of export support and import substitution. The programme's initial budget targets were also adjusted in terms of overall spending and shifts of funds within and between components. In 2019 and 2020, the State Programme underwent further changes in structure, spending levels, administration and implementation period, some of which were introduced in response to the COVID-19 pandemic. An important trend in agricultural development in Russia is **digitalisation**, included in the State Programme as a sub-programme for 2019-20.

Russia applies a range of price policy instruments. The main one is **border protection**, including Tariff Rate Quotas (TRQ) and non-tariff measures. Since accession to the WTO in July 2012, Russia applies Most Favoured Nation (MFN) agricultural tariffs, which were reduced to 11.2% on average by 2020 and align with average final bound agricultural tariffs. In 2019, the average applied agricultural tariff was nearly twice the average non-agricultural tariff (11% versus 6%). Animal and dairy products, beverages and tobacco, sugar and confectionary face the highest average import duties within the agricultural group (WTO/ITC/UNCTAD, 2020[2]). Border measures are in large part implemented within the framework of the Customs Union of the EAEU.

Domestic price regulation such as grain interventions also apply. The government can purchase or sell grain if market prices move above or below the established price band. Prices at which market interventions are carried out, however, do not play the role of price guarantees. Restrictions on imports or exports can be imposed.

Payments based on output for marketed livestock products come from regional budgets. There is also a national payment for milk co-financed by federal and regional governments.

Concessional credit (for short and long-term investments) is the primary support instrument, taking the form of loans from commercial banks at reduced interest rates (compared to commercial rates) fixed by the government, with financial compensation by the state to lending banks. For credit taken before 2017, concessions are also granted in the form of interest subsidies to borrowers. In addition, there is a range of subsidies for variable inputs. Support comes through **leasing** machinery, equipment and pedigree livestock **at preferential terms**.

Area payments for crop production began in 2013, replacing several previous nationwide input subsidies for sowing and harvesting campaigns.

Agricultural producers benefit from a number of **tax preferences** and concessions on repayment of historical arrears on federal taxes and social contributions.

Most support measures described above are implemented within the multi-year State Programme for Agriculture – the country's main agricultural policy framework. It is based on support measures co-financed by federal and regional governments, with co-financing rates varying across regions and individual measures. In addition to support included in the State Programme, regions implement and finance their own, strictly **regional support measures**.

Some recently introduced State Programmes in other economic and social areas, such as **rural development** and **environment**, contribute to shaping conditions for long-term sustainable development of agriculture.

On 6 October 2019, Russia ratified the Paris Agreement on Climate Change, which it had signed in April 2016. In 2014, the government had approved an action plan to reduce greenhouse gas (GHG) emissions. It focuses on developing a regulatory and operational framework, such as the systems for registration, evaluation and projection of emissions, as well as state regulation of emissions. As part of this plan, a draft law on the regulation of GHGs was prepared in 2018 and is currently under regulatory impact assessment.

Other main national policy documents related to climate change are the Climate Doctrine of the Russian Federation, and the Comprehensive Plan for the Implementation of the Climate Doctrine of the Russian Federation for the Period until 2020. The Climate Doctrine sets out a conceptual framework for national activities on climate change, while the Comprehensive Plan formulates unified state policy in that area. The latter spells out key actions assigned to ministries and public agencies.

In accordance with the Climate Doctrine and the Comprehensive Plan, the Ministry of Agriculture promotes climate adaptation practices such as adaptive landscape farming systems; sustainable water, air, and nutritional regimes; the introduction of new agricultural crop varieties; and the optimisation of crop conditions based on long-term forecasts. Another policy document, the State Programme for the Development of Agriculture, is the main sectoral policy framework and aims to create favourable conditions for the efficient use of land among other things. It also foresees investments in land reclamation and support for innovations for resource saving and energy efficiency. Beyond the long-term activities included in the framework policy documents mentioned above, policy measures were taken in the context of recurrent climatic disasters of past years. This includes establishment of formal procedures for state support in respect of catastrophic weather events, such as budgeting financial assistance through different administrative levels and assessment of damage and restoration costs.

Domestic policy developments in 2020-21

In 2019, the 15th edition of the State Programme for the Development of Agriculture came into force. The State Programme was officially extended until 2025, and its validity period was excluded from its official

name. Thus, programme has lost the properties of the medium-term planning tool, which was supposed to ensure the stability of the goals, directions, structure and financing for the entire period of its operation, having acquired, in fact, an indefinite nature (the implementation period can be extended indefinitely, while the changes are made unpredictably, up to several times a year). The State Programme is divided into two sub-programmes: i) development of the sub-sectors of the agro-industrial complex (RUB 221 billion or USD 3.1 billion); and ii) ensuring the conditions for the development of the agro-industrial complex (RUB 62.3 billion or USD 0.8billion).

Funding for the State Programme for the Development of Agriculture from the federal budget over the past three years peaked in 2019 and slightly reduced in 2020 (2018 – RUB 254.1 billion; 2019 – RUB 303.6 billion; 2020 – RUB 283.6 billion). The 2020 reduction was more substantial when expressed in USD equivalent due to the weakening of the national currency (2018 – USD 4 billion; 2019 – USD 4.7 billion; 2020 – USD 3.9 billion) (FL, 2019[3]). Those federal expenditures are supplemented by co-financing from the regional budgets, which amount to a one-tenth of the total agricultural subsidies in the State Programme in 2020. In addition, regions provided support to strictly regional programmes.

The largest support measure in terms of volume of financing is the **short-term and investment concessional credit** – RUB 90.8 billion (USD 1.2 billion) (32.1% of all subsidies). In 2020, it was provided in the form of compensating for the lost income of Russian credit organisations, international financial organisations and the state development corporation "VEB.RF" for the loans issued to agricultural producers at publicly-fixed, below-market interest rates.

The funding structure in 2019 and 2020 was approximately identical. The areas of state support have not changed significantly, but part of the sub-programmes has been transformed into financing of regional projects. The emphasis on support to agricultural exports continues. In 2020 the volume of financing for this area was slightly decreased from RUB 37.1 billion (USD 0.5 billion) in 2019 to RUB 33.8 billion (USD 0.45 billion) in 2020 (MOA, 2020[4]).

A set of additional measures was launched by the government in May 2020 (GRF, 2020[5]). Those measures included an increase in the volume of support for the purchase of agricultural machinery, goods, and processing equipment to RUB 18.5 billion (USD 0.3 billion) and to increase the authorised capital of *Rosagroleasing* by RUB 6 billion (USD 0.1 billion).

The **railroad tariff subsidies** have been expanded. Initially, only grain transportation was subsidised. Now the subsidy is expanded to cover soybean meal transportation from the Far East to Siberia and Ural, while vegetables will receive a subsidy for transportation from Ural and Siberia to the Far East, and mineral fertilisers from any region to the Far East.

The mechanism of support to producers to stimulate increasing output was changed in 2020. Two new subsidy programmes, the "compensatory" and "stimulative" subsidies, replaced the unified subsidy, milk output payments and area payments. The *compensatory* subsidy includes crop area payments, milk subsidies, support to pedigree livestock, elite seed subsidy, support to traditional subsectors (northern reindeers, maral and horse breeding, sheep wool), and agricultural insurance subsidy. The *stimulative* subsidy includes support to priority subsectors to be chosen by the regional governments from a state-defined list, which includes grains and leguminous, oilseeds, flax and hemp, vegetables on open soil, fruits and berries (including seedlings, setting up and maintenance of perennials), grapes, milk, specialised cattle, sheep meat. It can also provide support to development of small farming, and support to the ten least developed regions of the country. The cumulative amount of financing of the programmes (federal plus regional level) remained unchanged.

Support in the form of **investment grants** was provided at the regional level (with federal co-financing) in 2020. In 2020, the grants were provided to 102 projects focusing on milk and sheep meat production, storage facilities, and plant selection and seed breeding centres (GRF, 2020[6]). The concessional credit

remains the prevailing form of support to investment in the agro-food sector, as it is deemed more efficient in terms of attracting the investments per one rouble of budget funds.

The project "Export of Products of the Agro-industrial Complex", in force since 2017, reflects the shift of the policy goals from the import substitution to export expansion, but envisions no major changes in the budget spending structure. In some cases, the existing support measures were moved from other parts of the State Programme to the "Exports" project, i.e. capitalisation of the state-owned *Rosselkhozbank* and *Rosagroleasing*, subsidised credit, soil improvement. Export infrastructure gets additional financing. Financing of general services to exporters, such as simplification of border procedures, veterinary and phytosanitary services, information support, and support to promotion and market access are also part of the export support project. However, less than 10% of budget transfers to the export support project are allocated to those services.

A new subsidy to support oilseeds production was introduced in 2020 in the form of area payments to soybean and rapeseed. It is a component of the export support project as it is aimed at increasing the volume of oilseed exports.

Overall, the budget to finance rural development was doubled from RUB 17.4 billion (USD 0.24 billion) in 2019 (financed from the State Programme for Agriculture) to RUB 35.9 billion (USD 0.5 billion) in 2020, but that was much below the RUB 79.2 billion (USD 1 billion) planned in the initial budget of the new Integrated Development of Rural Territories.

As one of the measures aimed at increasing the volume of exports, the Russian Government also expanded the eligibility for concessional loans to agricultural organisations who have concluded agreements with the Ministry of Agriculture to increase competitiveness.

The State Programme on "Integrated Development of Rural Territories" contains four main areas of support: (1) creating conditions for affordable and comfortable housing for the rural population; (2) development of the labour market (personnel potential) in rural areas; (3) analytical, regulatory, methodological support for the integrated development of rural areas; (4) creation and development of infrastructure in rural areas. The latter includes the construction of roads, creation of social infrastructure facilities, improvement of the territory, the development of gas, energy and water supplies, and requires more than half of annual funding of the programme.

The project **digitalisation** of agriculture aims at supporting the sector's development through the introduction of digital technologies and platform solutions, including the creation, in 2020, of an information system for collection and analysis of industry data "Single Window" for obtaining operational information about the current state of the agro-industrial complex on the basis of a single digital platform.

In January 2020, the law on "**Organic Products** and on Amending Certain Legislative Acts of the Russian Federation" entered into force. Although the law provides, among other things, requirements for the production of organic products, the introduction of labelling of organic products, the procedure for certifying the conformity of production of organic products has yet to be resolved. Until recently, Russian manufacturers received a certificate from the International Federation of Organic Agriculture Movements Certification (IFOAM). The creation of a Russian system of certification of organic products is ongoing, with 64 producers currently certified. Organic production is dominated by cereals and bread products (23%) and fruits, vegetables and drinks (22%). Dairy products make up 13%, and meat and meat products 11%.

A December 2019 decree expanded the list of food products benefiting from the reduced VAT rate of 10%, compared to the normal VAT rate of 18% (increased to 20% in 2020).[1]

The **Law on Viticulture** and Winemaking took effect on 26 June 2020. The law creates conditions for the development of the industry, ensuring the production of high-quality domestic products from grapes and protecting the population from counterfeit products The Bill determines that the geographical indication (GI) "wine of Russia" should be produced exclusively from the grapes grown in the country.

On 21 January 2020, the President of the Russian Federation approved the new **Food Security Doctrine**. According to this document, the thresholds, defined as the minimum share of domestic production in domestic consumption range from 60% for fruits and berries to 95% for grains. For some products the current production is well above these thresholds: grains 155% (threshold 95%), sugar 125% (threshold 90%) and meat 97% (threshold 85%). For some products the current production is well above these thresholds: grains 155% (threshold 95%), sugar 125% (threshold 90%) and meat 97% (threshold 85%).

Domestic policy responses to the COVID-19 pandemic

In 2020, the target production and export levels in the State programme were adjusted in view of the effects of the COVID-19 pandemic. The goal to reach a total export value of USD 45 billion is postponed from 2024 to 2030, and the objective for the production growth between 2017 and 2024 is reduced from 15.1% to 13.9% (the actual growth until 2020 was 2.8% instead of the envisaged 3.8%).

In response to the COVID-19 crisis, the payment of the principal debt due in 2020 has been deferred (for up to one year) (GRF, 2020[7]). The payment on accrued interest for short-term loans and interest and principal for investment loans was also deferred (GRF, 2020[8]).

At the end of 2020, to address the decreased real incomes of the population, the government set marginal prices for so-called socially significant food products. To achieve this, the Ministry of Agriculture, together with the Ministry of Industry and Trade, concluded the agreements on prices with food producers and retail chains. Such agreements were aimed to reduce retail prices for certain types of the most demanded goods, in particular, sugar and sunflower oil. The agreements are valid until the end of March 2021. The Federal Tax Service monitors the implementation of the agreements based on online cash registers in addition to the regular price monitoring conducted by the *Rosstat*.

In order to compensate bread and flour producers for their losses incurred by the regulated prices, an additional RUB 4.7 billion (USD 70 million) was allocated for 2021 to partially compensate the cost of food wheat and of the marketing costs.

Trade policy developments in 2020-21

On 21 November 2020, the government issued decree No. 2054 extending the **ban on the import of agricultural products** from the countries that applied economic sanctions against Russia until the end of 2021. The government has also introduced a **quota for exports** of wheat and meslin, rye, barley and maize, with a total amount of 7 million tonnes, to non-EAEU member states. The quota was valid from 1 April to 30 June 2020. Given that Russia accounts for more than 80% of production and about 79% of grain consumption in the EAEU, the quota has significantly affected the markets of Russia and the states of the Eurasian Economic Union. On 26 April 2020, the quota was fully exhausted.

Russia has reintroduced export quotas from15 February to 30 June 2021. Tariff quotas for the export of wheat, rye, barley and corn with a cumulated amount of 17.5 million tonnes were established.[2] For grain exports above the quota, a duty of 50% of the customs value of the exported products (but at least EUR 100 per tonne) applies. Furthermore, from 15 February to 30 June 2021, an export duty of 30% (but no less than EUR 165 per tonne) applies to soybeans. In 2020, soybean export was not subject to a duty. The export duty on rapeseed is extended until 31 August 2022, on sunflower seeds from 1 July 2021 to 31 August 2022, the duty rate will be 50%, but not less than USD 320 per 1 000 kg. From 1 September 2021 to 31 August 2022, a 70% floating export duty on sunflower oil will be introduced. The fee will be charged on the difference between the base price (USD 1 000 per tonne) and the indicative price (the arithmetic average of market prices for the month), reduced by the value of the correction factor (USD 50 per tonne).

The zero rate of the **import duties** for agricultural products imported from Moldova (vegetables, pears, apples, a quince, apricots, cherry, sweet cherry, peaches and plums and for tinned vegetables and natural grape wines, including fortified wines), which was in force in 2019, was extended to 30 June 2020.

The Federal Service for Veterinary and Phytosanitary Supervision *(Rosselkhoznadzor*) applies a number of **imports bans** due to veterinary and phytosanitary reasons. Thus, from November 2020, imports of live birds, poultry and eggs from the Netherlands were prohibited due to an avian flu outbreak. From December 2020, for phytosanitary reasons Russia prohibited imports of tomatoes and apples from Azerbaijan, tomatoes from Armenia and all vegetables from some areas in Turkey. These bans were partially lifted by the end of 2020. In February 2021, Russia lifted restrictions on the import of live fish from the People's Republic of China (hereafter "China"), allowing exports of beef from two Russian producers, and of dry milk from ten Russian producers. Negotiations on permitting further exports to China are ongoing.

To expand markets and remove trade barriers, the *Rosselkhoznadzor* has concluded several **certification agreements** to facilitate the exports of livestock products. In 2020, 38 types of livestock products were permitted for export to 24 countries. Veterinary certificates for a range of livestock products were granted for exports to Viet Nam, Algeria, Lebanon, and Iran. On 7 June 2020, the Board of the Eurasian Economic Commission (EEC) simplified the procedure for exporting Russian livestock goods. Three chapters of the Common Veterinary Requirements and relevant forms of veterinary certificates were amended (approved by Decision No. 607 of the Customs Union Commission dated 7 April 2011). In addition, in 2020 an electronic veterinary certification system, ECert, was introduced, with a unified database for all exported products (*Rosselkhoznadzor*).

Russia continues its co-operation with the EEC. On 28 February 2020, the EEC adopted recommendations for the harmonisation of food safety indicators: a tool that allows setting **food safety** requirements taking into account WTO principles and the *Codex Alimentarius* standards. This list of recommendations aims to facilitate the development of harmonised standards for EAEU food safety indicators, and the revision of existing ones.

Trade policy responses to the COVID-19 pandemic

In order to ensure the transportation of agricultural goods in view of the global pandemic, *Rosselkhoznadzor* has simplified the procedures for agricultural imports by allowing the use of copies of veterinary and phytosanitary documents instead of their originals.

In order to minimise the negative economic consequences of the spread of COVID-19, to prevent shortages of socially significant goods in the EAEU countries, on 31 March 2020, the EEC established restrictions (valid until 30 June 2020) on the export of certain types of agro-food products from the EAEU member states. The products concerned by these restrictions include onion, garlic, turnip, rye, rice, buckwheat, millet, cereals, wholemeal flour and cereal granules, hulled buckwheat, soybeans, sunflower seeds, and ready-made food products from buckwheat.

On 3 April, the Council of the EEC approved a list of critical imports to be exempted from import duties when imported into the EAEU countries. The exemption was in effect from 1 April to 30 June 2020. The list was based on the proposals of the EAEU countries and includes agricultural and food products (potatoes, onions, garlic, cabbage, carrots, peppers, rye, long-grain rice, buckwheat, juices and ready-made products for baby food), medicines and medical supplies. The EEC Council also decided to temporarily simplify the use of Form A certificates of origin issued by the developing and least developed countries. This allowed the use of paper or electronic copies of the certificates at customs until 30 September 2020 (EEC, 2020[9]).

Contextual information

Russia has the largest land area in the world and is abundantly endowed with agricultural land. Natural, economic, and social conditions are highly diverse across the territory. The country is the world's sixth largest economy in purchasing power parity (PPP) terms. Agriculture contributes 3.4% of GDP and 6% of employment, both shares significantly declined since the mid-1990s. In 2020, the country ranked as the second world's largest producer of barley, rye, sunflower seeds and sunflower oil and fourth largest producer of wheat; it is also among world's top ten producers of dairy products, pig meat, and poultry.

The farm structure is dualistic, where commercial operations of different sizes co-exist with household units. Commercial units generate nearly 70% of agricultural output and produce virtually all grain, oilseeds, and sugar beet, 84% of animals for slaughter, and 64% of milk. Households engage in agriculture mainly for own consumption and generate less than one-third of total output value. They grow two-thirds of potatoes and 52% of vegetables produced in the country. The rural population is 37.2 million (1 January 2020), or 25% of the total. Households allocated on average 30% of their final consumption expenditures to food and non-alcoholic beverages (2019), this share ranging from 47% for the poorest to 16% for the richest 10% of the population.

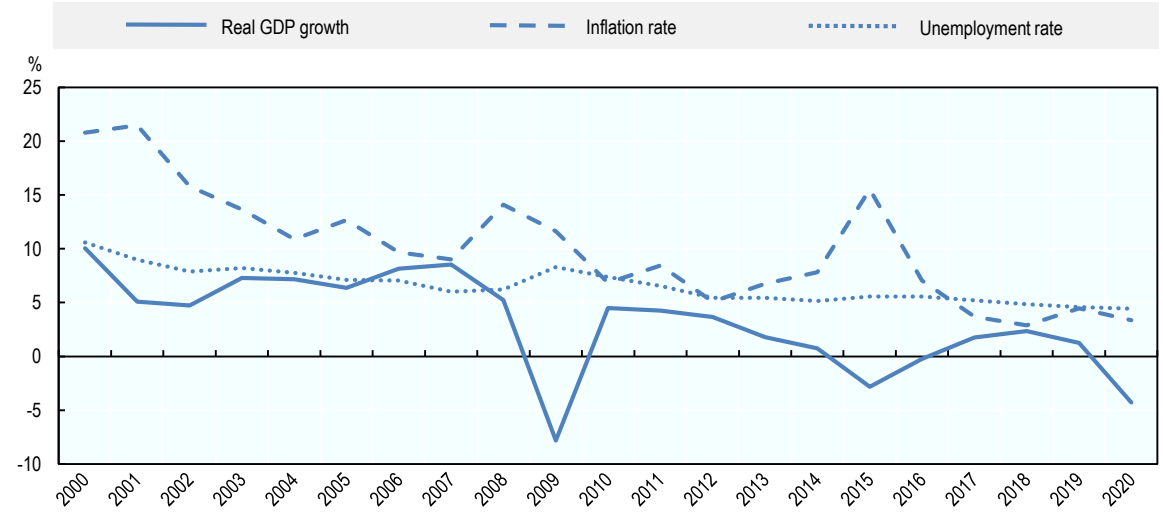
Table 23.3. Russia: Contextual indicators

	Russia		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	1 074	4 282	2.7%	3.8%
Population (million)	147	147	3.4%	2.8%
Land area (thousand km²)	16 381	16 377	19.6%	19.3%
Agricultural area (AA) (thousand ha)	217 162	215 494	7.1%	7.1%
			All countries[1]	
Population density (inhabitants/km²)	9	9	53	63
GDP per capita (USD in PPPs)	7 323	29 175	9 265	21 975
Trade as % of GDP	25	20	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	5.8	3.4	2.9	3.5
Agriculture share in employment (%)	14.5	5.8	-	-
Agro-food exports (% of total exports)	1.1	4.7	6.2	7.3
Agro-food imports (% of total imports)	21.6	11.5	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	58	55	-	-
Livestock in total agricultural production (%)	42	45	-	-
Share of arable land in AA (%)	57	56	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

GDP growth declined in 2019 and dropped by 5% in 2020, mainly due to the restrictions related to the COVID-19 pandemic. Inflation went down from the 2015 peak and has stabilised in the most recent years, while the unemployment rate continued its moderate downward trend.

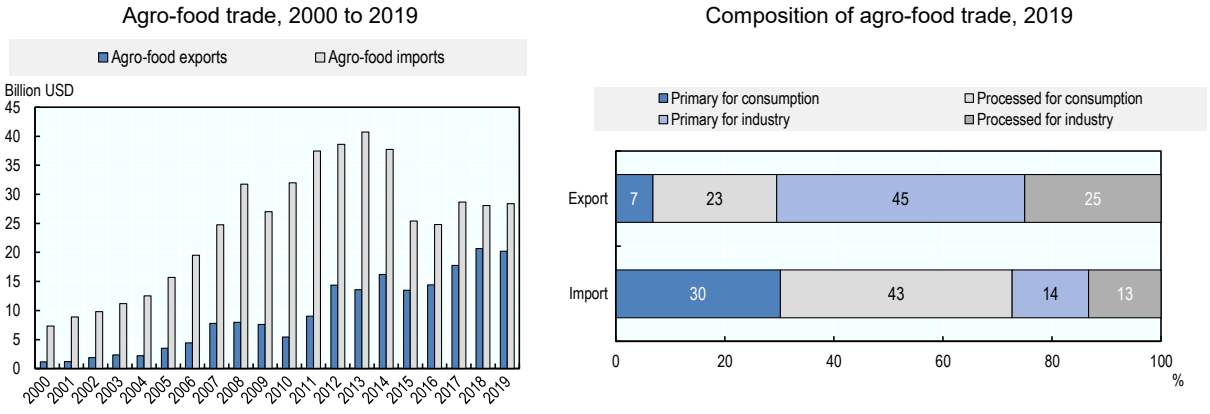
Figure 23.5. Russia: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; ILO estimates and projections; and Rosstat.

Russia is the largest exporter of wheat and barley, the fourth largest exporter of sunflower seeds and the fifth largest exporter of sunflower oil. The country is among the top five beef importers. Agro-food products account for a significant but declining share of total imports and for a smaller, but rising share in total exports. The negative agro-food trade balance has narrowed significantly since the beginning of 2010 and has stabilised in most recent years. Agro-food imports are focussed on supplying domestic food consumption in primary and processed products, while exports are largely destined to agro-processors abroad.

Figure 23.6. Russia: Agro-food trade

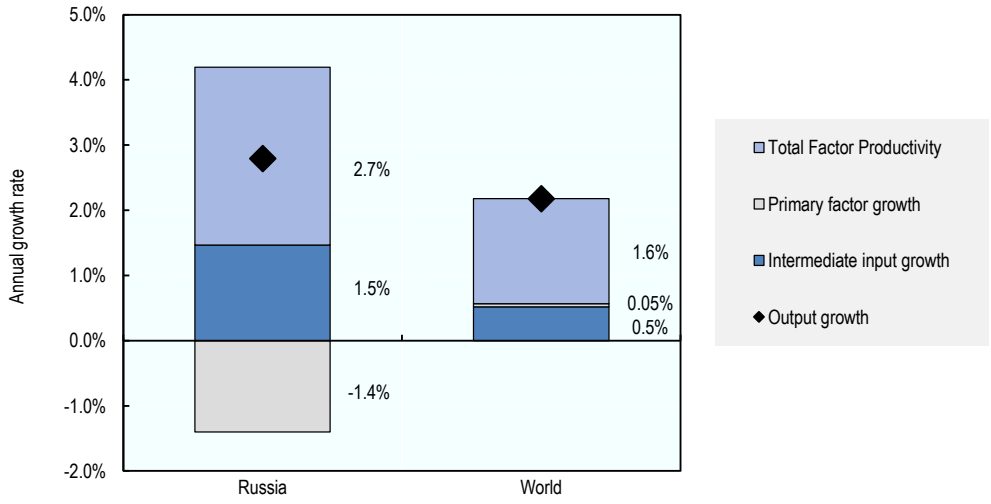


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Agricultural output has been recovering from a deep recession in the 1990s. Output growth since 2007 has been driven mainly by the improvements in Total Factor Productivity (TFP), exceeding average global TFP growth. The higher use of intermediate inputs was largely offset by the declining employment of primary factors, in particular of machinery and labour.

The share of agriculture in total energy use decreased since the 2000s and was below the OECD average in 2019, despite a greater importance of the sector in the economy. Agriculture's contribution to GHG emissions has also declined and remains well below the OECD level. Compared to the OECD area, agriculture accounts for a relatively small share of total water abstractions. Aggregate indicators also suggest that water stress is much less of a problem than in many OECD countries. Preliminary estimates indicate a relatively low nitrogen surplus balance and point to an almost balanced phosphorous budget.

Figure 23.7. Russia: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 23.4. Russia: Productivity and environmental indicators

	Russia		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	1.0%	2.7%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	5.0	5.0	33.2	28.9
Phosphorus balance, kg/ha	0.6	-0.1	3.4	2.6
Agriculture share of total energy use (%)	3.3	1.7	1.7	2.0
Agriculture share of GHG emissions (%)	6.7	5.7	8.4	9.5
Share of irrigated land in AA (%)	..	1.7	-	-
Share of agriculture in water abstractions (%)	28.5	28.9	46.0	43.4
Water stress indicator	1.8	1.3	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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OECD (1998), *OECD Review of Agricultural Policies: Russian Federation 1998*, OECD Review of Agricultural Policies, OECD Publishing, Paris, https://dx.doi.org/10.1787/9789264163126-en. [1]

WTO/ITC/UNCTAD (2020), *World Tariff Profiles*, http://stat.wto.org/TariffProfile/WSDBTariffPFHome.aspx?Language=E. [2]

Notes

[1] The following domestically produced and imported products are currently eligible for the preferential VAT rate: apples, pears, quince, all categories of citrus, grapes, apricots, cherry, sweet cherry, peaches, nectarines, plums, sloe and cherry plum, watermelons, melons, papaya, avocado, dates, fig, pineapples, guava, mango, mangosteens, kiwi, persimmon, barberry, feijoa, medlar; berries: strawberry, raspberry, blackberry, currants black, white or red, gooseberry, cranberry, bilberry, blueberry, cornel, wild-growing berries; planting material of fruit and berry crops: seeds, seedlings, roots, cuttings and taps.

[2] Within these limits, duties on the export of wheat are planned to be EUR 50 per tonne between 1 March and 30 June 2021, on corn – EUR 25 per tonne beginning on 15 March, on barley – EUR 25 per tonne, and rye will be duty free within quota. From 2 June, the rates of export customs duties on wheat, corn and barley will be floating, calculated on a weekly basis.

24 South Africa

Support to agriculture

South Africa reduced support to agriculture during the reforms of the mid-1990s and support to farms has remained below 5% of gross farm receipts since 2010. In 2018-20, support to agriculture was around 3% of gross farm receipts.

Market price support and payments based on input use are the most important components of the relatively low support to farmers. The level of price distortions is low and domestic prices for most commodities align with world price levels, except for sugar and, to a lesser extent, wheat and pig meat, mainly due to import tariffs. Most direct payments are provided as an input subsidy (fuel tax refund) and investment subsidies directed towards small-scale farming.

Support for general services to the sector (GSSE) declined relative to the size of the sector. Its level is similar to the average of other countries covered in this report, and below the OECD average. The GSSE averaged around 4% of agricultural value-added during 2018-20, below the 6% of the early 2000s. Most payments to general services finance the agricultural knowledge and innovation system, and expenditure on infrastructure. Support in these categories mainly targets an enabling environment for small-scale farming, which emerged following land reform. Expenditures financing inspection and control are also an important and growing element of services provided to the sector. Overall, total support fell in relative terms, from an average of 0.6% of GDP in 2000-02 to 0.3% in 2018-20.

Recent policy changes

In recent years, several policy changes sought to enhance the redistribution of land within the land reform, such as allowing compulsory purchase of land in public interest ("Strengthening the relative rights of people working the land"). In March 2018, Parliament voted to allow expropriation of commercial farms without compensation. In order to apply in practice, however, this requires a change to the Constitution, and that process was still ongoing in 2020.

The Agriculture Development Agency (AGDA) launched on 18 February 2020 as a private-sector initiative under the Public Private Growth Initiative (PPGI) framework. AGDA aims to channel expertise and capacity available within the private sector to develop sustainable land reform projects for Black farmers.

A signatory to the 2016 Paris Agreement on Climate Change, South Africa committed to reduce greenhouse gas (GHG) emissions by 34% by 2020 and 42% by 2025 relative to 1990 levels (National Climate Change Response Policy 2011) through the approval of a carbon tax act on 16 August 2017. South Africa implements the carbon tax through a phase-in approach. The current Phase 1 covers the period from 2019 to 2022 and exempts primary agriculture from the carbon tax. However, this exclusion may be reconsidered for Phase 2 (after 2022).

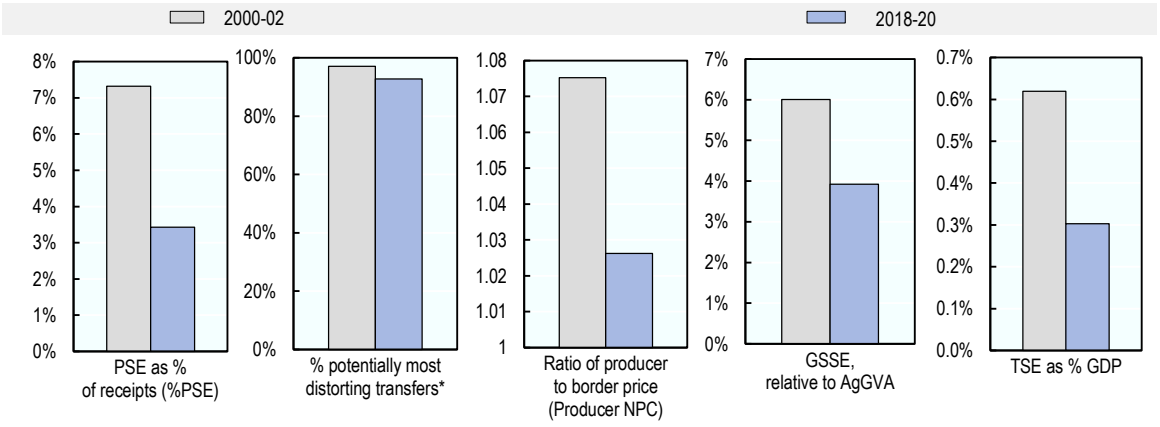
In response to the COVID-19 pandemic, the government set aside ZAR 1.2 billion (USD 64 million) to support distressed small farmers. The fund provides support to small producers of poultry, livestock and

vegetables. An additional ZAR 400 million (USD 21 million) were redirected from the Proactive Land Acquisition Strategy Programme (which allows the state to buy farmland for redistribution) to also support distressed small farms.

Assessment and recommendations

- With significant policy reforms implemented in the mid-1990s, South Africa successfully opened its markets for the agricultural sector by eliminating market price support for most products. However, price support for sugar – through high tariffs and a price-pooling scheme applied by the South African Sugar Association – remains high, and the government should consider reducing import tariffs.
- Since the 1990s reforms, increases in budgetary spending finance the land reform process and support its beneficiaries (subsistence farmers, smallholders and commercial farmers). Most of the spending finances general services to the sector, mainly through knowledge transfer and infrastructure. The main challenge continues to be implementing and targeting support programmes tailored to the needs of emerging farmers.
- Involving experienced commercial farmers in the development of support programmes is key to strengthen programmes assisting entrepreneurs entering commercial farming. Private-public partnerships are an efficient tool for engaging available resources and addressing current weaknesses in programmes and services from public authorities. The possibility of expropriation of property without compensation remains a concern. It could reduce the willingness of the commercial farming sector to enhance these activities, and increase investor uncertainty around property ownership.
- The pace of land reform should be linked to development of an enabling environment for its beneficiaries (including education and training, adequate infrastructure, and marketing channels). Without these developments, land redistribution cannot deliver the expected outcomes, such as improving the welfare of rural Black populations, increasing food security in rural areas and developing a viable commercial sector.
- The carbon tax bill is an integral part of implementing government policy on climate change, but in Phase 1 (2019-22) its implementation does not apply to agriculture. Agriculture is only indirectly affected in this phase through increased input costs, particularly for electricity, fertilisers and pesticides, and fuel and energy. Nonetheless, this should create incentives for farmers to look for ways to use inputs more effectively and switch to alternative inputs or practices. On the other hand, the applied fuel tax rebate provides a counter incentive.
- Very low (and negative in the case of nitrogen) nutrient balances across South Africa raise questions about long-term effects on soil fertility in undersupplied parts of the country. The government should ensure well-functioning markets and facilitate sufficient supplies of crop nutrients across South Africa.

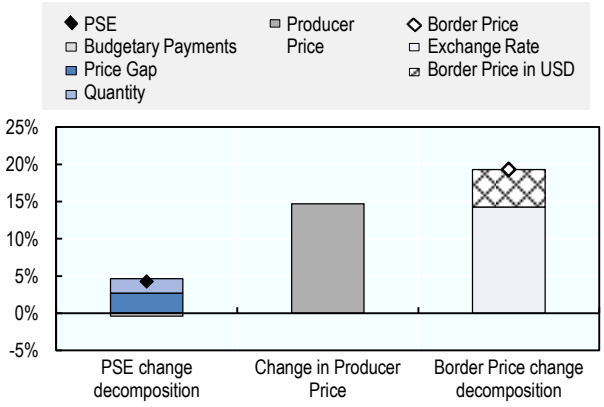
Figure 24.1. South Africa: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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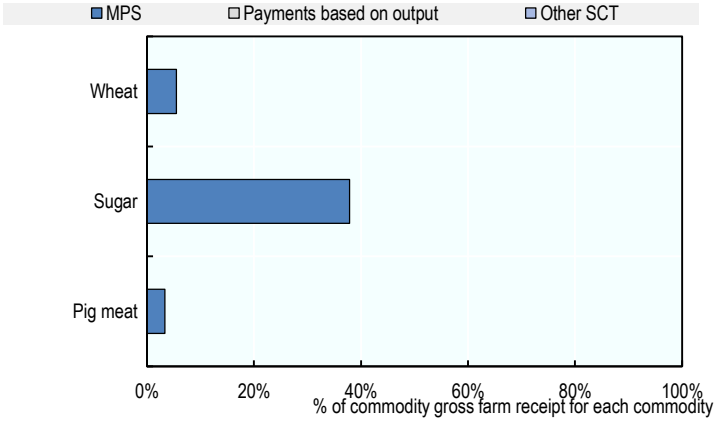
Figure 24.2. South Africa: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/4lh2y9

Figure 24.3. South Africa: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/62fw8h

Table 24.1. South Africa: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**6 824**	**20 406**	**21 347**	**20 064**	**19 806**
***of which:** share of MPS commodities (%)*	74.8	73.3	74.2	72.8	72.9
Total value of consumption (at farm gate)	**6 000**	**18 265**	**19 939**	**18 226**	**16 629**
Producer Support Estimate (PSE)	**477**	**720**	**1 009**	**601**	**550**
Support based on commodity output	438	534	782	423	396
Market Price Support[1]	438	534	782	423	396
Positive Market Price Support	451	534	782	423	396
Negative Market Price Support	-13	0	0	0	0
Payments based on output	0	0	0	0	0
Payments based on input use	36	174	195	173	154
Based on variable input use	25	133	144	134	121
with input constraints	0	0	0	0	0
Based on fixed capital formation	11	40	50	38	32
with input constraints	0	0	0	0	0
Based on on-farm services	1	1	1	1	1
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	3	12	32	4	0
Based on Receipts / Income	3	12	32	4	0
Based on Area planted / Animal numbers	0	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**7.3**	**3.4**	**4.7**	**3.0**	**2.8**
Producer NPC (coeff.)	**1.08**	**1.03**	**1.04**	**1.02**	**1.02**
Producer NAC (coeff.)	**1.08**	**1.04**	**1.05**	**1.03**	**1.03**
General Services Support Estimate (GSSE)	**264**	**311**	**327**	**306**	**301**
Agricultural knowledge and innovation system	146	128	135	126	124
Inspection and control	39	63	60	62	68
Development and maintenance of infrastructure	78	93	96	95	89
Marketing and promotion	0	26	35	23	20
Cost of public stockholding	0	0	0	0	0
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**34.2**	**30.6**	**24.5**	**33.8**	**35.3**
Consumer Support Estimate (CSE)	**-350**	**-462**	**-632**	**-387**	**-366**
Transfers to producers from consumers	-347	-417	-628	-319	-305
Other transfers from consumers	-17	-44	-5	-68	-61
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	14	0	0	0	0
Percentage CSE (%)	**-6.0**	**-2.5**	**-3.2**	**-2.1**	**-2.2**
Consumer NPC (coeff.)	**1.07**	**1.03**	**1.03**	**1.02**	**1.02**
Consumer NAC (coeff.)	**1.06**	**1.03**	**1.03**	**1.02**	**1.02**
Total Support Estimate (TSE)	**741**	**1 031**	**1 336**	**907**	**851**
Transfers from consumers	364	462	632	387	366
Transfers from taxpayers	394	614	708	588	546
Budget revenues	-17	-44	-5	-68	-61
Percentage TSE (% of GDP)	**0.6**	**0.3**	**0.4**	**0.3**	**0.3**
Total Budgetary Support Estimate (TBSE)	**304**	**497**	**554**	**484**	**454**
Percentage TBSE (% of GDP)	**0.2**	**0.1**	**0.2**	**0.1**	**0.2**
GDP deflator (2000-02=100)	**100**	**303**	**291**	**303**	**316**
Exchange rate (national currency per USD)	**8.69**	**14.72**	**13.25**	**14.45**	**16.46**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for South Africa are: wheat, maize, sunflower, sugar, milk, beef and veal, pig meat, sheep meat, poultry, eggs, groundnuts, grapes, oranges and apples.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Widespread support, regulation, and price and production control within a closed economy characterised agricultural policy in South Africa under the apartheid regime between 1955 and 1990.

Post-apartheid, quick and substantial reforms in the mid-1990s reduced state intervention in agricultural markets, leading to more market-oriented commercial farming. Domestic marketing of agricultural products was deregulated, and barriers to agricultural trade were reduced by replacing direct import controls with tariffs, removing state controls over exports and eliminating export subsidies. These reforms reduced market price support and budgetary support to commercial farming.

As stated in the White Paper on Land Policy of 1997, the land reform aimed to redress past injustices, foster reconciliation and stability, support economic growth, improve household welfare and alleviate poverty. Key elements of the land reform included land restitution, land redistribution and land tenure reform. The land reform process is going on and its regulation was amended several times. The original objective was to redistribute 20% of agricultural land. In 2019 this target was adjusted to 14%. Since the beginning, the land reform was accompanied by support exclusively targeting Black smallholders (mainly provided within the Comprehensive Agricultural Support Programme [CASP]). These include subsidies for variable and fixed input credit and financial support, extension and marketing, and training and services (Table 24.2).

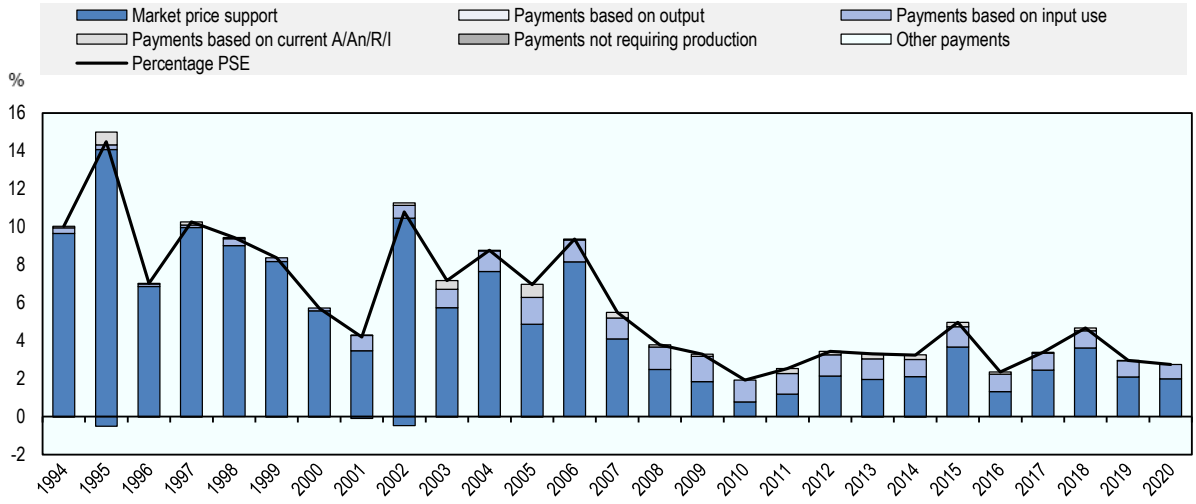
Table 24.2. South Africa: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to mid-1990s	Closed economy under the apartheid regime	Large subsidies for commercial agricultural producers Import controls; Export subsidies for agricultural products Price and production controls under the Agricultural Marketing Act of 1937
Mid-1990s-present	Post-apartheid period; Democratic government Market deregulation and trade liberalisation Land redistribution; Emphasis on black small-scale producers' development	Marketing of Agricultural Products Act (1996) brings market deregulation and trade liberalisation WTO accession Agricultural tariffs replace import controls Import Tariffs applied to sugar, wheat and maize (0 tariffs for maize from 2007) and livestock products (except eggs) Land restitution and redistribution Land reform-related programmes supporting black small farmers: - Increased spending to finance the land reform process - Direct support targeting mostly to black smallholders

Support to farmers has been decreasing as a share of gross farm receipts (with some year-to-year variation) during 1995–2007 because of policy reforms and deregulation of the market. Since then, support tended to stabilise at a relatively low level, around 4% of gross farm receipts. Market price support is the main component of support, provided mainly to sugar (Figure 24.4). Budgetary support to producers, mostly input subsidies, is targeted to Black smallholders. Budgetary expenditures on general services to the sector are increasing and spent mainly on knowledge transfer and infrastructure.

Figure 24.4. South Africa: Level and PSE composition by support categories, 1994 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The current system has no domestic market support interventions or export subsidies. Border measures, applied on Southern African Customs Union (SACU)[1] common borders, are the only price support policy for all commodities except sugar.

Import protection for agricultural and food products is based on specific and *ad valorem* tariffs. The average applied Most Favoured Nation (MFN) tariff for agricultural products is around 9%, well below the average bound tariff on agricultural products of 39%. Tariff rate quotas (TRQ) exist for a range of agricultural products under the WTO minimum market access commitments. The zero import-tariff for maize applies since 2007.

The Sugar Agreement of 2000 (between agents in the sugar production chain) permits exports of raw sugar only through a single-channel industry arrangement and allocates quotas to individual producers for sugar sold on the domestic market.

Other policy instruments include input subsidies, mainly in the form of a diesel tax rebate; programmes supporting new farmers benefiting from land reforms; and general services provided to the sector, mainly research, extension and inspection services. The National Land Care Programme (NLP) is a community-based and government-supported approach promoting sustainable management and use of natural agricultural resources.

During the reforms concerning land restitution and land redistribution (launched in 1994) a range of programmes (Comprehensive Agricultural Support Programme, *Illima/Letsema* projects and Micro-agricultural Financial Institutions of South Africa [MAFISA]) were implemented to create an enabling environment for previously disadvantaged farmers (subsistence, smallholders and commercial), such as input subsidies, capacity building, provision of information services and infrastructures.

Reviews of the Land Redistribution for Agricultural Development (LRAD) projects, carried out in 2004-07, indicated that a number of projects were not economically viable. The Department for Rural Development and Land Reform (DRDLR) amended the Land Reform regulation in 2009 to rationalise the land redistribution process and assist vulnerable projects. The Agricultural Land Holding Account (created in 2009) is responsible for land acquisition, and recapitalisation and development of distressed land reform projects through the Recapitalisation and Development Programme. Beneficiaries may dispose of the land after an agreed lease period, provided the project is economically viable.

The Integrated Food Security Strategy (IFSS), introduced in 2002 based on public and private civil society partnerships, focuses on household food security as the building block for national food security. One of the strategic approaches increases household food supplies by providing production support services to households' own food production. The food security objective is further supported by *Fetsa Tlala*, an integrated food production initiative, introduced in 2013, which aims to produce staple foods on fallow land with agricultural potential in communal areas.

The Ilima/Letsema Programme implemented in 2008 aims to increase food production, particularly by smallholder farming. Through provincial departments, it finances mostly conditional grants for projects such as upgrading irrigation schemes and other infrastructure and on-farm investments to strengthen production capacity.

The Comprehensive Agricultural Support Programme (CASP) focuses on: on- and off-farm infrastructure and production inputs; targeted training, skill development and capacity building; marketing and business development and support; information and knowledge management; technical and advisory services; regulatory services; and financial services.

The Comprehensive Rural Development Programme (CRDP) launched in 2009 supports the development of rural areas through two main programmes, both related to the agricultural sector. The Rural Infrastructure Development (RID) programme promotes investment in rural infrastructure. Expenditure increased significantly due to increased funding for projects providing access to basic services, particularly sanitation, irrigation and roads. The Rural Enterprise and Industrial Development (REID) programme assists in co-ordination and facilitation of rural enterprise development, industrial development, and support to rural communities to produce their own food.

South Africa is a founding member of the Southern African Customs Union (SACU), a full customs union with a common external tariff. In 1994, South Africa became a member of the Southern African Development Community (SADC).[2] From 2012, the SADC free trade agreement (FTA) was fully implemented.

South Africa is also a beneficiary of the US African Growth and Opportunity Act (AGOA), a non-reciprocal trade preference programme that grants eligible Sub-Saharan Africa countries duty-free, quota-free (DFQF) access to the United States for selected export products. AGOA was enacted in 2000 for eight years. The Act was extended to 2015, and further to 2025. AGOA has a positive impact on some of South Africa's agricultural sub-sectors, in particular exports of wine, macadamia nuts and oranges.

A signatory to the 2016 Paris Agreement on Climate Change, the South African Government committed to reducing greenhouse gas (GHG) emissions by 34% by 2020 and 42% by 2025 relative to 1990 levels (National Climate Change Response Policy 2011), through the approval of a carbon tax on 16 August 2017. This is integral for implementing government policy on climate change. It should enable South Africa to meet its Nationally Determined Contributions commitments, and reduce the country's GHG emissions in line with its National Climate Change Response Policy and National Development Plan. South Africa implements the carbon tax through a phase-in approach. The current Phase 1 is set for 2019 to 2022 and exempts primary agriculture from the carbon tax. However, this exclusion may be reconsidered for Phase 2 (from 2023).

Domestic policy developments in 2020-21

Support to agriculture: Overall, policies supporting farmers have remained unchanged. Most of the policy measures continue to target the smallholder sub-sector. The government provides post-settlement assistance; including production loans to new and upcoming farmers (mostly small scale farmers operating on redistributed or resituated land). Several programmes support those farmers to develop commercially viable businesses. There were no substantial changes in these programmes in most recent years.

Land reform

On 9 October 2020, the South African Ministry of Public Works and Infrastructure published the 2020 Expropriation Bill. The bill provides the much-needed update to the old Expropriation Act 63 of 1975, and ensures alignment to the current South African Constitution.

The 2020 Expropriation Bill is separate from the ongoing process to amend the South African Constitution to allow for the expropriation of land without compensation for the purposes of land reform. The key difference is that the 2020 Expropriation Bill is not aimed at expropriating property or land for land reform, but its objectives are for the expropriation of property including land for a public purpose or in the interest of the public, such as for building infrastructure, industrial development, etc.

If the 2020 Expropriation Bill is passed, it will mark the first time for South African policy to allow for the expropriation of property without compensation. This policy position may further be entrenched if South Africa also finalises the ongoing Constitutional amendment process to allow expropriation of property without compensation for land reform purposes.

Institutional change

Only a limited number of black farmers, benefiting from land reform, have made meaningful progress towards commercialisation. The main barriers towards commercialisation for these farmers are the lack of knowledge and the inability to access affordable capital. The Agriculture Development Agency (AGDA) was launched on 18 February as an entirely private sector initiative falling under the Public Private Growth Initiative (PPGI) framework. The specific aims of AGDA are to channel expertise and capacity available within the private sector for development of sustainable land reform projects for the black farmers.

The National Agricultural Marketing Council decided not to recommend the continued application of the statutory levy for financing the activities of the Winter Cereal Trust (WCT). The WCT fund finances important operational functions within the commodity value chain, and therefore the industry had to put in place an alternative system before the start of the new marketing season on 1 October 2020. Hence, an alternative trust – *the South African Winter Cereal Industry Trust* (SAWCIT) – was established by the Industry for the collection of voluntary levies in order to continue to finance the activities of the former WCT.

Domestic policy responses to the COVID-19 pandemic

The Department of Agriculture, Land reform and Rural Development (DALRRD) set aside ZAR 1.2 billion (USD 64 million) to support distressed small-holder farmers. There are approximately 200 000 emerging smallholder farmers and over 2 million subsistence farmers in South Africa. The fund provides support to small producers of poultry, livestock and vegetables. The programme prioritises women, youth, and disabled farmers and the funds were delivered in the form of vouchers. ZAR 400 million (USD 21 million) will be redirected from the Proactive Land Acquisition Strategy Programme (PLAS), which allows the state to buy farm land for redistribution, also to support distressed small farms.

The DALRRD also monitors food supply in the country through an “agricultural value chain tracker” to ensure that any disruptions are addressed early and quickly. The South African Government issued a “request to express interest” for agricultural input suppliers willing to participate in a voucher scheme aimed

at helping smallholder and communal farmers. The vouchers are capped at ZAR 50 000 (USD 2 700) per farmer.

On 28 December 2020, the government announced a total ban on the sale of alcohol from stores, restaurants and bars until 15 January 2021. The prohibition was in response to surging case numbers of COVID-19 that are associated with a new, more infectious strain of the virus. During 2020, the sale and distribution of alcohol had already been prohibited twice to reduce the spread of COVID-19: 27 March to 1 June 2020 and 12 July to 17 August 2020. The South African alcohol industry is calling for a review of the ban, stating that there are other ways to address the spike in COVID-19 cases.

Trade policy developments in 2020-21

In March 2020, the South African Government substantially increased the applied most-favoured nation import tariffs on bone-in chicken meat and on boneless chicken meat. The MFN duties on imports were raised from 37% to 62% for bone-in chicken and from 12% to 42% for boneless portions. The announcement came more than one year after the International Trade Administration Commission of South Africa initiated its investigation in November 2018 at the request of the South Africa Poultry Association.

Contextual information

South Africa is the most industrialised and diversified economy in Africa, and the second largest economy (after Nigeria) on the African continent. With the largest GDP per capita of the continent, it ranks as an upper middle-income country. However, income inequality is high and poverty persists. South Africa has experienced a relatively moderate and decreasing level of inflation — below 5% in most recent years, with inflation targeting in the range of 3% to 6 %. However, a persistently high rate of unemployment remains a challenge. The GDP growth rate has been declining since 2011 and came close to zero in 2019. The GDP dropped by 10% in 2020, mainly because of the restriction of economic activities related to the COVID-19 measures (Figure 24.5).

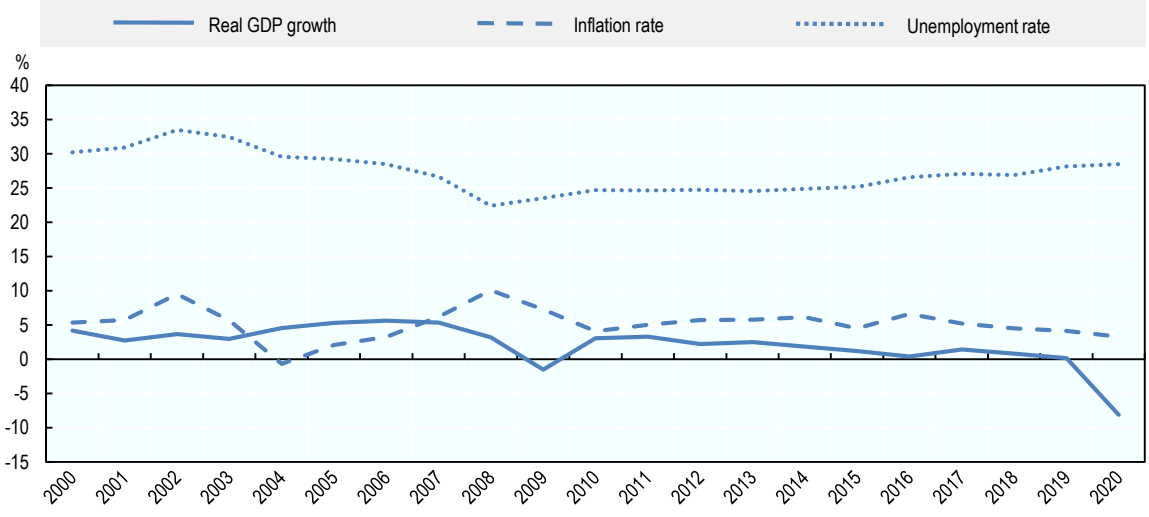
The importance of agriculture in the economy is relatively low, around 2% of GDP, and 5% of employment (Table 24.3). Due to a large component of modern farming and processing industries, the upstream and downstream linkages in the agro-food complex are much larger than for the primary sector. South Africa has abundant agricultural land, but only 13% of it is arable, while the remaining agricultural area is mostly semi-arid pastures with extensive livestock production. The farm structure is highly dualistic, with a well-developed and market oriented sector of large-scale commercial farms and a large number of smallholder and subsistence farms.

Table 24.3. South Africa: Contextual indicators

	South Africa		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	347	761	0.9%	0.7%
Population (million)	44	59	1.0%	1.1%
Land area (thousand km²)	1 213	1 213	1.5%	1.4%
Agricultural area (AA) (thousand ha)	98 125	96 341	3.2%	3.2%
			All countries[1]	
Population density (inhabitants/km²)	37	48	53	63
GDP per capita (USD in PPPs)	7 715	12 999	9 265	21 975
Trade as % of GDP	19	25	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	3.3	2.1	2.9	3.5
Agriculture share in employment (%)	9.9	5.1	-	-
Agro-food exports (% of total exports)	8.5	11.3	6.2	7.3
Agro-food imports (% of total imports)	5.2	7.2	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	56	52	-	-
Livestock in total agricultural production (%)	44	48	-	-
Share of arable land in AA (%)	14	12	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

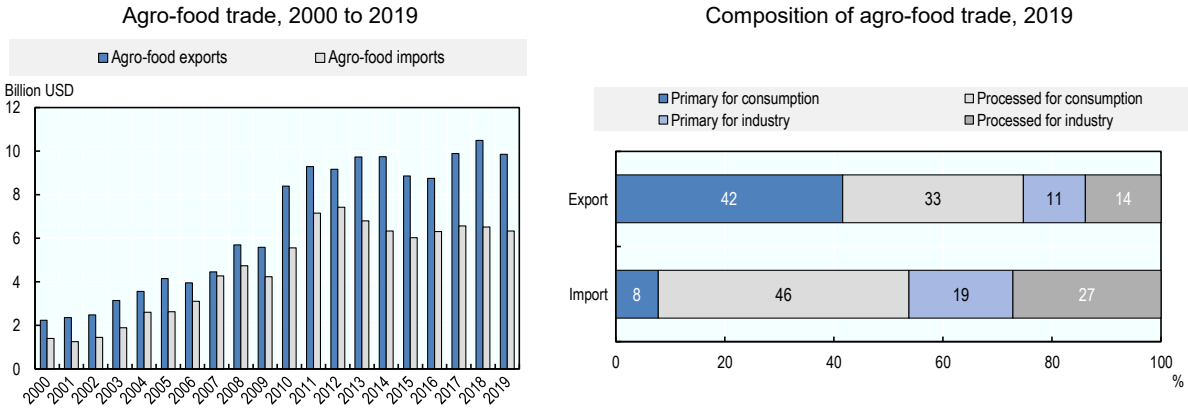
Figure 24.5. South Africa: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; ILO estimates and projections; and Statistics South Africa.

South Africa is a consistent net exporter of agro-food products (Figure 24.6). The share of agro-food exports in total exports was around 11%, while the share of agro-food imports was around 7% in recent years (Table 24.3). Three-quarters of agro-food exports are for final consumption, both of primary and processed products. Around three-quarters of agro-food imports are processed products (Figure 24.6).

Figure 24.6. South Africa: Agro-food trade

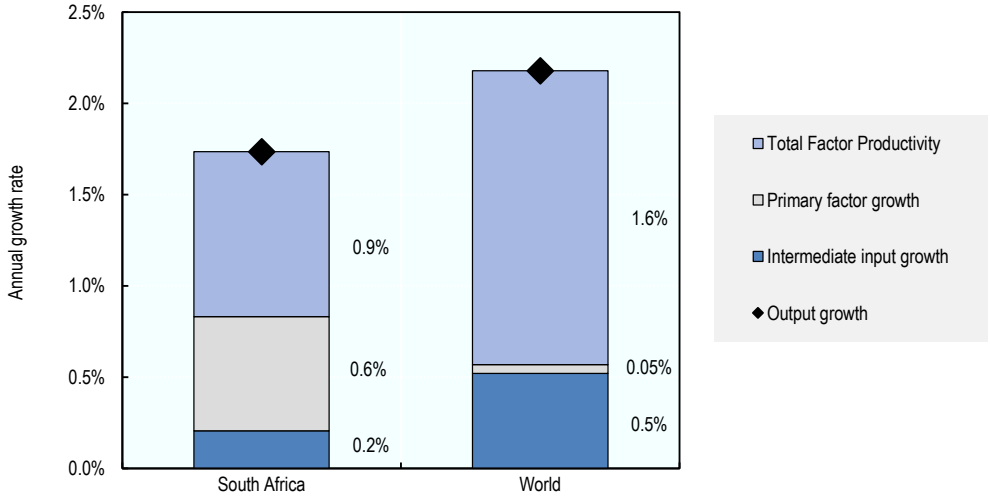


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Growth in total factor productivity (TFP) contributes most to agricultural output growth in South Africa (Figure 24.7). However, TFP growth has slowed significantly relative to the 1990s and averaged 0.9% per year during 2007-16. As for output growth overall, TFP growth has therefore been well below the world average. Increased use primary factors and moderate growth in intermediate input use also contributed to the increase in output (Table 24.4).

Phosphorus and nitrate balances are very low and negative, respectively and well below the OECD average. Although agriculture uses almost 60% of abstracted water, only a few regions have irrigated land, and water resources are scarce in most of the agricultural areas (Table 24.4). The livestock sector is another important user of water in agriculture. Agriculture's share in energy use has increased and remains above the OECD average.

Figure 24.7. South Africa: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 24.4. South Africa: Productivity and environmental indicators

	South Africa		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	3.0%	0.9%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	-2.5	-4.3	33.2	28.9
Phosphorus balance, kg/ha	0.2	0.2	3.4	2.6
Agriculture share of total energy use (%)	2.6	3.1	1.7	2.0
Agriculture share of GHG emissions (%)	..	..	8.4	9.5
Share of irrigated land in AA (%)	1.5	1.7	-	-
Share of agriculture in water abstractions (%)	61.3	58.8	46.0	43.4
Water stress indicator	41.7	..	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

Notes

[1] The SACU members are: Botswana, Lesotho, Namibia, Swatini (former Swaziland) and South Africa.

[2] The SADC member countries are: Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swatini, Tanzania, Zambia and Zimbabwe.

25 Switzerland

Support to agriculture

In past decades, Switzerland made moderate reductions in support to agriculture, but levels stabilised in recent years. Support to producers expressed as a share of gross farm receipts remains high: around 50% on average in 2018-20, almost three times the OECD average. However, changes in the structure of support are pronounced, as direct payments partly replaced market price support (MPS).

MPS, mainly due to tariff rate quotas (TRQ) with high out-of-quota tariffs, remains the main component of support. Over the past 30 years, MPS fell from 80% to around 50% of total producer support. Nonetheless, average domestic prices were on average 46% above world prices in 2018-20. The biggest price gaps (Producer Nominal Protection Coefficient) and share of Single Commodity Transfer (SCT) in commodity gross farm receipts are for poultry, eggs, pig meat and rapeseed.

Switzerland provides significant direct payments to farms (almost all subject to environmental cross-compliance). These increased over time: while they represented around 20% of support to farmers in the 1980s, their share rose to almost 50% in recent years. Most are general area payments to all agricultural land, payments to maintain farming in less favoured conditions, and payments to farmers who voluntarily apply stricter farming practices related to environmental and animal welfare.

Expenditures for general services (GSSE) are high in Switzerland. GSSE relative to agricultural value-added rose from 11% in 2000-02 to 16% in 2018-20, and is among the highest of countries covered by this report. Almost half of GSSE expenditure finances the agricultural knowledge and innovation system. Total support to agriculture as a share of GDP fell from 2% in 2000-02 to 1% in 2018-20.

Recent policy changes

In February 2020, the Federal Council submitted to Parliament a message on the future development of the Agricultural Policy from 2022 (PA22 +) along with a draft federal decree on financial resources for agriculture for the years 2022 to 2025. However, in December 2020, the Council of States decided to suspend work on the PA22 + and maintain the 2022-2025 financial envelope at the same level as before. These decisions were confirmed by the National Council during its 2021 spring session in March. In parallel, the Federal Council is required by both chambers of Parliament to submit a report on the future direction of agricultural policy to Parliament by the end of 2022 at the latest.

In November 2020, the Federal Council approved a package of agricultural ordinances setting procedures for withdrawal of plant protection products, implementation of regional development projects and allocation of aid for structural improvements. New plant health legislation applies from 1 January 2020, with stricter rules for trade with plant materials and stronger measures to prevent the introduction and spread of pests.

On 27 January 2021, the Federal Council adopted the Long-Term Climate Strategy for Switzerland, which sets out climate policy guidelines up to 2050 in order to achieve a net-zero target. The objectives are to reduce greenhouse gas (GHG) emissions from domestic agricultural production to at least 40% below

1990 levels and avoid transfers of GHG emissions abroad. These are primarily to be achieved through legislative measures. The total revision of the CO_2 Act was adopted by Parliament in autumn 2020 and will come into force if approved in a referendum by the population citizens on 13 June 2021. On 14 April 2021, the Federal Council opened the consultation procedure on the amendment of the CO_2 Ordinance. The CO_2 Ordinance specifies reduction targets for the building (-65%), transport (-25%), industry (-35%) and agriculture (-20%) sectors by 2030 compared to 1990.

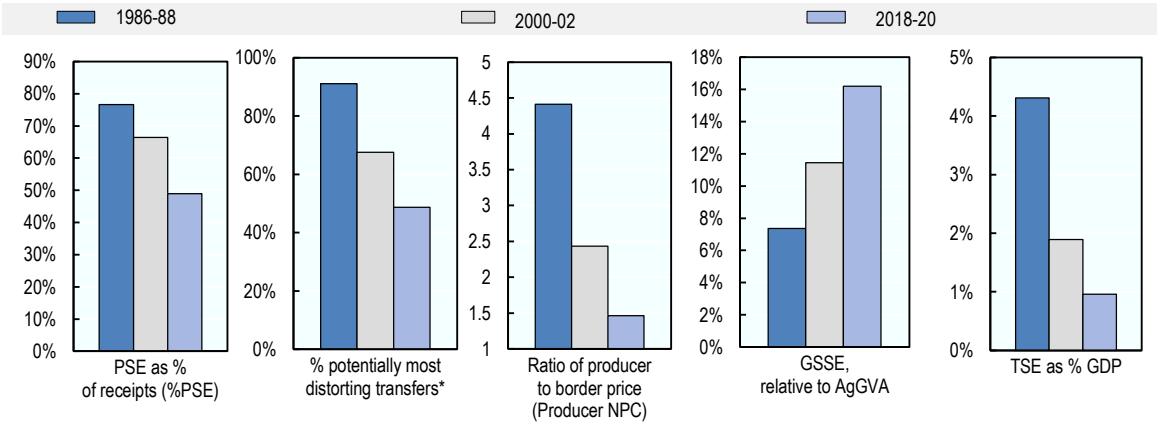
On 1 April 2020, the Federal Council took action to stabilise agricultural markets and mitigate economic impact to the agricultural sector from the COVID-19 crisis. The aim was to ensure the supply of food for the population while preventing a fall in market prices that would affect the entire value chain. The agriculture and food sector also benefited from the general package of measures to mitigate the economic consequences of the pandemic (e.g. to avoid layoffs, safeguard jobs and guarantee wages).

In addition to short-term loans to provide liquidity for agricultural producers, the Swiss Government approved early direct payments to farms and allocated funds for long-term storage of beef, veal and goat meat, for which demand had declined. Responding to reduced demand for high quality wines following the closure of bars and restaurants and the ban on public events, it also approved exceptional financial assistance for AOC wines downgraded to table wine.

Assessment and recommendations

- Measures envisaged in the Agricultural Policy 2022 could contribute to more efficient use of natural resources and enhance the environmental sustainability of agriculture. However, a better distinction can be made between policies that address market failures (providing positive externalities and public goods, and avoiding negative externalities) and those that address income problems. The latter might be better addressed via economy-wide measures as opposed to agricultural ones.
- Security of the food supply should be sought through a more competitive agriculture sector rather than direct payments. Policies facilitating structural change, including investment support and exit strategies, can accelerate progress.
- Reduction of import barriers and elimination of export subsidies for processed products are important to reducing the burden on consumers and market distortions.
- The introduction of output payments for milk and area payments to grain producers to compensate for the elimination of export subsidies for processed products could undermine efforts to reduce resource misallocation, and could impede structural adjustment. Such compensatory measures should be temporary.
- The Swiss agricultural sector is only marginally affected by current CO_2 legislation, as the levy applies to fuels for heating greenhouses and barns for livestock, but not to other CO_2 emissions from agricultural production. In order to achieve its climate change targets for the agricultural sector, Switzerland should consider extending the CO_2 Act to other parts of the agricultural sector and focus more on targeted policies.

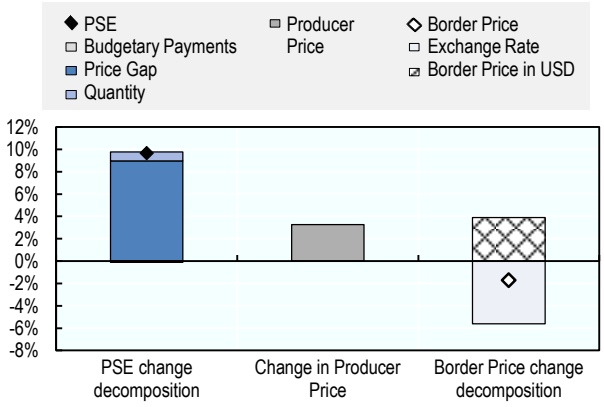
Figure 25.1. Switzerland: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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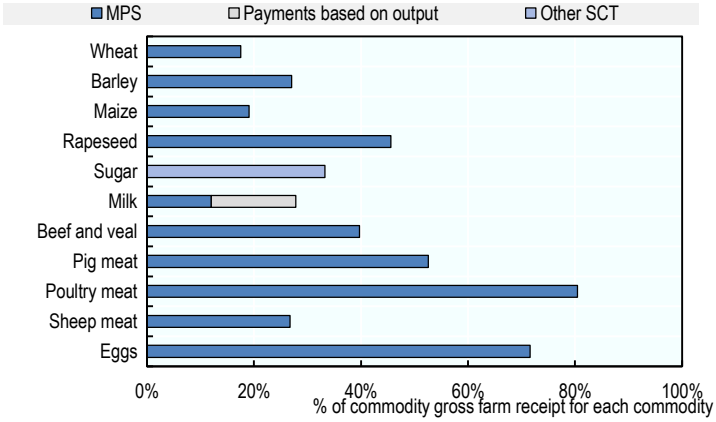
Figure 25.2. Switzerland: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/z01jfi

Figure 25.3. Switzerland: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/372j6m

Table 25.1. Switzerland: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**8 025**	**5 695**	**9 168**	**8 929**	**9 081**	**9 495**
***of which:** share of MPS commodities (%)*	62.8	58.0	58.3	58.4	56.9	59.5
Total value of consumption (at farm gate)	**12 693**	**8 853**	**14 119**	**13 887**	**14 119**	**14 352**
Producer Support Estimate (PSE)	**6 871**	**5 054**	**6 269**	**5 975**	**5 940**	**6 893**
Support based on commodity output	5 966	3 361	2 985	2 741	2 721	3 494
Market Price Support[1]	5 939	3 142	2 629	2 442	2 347	3 098
Positive Market Price Support	5 939	3 142	2 629	2 442	2 347	3 098
Negative Market Price Support	0	0	0	0	0	0
Payments based on output	27	218	357	300	374	396
Payments based on input use	358	126	148	147	146	150
Based on variable input use	289	67	69	68	67	71
with input constraints	0	14	0	0	0	0
Based on fixed capital formation	46	53	79	79	79	79
with input constraints	0	0	38	36	37	42
Based on on-farm services	23	6	0	0	0	0
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	392	564	1 012	981	995	1 060
Based on Receipts / Income	10	0	0	0	0	0
Based on Area planted / Animal numbers	382	564	1 012	981	995	1 060
with input constraints	217	540	963	935	946	1 008
Payments based on non-current A/An/R/I, production required	18	51	1 078	1 068	1 054	1 111
Payments based on non-current A/An/R/I, production not required	0	774	104	116	105	91
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	774	104	116	105	91
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	58	727	713	708	759
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	58	727	713	708	759
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	137	120	215	209	209	227
Percentage PSE (%)	**76.6**	**66.4**	**48.9**	**47.9**	**46.9**	**51.9**
Producer NPC (coeff.)	**4.41**	**2.43**	**1.46**	**1.43**	**1.41**	**1.56**
Producer NAC (coeff.)	**4.27**	**2.98**	**1.96**	**1.92**	**1.88**	**2.08**
General Services Support Estimate (GSSE)	**431**	**337**	**783**	**761**	**770**	**817**
Agricultural knowledge and innovation system	110	70	386	367	384	406
Inspection and control	9	24	11	12	11	12
Development and maintenance of infrastructure	80	54	84	84	83	86
Marketing and promotion	29	37	67	69	63	70
Cost of public stockholding	66	32	45	42	45	48
Miscellaneous	137	120	189	187	184	195
Percentage GSSE (% of TSE)	**5.4**	**6.1**	**11.1**	**11.3**	**11.5**	**10.6**
Consumer Support Estimate (CSE)	**-9 012**	**-5 032**	**-4 259**	**-3 887**	**-3 975**	**-4 916**
Transfers to producers from consumers	-6 065	-3 243	-2 654	-2 449	-2 373	-3 139
Other transfers from consumers	-3 788	-1 986	-1 632	-1 451	-1 623	-1 821
Transfers to consumers from taxpayers	700	147	8	4	5	16
Excess feed cost	141	50	18	9	15	29
Percentage CSE (%)	**-75.0**	**-57.8**	**-30.1**	**-28.0**	**-28.2**	**-34.3**
Consumer NPC (coeff.)	**4.44**	**2.44**	**1.43**	**1.39**	**1.39**	**1.53**
Consumer NAC (coeff.)	**4.00**	**2.37**	**1.43**	**1.39**	**1.39**	**1.52**
Total Support Estimate (TSE)	**8 002**	**5 538**	**7 060**	**6 741**	**6 715**	**7 725**
Transfers from consumers	9 853	5 229	4 285	3 900	3 995	4 961
Transfers from taxpayers	1 937	2 296	4 406	4 292	4 342	4 586
Budget revenues	-3 788	-1 986	-1 632	-1 451	-1 623	-1 821
Percentage TSE (% of GDP)	**4.3**	**1.9**	**1.0**	**0.9**	**0.9**	**1.0**
Total Budgetary Support Estimate (TBSE)	**2 063**	**2 396**	**4 431**	**4 299**	**4 368**	**4 627**
Percentage TBSE (% of GDP)	**1.1**	**0.8**	**0.6**	**0.6**	**0.6**	**0.6**
GDP deflator (1986-88=100)	**100**	**127**	**136**	**136**	**136**	**136**
Exchange rate (national currency per USD)	**1.58**	**1.64**	**0.97**	**0.98**	**0.99**	**0.94**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Switzerland are: wheat, maize, barley, rapeseed, sugar, milk, beef and veal, sheep meat, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Until the early 1990s, high trade barriers and strong domestic market regulations isolated Swiss agriculture from world markets. Substantial reforms of agricultural policy were implemented in the mid-1990s and early 2000s. These were prompted by commitments made under the GATT and later the WTO. There were no systematic policy reforms since 2013.

The reforms implemented between 1993 and 2003 had three main elements:

1. Reduced and more transparent import protection, the gradual removal of price guarantees and other market regulations while maintaining production quotas for milk and introducing (in 1998) new market regulations for sugar.
2. New direct payments less coupled to production, and voluntary ecological direct payments linked to ecological services.
3. Cross-compliance requirements connecting almost all direct payments to proof of ecological performance as of 1999.

Between 2004 and 2013, policy reforms were comparatively modest and focussed on deregulation of agricultural markets. In 2013, Switzerland adopted a new policy framework for 2014-17, subsequently extended to 2021. This framework amended the direct payment scheme to improve its efficiency and effectiveness, and set up a system of direct payments linked to specific production practices.

Table 25.2. Switzerland: Agricultural policy trends

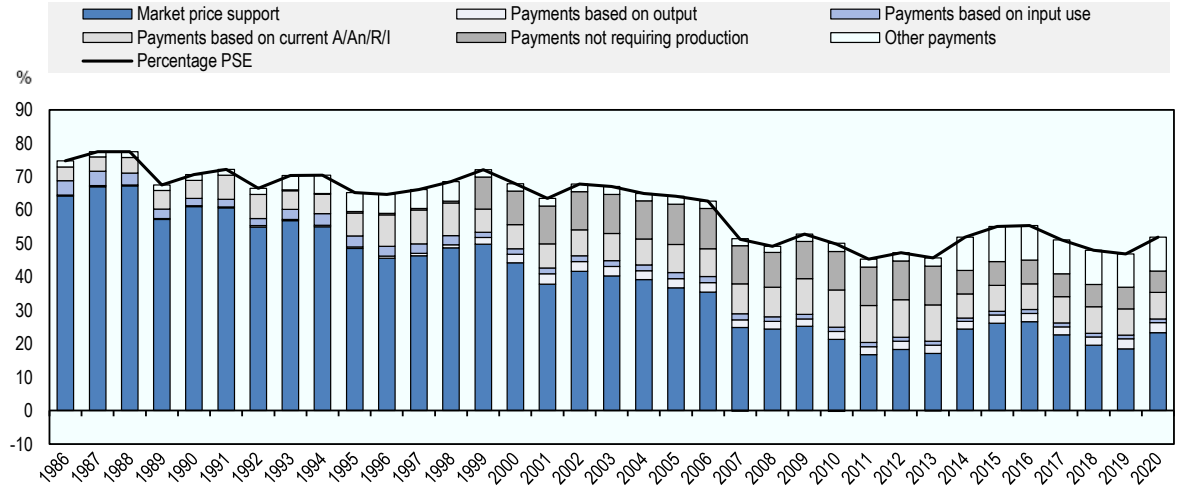
Period	Framework	Changes in agricultural policies
Prior to 1993	Closed market	High border protection; regulated prices and interventions in domestic agricultural markets Payments based on output and input use; commodity-specific area and headage payments
1993-1998	Reforms to open up markets New system of direct payments	Reduced import barriers; enhanced transparency Reduction of export subsidies for some agricultural and processed products Reduction of domestic market regulations except for milk (production quotas); introduction of sugar production quotas and guaranteed prices Creation of General Direct Payments, including: - Complementary Direct Payments based on area (arable and grassland) and other supplementary payments - Payments for integrated production - Payments for farming in difficult conditions Introduction of Ecological Direct Payments as voluntary schemes based on environmental services provided by farmers (biodiversity, landscape, animal welfare, etc.), and incentives for more sustainable use of resources and pollution reduction
1999-2004	Continuation of reforms to open up markets Changes in the system of direct payments	Further gradual reduction of import barriers Reform of the General Direct Payments; Complementary Direct Payments replaced by a general Area Payment not requiring production of particular crops; introduction of a general payment for ruminants Abolition of payments for integrated production Introduction of environmental cross-compliance; all direct payments conditional to a proof of ecological requirements
2005-2013	Abolition of export subsidies Removal of production quotas (dairy, sugar)	Further gradual reduction of import barriers Abolition of export subsidies for primary agricultural products (2010) Abolition of dairy quotas and related guarantee prices for milk (2009) Abolition of sugar market regulations and introduction of area payments for sugar-beet to compensate for related price reductions (2009)
2014-present	Reform of the general direct payments	Reform of the system of General Direct Payments (2014) Abolition of general area payments Reallocation of payments related to specific agricultural practices

Period	Framework	Changes in agricultural policies
		Introduction of transition payments to make the reform socially acceptable Replacement of general headage payments to ruminants with area payments to pastures with a minimum stocking density Continuation of environmental cross-compliance conditions within the new system of payments Abolition of remaining export subsidies for some processed products (1 January 2019) New payments to producers of commercial milk and grains to compensate for price reductions due to the abolition of export subsidies for processed products (2019)

Support to farmers declined from close to 80% of gross farm receipts in the late 1980s to slightly less than 50% in 2020. Potentially most production- and trade-distorting support (mainly market price support) also declined from around 80% to less than 50% of producer support between 1986 and 2020, while payments considered less distorting grew.

Figure 25.4. Switzerland: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

In a 2017 referendum, the Swiss electorate adopted a new article on food security in the Swiss Constitution. It states that in order to guarantee the supply of food to the population, the Confederation shall create conditions for:

- safeguarding the basis for agricultural production, and agricultural land in particular
- food production adapted to local conditions and using natural resources efficiently
- an agriculture and food sector that responds to market requirements
- cross-border trade relations that contribute to the sustainable development of the agriculture and food sector
- using food in a way that conserves natural resources.

The new article in the Federal Constitution calls to guarantee sufficient food supplies to the Swiss population in the long term based on both domestic production and imports, considering the entire value chain. Together with the constitution article on agriculture, the article on food security defines broad objectives for agricultural policy. Four-year frameworks then detail specific measures.

The most recent of these covers 2018-21 (PA 2018-21). Broadly speaking, this policy framework continues agricultural policies applied in 2014-17, though overall spending shrank by 1.7% in nominal terms.

Many agro-food imports to Switzerland are regulated by tariff rate quotas with relatively low in-quota tariffs and high out-of-quota tariffs. In particular, TRQs cover meat, milk products, potatoes, fruits, vegetables, bread cereals and wine. Since 1999, an auctioning system allocates some of the TRQs to traders. A notable exception to the quota system is feed grains, which are subject to single tariffs. These are adjusted according to the market to ensure that protection does not increase feed prices.

Preferential tariff rates apply unilaterally to imports from developing countries under the general system of preferences. In the context of the Swiss Government granting zero tariffs to all products from Least Developed Countries (LDCs), agricultural imports from LDCs (according to the official UN definition) are duty- and quota-free since September 2009.

Export subsidies for primary agricultural products were eliminated by 1 January 2010. The remaining export subsidies for some processed products were abolished as of 1 January 2019. Subsequently, additional payments to producers for commercial milk (Agriculture Act Art. 40) and grain (Agriculture Act Art. 55) were introduced.

Following the abolition of **milk quotas** in May 2009, the inter-branch organisation for milk, *l'Interprofession du Lait* (IP Lait), implemented standard milk delivery contracts for its members. These set different prices and volumes for milk delivery (contingents A, B and C). A decision of the Federal Council made these contracts compulsory for all milk producers including those outside IP Lait from 1 July 2013 to the end of 2021 (with potential to be extended). This means that the previous production quota system was de facto replaced by another production control mechanism on a private basis.

Switzerland's network of trade agreements consists of the European Free Trade Association (EFTA) Convention, the Free Trade Agreement with the European Union and some 32 agreements concluded with 42 countries. All were signed within EFTA, with the exception of agreements with the People's Republic of China, Japan and the Faroe Islands.

Spending to support agriculture consists of three broad financial envelopes. These are direct payments, production and marketing, and improving the production base combined with social measures.

Direct payments to farmers meet societal demands for such things as food security, environmental services (landscape, biodiversity, sustainable use of resources) and animal welfare. These payments link to environmental cross-compliance conditions.

Production and marketing expenditures mainly support dairy producers via three types of payments: (1) for milk delivered for cheese processing; (2) for milk production without silage feed; and (3) for commercial milk (introduced in 2019). In addition, area payments apply to oilseeds, protein crops, grain (introduced in 2019) and sugar beet. Some expenditures under this heading also provide funds for general services to the sector, including marketing and product promotion.

Policies to improve the production base and social measures include direct support to farm investments as well as general support for infrastructure improvement, social aid to farmers, and advisory services. These payments were provided within the PA 2014-17 policy framework, extended to 2021.

In the context of the UN Framework Convention on Climate Change, a key tool to achieve targets is the CO_2 levy. This incentive tax is in place since 2008 for fossil fuels such as oil or natural gas. An Emission Trading System (ETS) facilitates emissions reduction where the costs of such reductions are low. Future

ambitions are to link this ETS to the EU trading system so that Swiss companies can participate in the larger and more liquid EU emissions market, and benefit from the same competition conditions as EU companies. To this end, an agreement was signed with the EU on 23 November 2017. The Swiss parliament approved this agreement on 22 March 2019 and accepted the necessary changes to the current CO_2 act. Current CO_2 legislation only marginally affects the Swiss agricultural sector as the levy applies to fuels to heat greenhouses and barns for livestock. The current CO_2 legislation does not address other climate-damaging emissions and in particular other emissions from agricultural production.

Domestic policy developments in 2020-21

The Federal Council approved a package of agricultural ordinances on 11 November 2020. These relate to the procedure for the withdrawal of plant protection products, implementation of regional development projects and the allocation of aid for structural improvements. In the area of plant protection products, the re-evaluation procedure for active substances that have been withdrawn in the European Union is simplified. The aim is to avoid a lag between the date of withdrawal of a substance in the European Union and in Switzerland.

Regarding structural improvements, the process of implementing regional development projects (RDPs) has been made more flexible and effective. In order to reach environmental objectives for agriculture, new measures are implemented such as the support of installation of air scrubbers to reduce ammonia emissions. Support for the integration of agricultural buildings into the landscape is provided to meet objectives for building and landscape culture.

Discussions concerning **future development of the Agricultural Policy** from 2022 (PA 22+) continued. In February 2020, the Federal Council submitted to Parliament a message on the future development of the Agricultural Policy from 2022 along with a draft federal decree on financial resources for agriculture for the years 2022 to 2025. However, in December 2020, the Council of States decided to suspend work on the Agricultural Policy from 2022 (PA22 +) and to maintain the financial envelope for the years 2022-25 on the same level as the previous period. These decisions were confirmed by the National Council during its 2021 spring session on 16 March 2021. In parallel, the Federal Council is required by both chambers of Parliament to submit a report on the future direction of agricultural policy to Parliament by 2022 at the latest.

Several popular initiatives related to the agriculture and food sector have been filed in previous years and are expected to be submitted to balloting. Among these, an initiative “for clean drinking water” (January 2018) and an initiative “for a Switzerland free of synthetic pesticides” (May 2018). The vote on these two popular initiatives is scheduled to take place on 13 June 2021. In this context, a parliamentary initiative “Reducing the risk of the use of pesticides” has been tabled (August 2019). This initiative aims to enshrine a reduction trajectory in legislation with target values for the risks arising from the use of pesticides and suggests adaptations to improve groundwater quality in relation to the degradation of products from pesticides. It would also commit the government to establish a path to reduce nutrient losses by 2030. Furthermore, the government has proposed on 12 August 2020 a counter-proposal to the popular initiative against mass animal husbandry, which was launched on 17 September 2019. The counter-proposal was adopted by the Federal Council on 19 May 2021.

New **plant health legislation** applies as from 1 January 2020 – with stricter rules for trade with plant materials and stronger preventive measures as it aims to protect plants from the introduction and spread of particularly harmful pests. From 2020 onwards, importation of plant material, including through passenger travel, will be subject to stricter rules. Additional import bans on plants and plant products with high plant health risks from countries outside the European Union may be applied on a temporary basis. A plant passport is required for all plants for planting for trade within Switzerland and with Member States of the European Union. The new plant health legislation also introduces new contingency planning instruments.

From 1 January 2021, hemp will no longer be subject to agricultural seed legislation. This makes it possible to produce and market seeds and plants for the production of CBD hemp.

On 27 January 2021, the Federal Council adopted the "**Long-Term Climate Strategy for Switzerland**", which sets out climate policy guidelines up to 2050 in order to achieve the net-zero target. The strategy establishes strategic targets for key sectors building on the measures and targets of the revised CO_2 Act (adopted by Parliament in autumn 2020 and coming into force upon approval by population on 13 June 2021). For the agriculture and food sector, the 2050 objective is to bring the GHG footprint of the food sector in line with the net-zero target and to avoid any further transfers of GHG emissions abroad. To achieve this, favourable framework conditions for sustainable food systems are to be developed. By 2050, GHG emissions from domestic agricultural production are to be at least 40% below 1990 levels and Swiss agriculture should contribute at least 50% to the country's food supply. The message on the complete revision of the CO_2 Act for the post-2020 period includes a sectoral target of emissions reduction in agriculture of 20% to 25% by 2030 compared to 1990. The target is primarily to be achieved through legislative measures. On 14 April 2021, the Federal Council opened the consultation procedure on the amendment of the CO_2 Ordinance. The CO_2 Ordinance specifies reduction targets for the building (-65%), transport (-25%), industry (-35%) and agriculture (-20%) sectors by 2030 compared to 1990.

Switzerland increased its contribution to the Green Climate Fund to CHF 145 million (USD 150 million) for the years 2020-2023. The Green Climate Fund helps developing countries to implement the United Nations Framework Convention on Climate Change. It finances measures taken by countries to limit GHG emissions and adapt to climate change.

The aim of **Switzerland's Soil Strategy**, adopted by the Federal Council on 8 May 2020, is to preserve the fertility of the soil and to enable it to continue to perform its other services for society and the economy. The Strategy and a series of measures pursue the objective to halt any net loss of soil in Switzerland by 2050.

The Federal Council opened the consultation process for its Draft **2030 Sustainable Development Strategy** which sets out how Switzerland intends to implement the 2030 Agenda for Sustainable Development over the next ten years. The strategy, which defines three priority issues in which there is a particular need for action and co-ordination between policy areas, is a first step towards a more systematic approach. The Federal Council highlights the need for a food systems transformation through its priority area "sustainable consumption and production" which contains three objectives (related to consumption modes, sustainable agricultural production and food loss and waste) as well as a system-wide indicator on the GHG footprint of food.

Domestic policy responses to the COVID-19 pandemic

On 1 April 2020, the Federal Council took measures to stabilise the agricultural markets and to mitigate the economic impact in the agricultural sector in the current crisis. The aim was to ensure the supply of food to the population while at the same time preventing a fall in market prices that would have repercussions on the entire value-added chain.

In addition to short-term loans already available to provide liquidity for agricultural producers, the Swiss Government has approved the advanced payment of direct payments. The agriculture and food sector could also benefit from the comprehensive general package of measures to mitigate the economic consequences of the COVID-19 pandemic (e.g. to avoid layoffs, safeguard jobs and guarantee wages).

The government granted exceptional permits for work-related travel during the closed period to allow the entry of seasonal workers and for the management of agricultural land near the border, and exemption from quarantine rules for border regions in order to guarantee work-related travel. Several existing web-based platforms help farms to find additional labour resources and to connect employers and workers.

Temporarily, the official agricultural and feed controls were adapted (where necessary) to follow the hygienic recommendations.

The Swiss National Economic Supply Agency issued non-legally binding letters confirming towards companies their relevance for the supply system. Food is given priority at border crossing ("green lanes") and the ban on transporting overnight and on public holidays has temporarily been lifted for essential goods.

The Swiss Government has allocated CHF 3 million (USD 3.1 million) for long-term storage of beef, veal and goat meat for which demand has declined. The Swiss Government has approved the Ordinance on exceptional financial assistance of CHF 10 million (USD 10.3 million) for the downgrading of AOC wines to table wine. It is based on two pillars: the downgrading of AOC wine to table wine with the granting of a contribution of a maximum of CHF 2 (USD 2.07) per litre; and the reduction of maximum yields by the cantons for the 2020 harvest.

While retail markets were closed, direct sale from farms to consumers, farm shops, shops with food and goods of daily use, self-serving machines and the online sale (e.g. food, seeds and other gardening products) remained allowed. Serving food and drink to customers on site at restaurants is forbidden, whereas take away is allowed.

In order to guarantee the availability of products and to avoid food waste, the Federal Council has adopted an amendment to the Ordinance on Foodstuffs and Commodities. The amendment allows certain deviations from the regulation to be temporarily tolerated. However, the foodstuffs concerned must be marked with a red sticker. These temporary exceptions should not endanger the health of consumers.

Trade policy developments in 2020-21

As an EFTA member, Switzerland participates in ongoing free trade negotiations with ***India, Malaysia*** *and* ***Viet Nam***. Trade negotiations with ***Indonesia*** and ***Mercosur*** have been completed, with signatures pending.[1] The FTA with Ecuador has been in force since 1 November 2020.

Existing Free Trade Agreements with ***Chile*** and the ***South African Customs Union (SACU)*** are currently under renegotiation. These Free Trade Agreements and the ongoing negotiations cover trade of all processed agricultural products as well as a range of basic agricultural products.

Switzerland and its EFTA partners revised their chapter on trade and sustainable development, which now includes an article on trade and sustainable agriculture and food systems.

Switzerland and ***Japan*** agreed on mutual recognition of organic standards for animals and animal products. In 2013, the two countries had already mutually recognised the equivalence of organic standards with respect to plant products. In July 2020, Japan and Switzerland confirmed that organic products of animal origin and products containing components of animal origin will henceforth be recognised as equivalent.

Following the end of the Brexit transition period, Switzerland's relations with the ***United Kingdom*** are governed by seven new bilateral agreements as of 1 January 2021. Through these agreements, Switzerland and the United Kingdom largely continue their trade relationship with the same rules as prior to Brexit. One of these agreements, the Trade Agreement, transfers the Agricultural Agreement with the European Union previously in place into the Swiss-UK relationship. Some of the replicated provisions do not apply from 1 January 2021, however, as they depend on an equivalent arrangement between the United Kingdom and the European Union.

Flexibility has been introduced into the partial tariff rate quotas for foodstuff to stabilise market prices. This has been used for butter and eggs, but potentially can be used for a range of other goods as well. In case of food shortages, tariff rate quotas as well as payment terms for agriculture imports can be temporarily extended.

Contextual information

Switzerland is a small economy with one of the highest GDP per capita, low and periodically negative inflation and unemployment rates around 4%. GDP growth has been stable at around 2% in recent years, but GDP dropped by almost 5% in 2020, mainly due to the consequences of the COVID-19 pandemic.

The relative importance of agriculture in the Swiss economy is low with its share in the GDP at 0.7%, while its share in employment is around 3%. The farm structure is dominated by relatively small family farms. Hills and mountain farming areas (including alpine summer pastures) are used for extensive milk and meat production, while more concentrated pork and poultry production is located in valleys. The agricultural area is mostly grassland with arable land representing 26% of the total. Crop production has shifted away over time from traditional arable crops (grains, oilseeds) towards an increasing production of fruits and vegetables.

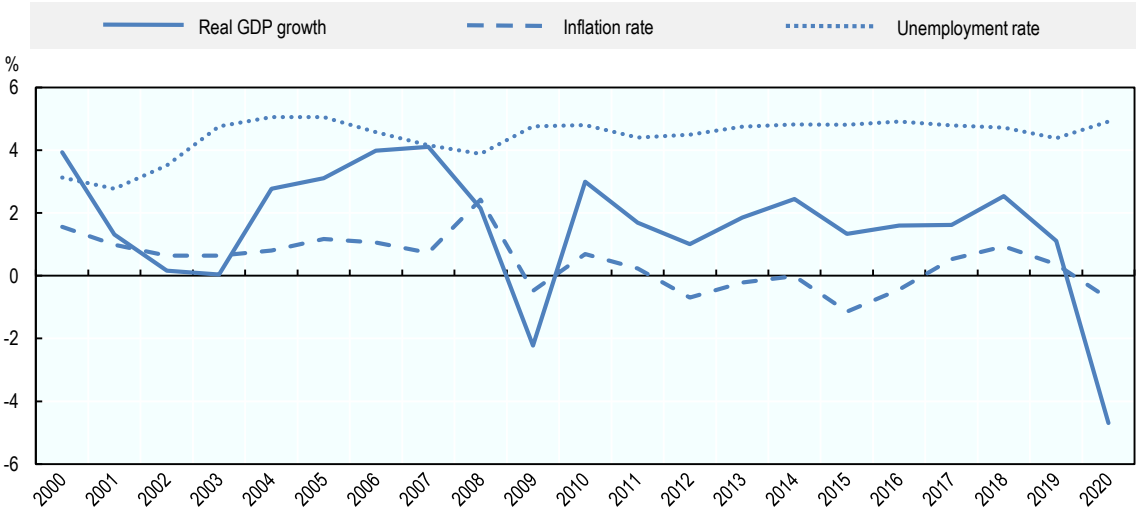
Table 25.3. Switzerland: Contextual indicators

	Switzerland		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	257	609	0.6%	0.5%
Population (million)	7	9	0.2%	0.2%
Land area (thousand km²)	40	40	0.05%	0.05%
Agricultural area (AA) (thousand ha)	1 566	1 510	0.05%	0.05%
			All countries[1]	
Population density (inhabitants/km²)	180	214	53	63
GDP per capita (USD in PPPs)	35 426	70 986	9 265	21 975
Trade as % of GDP	29	40	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	1.1	0.7	2.9	3.5
Agriculture share in employment (%)	4.8	2.9	-	-
Agro-food exports (% of total exports)	2.8	3.1	6.2	7.3
Agro-food imports (% of total imports)	5.9	4.5	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	50	48	-	-
Livestock in total agricultural production (%)	50	52	-	-
Share of arable land in AA (%)	26	26	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

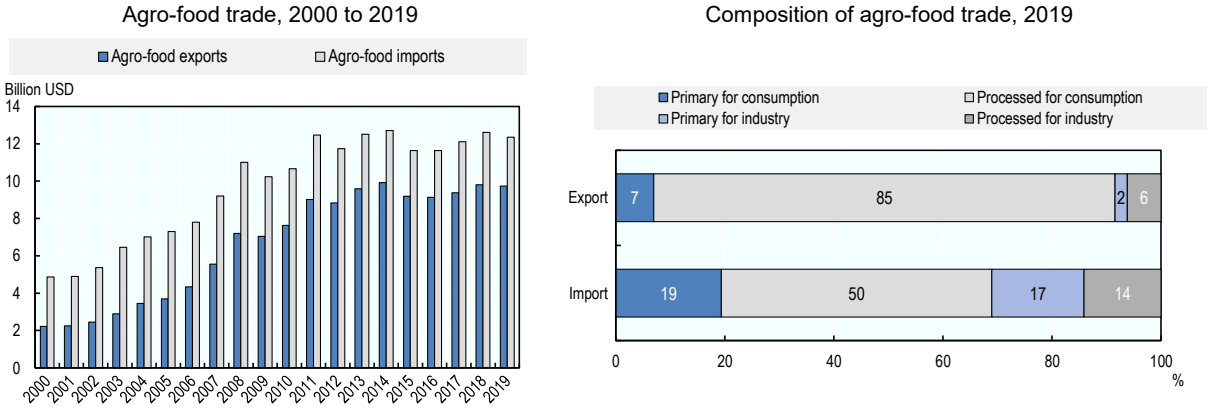
Switzerland has consistently been a net agro-food importer; its current share of agro-food imports in total imports is 4.5%, while the share of agro-food exports in total exports is 3.1%. Swiss agro-food exports consist mostly of processed products for final consumption (85% of total agro-food exports). This category also represents half of the agro-food imports (Figure 25.6).

Figure 25.5. Switzerland: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 25.6. Switzerland: Agro-food trade

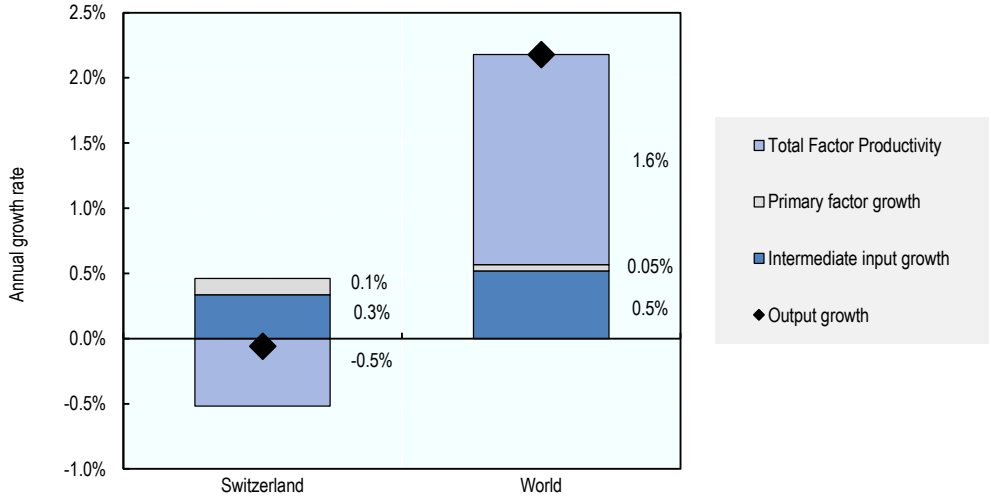


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Total factor productivity (TFP) growth in agriculture has slowed significantly and is estimated to have been negative between 2007 and 2016. This was partially compensated by a small growth in the use of intermediary inputs (0.3%) and primary factor growth (0.1%). Still, overall output has declined during that decade.

Swiss agriculture is largely rain-fed. Swiss farmers irrigate only 2.2% of their agricultural land and the share of agriculture in the country's water abstraction is less than one-fifth of the OECD average. In addition, the water stress indicator is well below the OECD average. Nutrient surpluses have declined moderately, but the surplus of nitrogen is still more than twice the OECD average. The share of agriculture in greenhouse gas emissions has slightly increased and is higher than the OECD average. Agriculture's share in energy use went down, and is less than one-third of the OECD average.

Figure 25.7. Switzerland: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 25.4. Switzerland: Productivity and environmental indicators

	Switzerland		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	0.8%	-0.5%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	67.3	65.8	33.2	28.9
Phosphorus balance, kg/ha	3.6	3.3	3.4	2.6
Agriculture share of total energy use (%)	0.6	0.6	1.7	2.0
Agriculture share of GHG emissions (%)	11.7	12.9	8.4	9.5
Share of irrigated land in AA (%)	2.8	2.2	-	-
Share of agriculture in water abstractions (%)	..	8.0	46.0	43.4
Water stress indicator	4.9	3.8	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

Note

[1] The FTA with Indonesia was approved by the Parliament and is subject to a referendum on 7 March 2021.

26 Turkey

Support to agriculture

Transfers to agricultural producers in Turkey since the 1980s have comprised an important but decreasing share of farm revenues, from a high of 31% in the 1990s to about 15% in recent years. Most of this support has been through influencing the market price of agricultural products. Measures to address the COVID-19 pandemic drove changes in the composition of support in 2020. These measures increased the producer support estimate (PSE) from an average of 15% in 2017-19 to almost 20% in 2020 – albeit still below the 24% PSE observed 2000-02.

Concessional loans increased sharply in 2020, bringing payments based on variable input use to almost half of total PSE, reversing the downward trend in total support as a share of GDP. Other interest concessions also grew, increasing payments based on fixed capital formation by a factor of four from the previous year.

Market price support (MPS) is provided mainly for sunflower, potatoes and beef, in the form of reductions of exporters' debts to public corporations. MPS trended lower in recent years. This is a consequence of higher world prices following the COVID-19 pandemic, and continued depreciation of the Turkish Lira. MPS was estimated to make up 54% of the PSE on average during 2018-20, compared with 78% in 2000-02.

Support to general services (GSSE) mainly comprises irrigation infrastructure, duty write-offs and equity injections connected to commodity marketing agencies. At 2.6% of Turkey's agricultural value-added on average for 2018-20, expenditures on general services relative to the sector's size are below those in many OECD countries.

Total support to the sector was as high as 4% of GDP until 2000-02, but declined as the importance of agriculture in the overall economy diminished. Total support to agriculture was about 1.4% of GDP in 2018-20.

Recent policy changes

The Eleventh Development Plan, covering 2019-23, sets a number of targets to be achieved by 2023, including increased production of red meat and oilseeds, land consolidation and use of irrigation. The plan anticipates improvements to the agricultural information system, reform of regulations to protect and consolidate agricultural land, and continued development of irrigation.

Special measures were put in place in 2020 related to the COVID-19 pandemic. Some programme deadlines were extended to ensure that domestic agricultural production was not unduly impacted by COVID-19 precautions, and principal and interest payments on concessional loans for farmers were postponed for six months. Some tax deadlines were extended, and agricultural payments were made in advance instead of instalments.

To increase yield, quality and diversity of production, Crop Production Improvement Projects were initiated in 24 provinces where additional summer planting was possible. This provided grants covering 75% of

seed costs. In addition, some public land was opened to production by farmers to increase domestic production.

Border measures for paddy rice, wheat, barley and maize were adjusted in 2020 to avoid any domestic supply disruptions that could be caused by COVID-19 restrictions. These reductions in tariff rates extend into the first half of 2021.

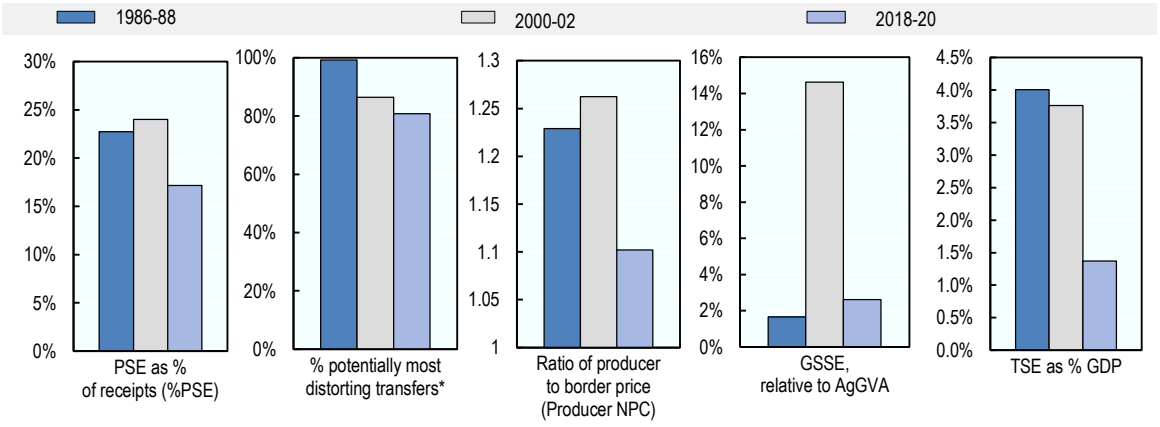
Apricots were included in the scope of intervention procurement for the first time. Aydın chestnut, Gaziantep baklava, Aydın fig, Malatya apricot and Milas olive oil were added as EU geographical indication registrations in 2020.

In co-operation with the Food and Agriculture Organisation, Turkey launched a national Save Your Food Campaign to reduce food loss and waste, and published its national strategy document on Prevention, Reduction and Monitoring of Food Loss and Waste, and its related action plan.

Assessment and recommendations

- The largest form of support to farmers is market price support. This is a relatively inefficient way to support farmers' incomes. Moreover, decoupled area payments introduced in the 2000s were re-coupled to production to a certain extent. Alternatives such as payments based on historical entitlements would be more efficient at raising farm incomes, while income-based disaster payments can reduce risks.
- Existing commodity marketing entities require periodic capital infusions. Continuing the deregulation and privatisation of these enterprises can reduce their fiscal burden and improve allocative efficiency in the economy.
- Turkey allocates a relatively small share of spending to investments in innovation, services to help farmers improve their practices, and education and training for farmers. Greater emphasis on these essential services should be considered.
- The new Digital Agricultural Market (DITAP) is a good way to help farmers access markets and can increase allocative efficiency in the economy. It remains to be seen how this new platform will affect the role of State Economic Enterprises (SEE) and Agricultural Sales Co-operative Unions (ASCUs), but more alternatives for buyers and sellers of agricultural products are welcome.
- A stronger policy emphasis on competition, adaptation and resilience to climate change rather than production quantity and quality can help set the stage for long-term sustainability of the sector. For example, the recent emphasis on water use efficiency rather than simple expansion of irrigation infrastructure can make the sector more resilient to drought.
- Recent re-allocation of unused public land to farmers in response to the COVID-19 pandemic is unlikely to increase food supplies significantly. Care should be taken that expanded land use does not lead to problems for environmental sustainability, and that land allocation is done in a fair and transparent manner.

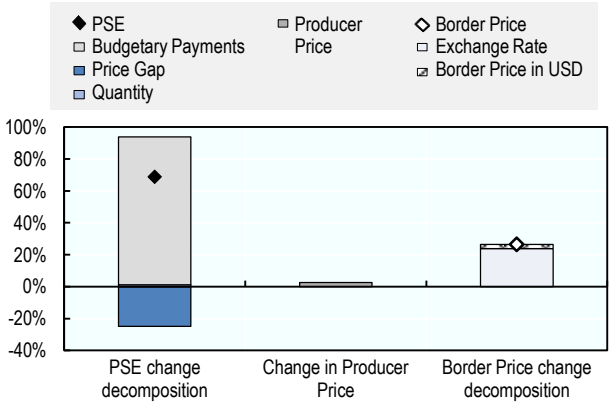
Figure 26.1. Turkey: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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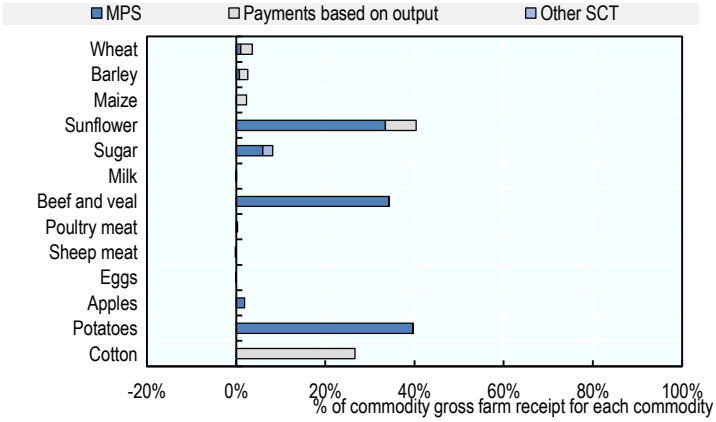
Figure 26.2. Turkey: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/ezmjo1

Figure 26.3. Turkey: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/aetxuo

Table 26.1. Turkey: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**18 343**	**22 169**	**48 195**	**47 171**	**50 377**	**47 038**
***of which:** share of MPS commodities (%)*	55.0	70.6	70.2	71.6	69.5	69.5
Total value of consumption (at farm gate)	**14 075**	**18 581**	**35 668**	**35 361**	**37 911**	**33 733**
Producer Support Estimate (PSE)	**4 304**	**5 922**	**8 878**	**8 022**	**7 867**	**10 745**
Support based on commodity output	3 419	5 034	5 282	6 257	6 076	3 512
Market Price Support[1]	3 408	4 719	4 560	5 492	5 362	2 826
Positive Market Price Support	3 412	4 726	4 567	5 493	5 381	2 826
Negative Market Price Support	-3	-8	-7	-1	-19	0
Payments based on output	11	316	722	765	714	687
Payments based on input use	885	426	2 580	754	729	6 256
Based on variable input use	850	302	1 905	395	333	4 987
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	19	116	672	354	392	1 269
with input constraints	0	0	0	0	0	0
Based on on-farm services	16	8	3	5	5	0
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	25	1 016	1 011	1 062	976
Based on Receipts / Income	0	0	208	219	195	210
Based on Area planted / Animal numbers	0	25	808	792	867	766
with input constraints	0	0	119	130	145	80
Payments based on non-current A/An/R/I, production required	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	436	0	0	0	0
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	436	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**22.7**	**24.0**	**17.2**	**16.1**	**14.9**	**19.6**
Producer NPC (coeff.)	**1.23**	**1.26**	**1.10**	**1.13**	**1.12**	**1.07**
Producer NAC (coeff.)	**1.29**	**1.32**	**1.21**	**1.19**	**1.17**	**1.24**
General Services Support Estimate (GSSE)	**333**	**3 507**	**1 113**	**1 686**	**1 390**	**262**
Agricultural knowledge and innovation system	67	29	73	91	70	57
Inspection and control	51	67	16	20	16	13
Development and maintenance of infrastructure	22	513	766	1 240	1 057	0
Marketing and promotion	95	2 888	258	336	247	192
Cost of public stockholding	0	0	0	0	0	0
Miscellaneous	99	11	0	0	0	0
Percentage GSSE (% of TSE)	**7.4**	**37.8**	**10.1**	**17.4**	**15.0**	**2.4**
Consumer Support Estimate (CSE)	**-3 032**	**-4 513**	**-3 956**	**-4 762**	**-4 871**	**-2 233**
Transfers to producers from consumers	-3 027	-4 547	-3 890	-4 564	-4 873	-2 231
Other transfers from consumers	-49	-64	-70	-199	-8	-2
Transfers to consumers from taxpayers	0	0	0	0	0	0
Excess feed cost	43	97	4	0	11	0
Percentage CSE (%)	**-22.2**	**-22.5**	**-10.7**	**-13.5**	**-12.8**	**-6.6**
Consumer NPC (coeff.)	**1.29**	**1.30**	**1.12**	**1.16**	**1.15**	**1.07**
Consumer NAC (coeff.)	**1.29**	**1.29**	**1.12**	**1.16**	**1.15**	**1.07**
Total Support Estimate (TSE)	**4 637**	**9 429**	**9 991**	**9 708**	**9 257**	**11 007**
Transfers from consumers	3 075	4 611	3 959	4 762	4 882	2 233
Transfers from taxpayers	1 611	4 881	6 101	5 144	4 384	8 776
Budget revenues	-49	-64	-70	-199	-8	-2
Percentage TSE (% of GDP)	**4.0**	**3.8**	**1.4**	**1.3**	**1.2**	**1.6**
Total Budgetary Support Estimate (TBSE)	**1 229**	**4 710**	**5 431**	**4 215**	**3 895**	**8 182**
Percentage TBSE (% of GDP)	**1.1**	**2.0**	**0.8**	**0.5**	**0.5**	**1.2**
GDP deflator (1986-88=100)	**100**	**139 552**	**945 848**	**828 845**	**944 107**	**1 064 592**
Exchange rate (national currency per USD)	**0.00**	**1.12**	**5.84**	**4.84**	**5.68**	**7.02**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Turkey are: wheat, maize, barley, sunflower, sugar, potatoes, tomatoes, grapes, apples, cotton, tobacco, milk, beef and veal, sheep meat, poultry and eggs.
Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Before 1980, an import substitution policy was in place and production was mostly controlled by agricultural policies. Some agricultural products were taxed while others received subsidies, but the sector was a net payer to the budget overall (OECD, 2016[1]).

From the 1980s until 2000, the sector was a net beneficiary of support, directed towards import-competing farm products. The main agricultural policy instruments were price support for crop products and input subsidies. Programmes provided low-cost credit, agricultural chemicals, seeds, irrigation and fertiliser. Livestock production was supported mainly by border measures.

State enterprises managed intervention buying, in the form of SEEs as exclusive purchasers of grains, pulses, sugar, tobacco and tea; and ASCUs responsible for horticultural crops, cotton, oilseeds, nuts, and olive oil. Support prices were announced after planting, and farmers received payment a year or more after harvest and delivery.

After 2000, the country embarked on a process of structural reform as a condition for receiving macro-economic stabilisation assistance from the IMF and World Bank (Burrell and Kurzweil, 2007[2]; OECD, 2016[1]). These reforms were carried out between 2001 and 2008 through the Agricultural Reform Implementation Project (ARIP). ARIP was intended to improve efficiency in the agro-food sector by removing market distortions, and contribute to fiscal consolidation. Under ARIP, Turkish agricultural policy was oriented towards closer alignment with the EU's CAP.

Reforms after 2001 reduced the state's role in setting prices, marketing, and trade of agro-food products. SEEs and producer co-operatives were made independent to varying degrees and at different speeds, and became more exposed to market conditions. Structural adjustment in agriculture was promoted through aid to convert land to alternative production, or land consolidation, and with transition support and aid for rural development. This period also saw a shift away from output and input subsidies towards direct income support payments, although high border protection for agro-food products remained in place (OECD, 2011[3]).

Since 2010, production-linked payments were re-established for many products. Current agricultural policies also include import tariffs, fixed purchasing prices, export subsidies, deficiency payments (income support payments), insurance support and input subsidies (mostly through interest concessions). In addition, there is an emphasis on infrastructure, particularly for irrigation, also connected to rural development objectives.

Table 26.2. Turkey: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1980s	Closed economy (import substitution regime)	High tariffs for border protection Agricultural price controls Input subsidies Import controls by the State Economic Enterprises (SEE) which controlled agricultural marketing and production Agricultural Sales Co-operatives Unions (ASCU) and agricultural member cooperatives (ASC) Agricultural Credit Cooperatives State-owned Agricultural Bank
1980-2010	Gradual reform to liberalise trade but with agricultural protection	Agricultural Reform Implementation Project (ARIP) as a precondition of the World Bank and IMF programmes Privatization of SEEs and restructuring of ASCUs Price-fixing by government discontinued for some products but remains for

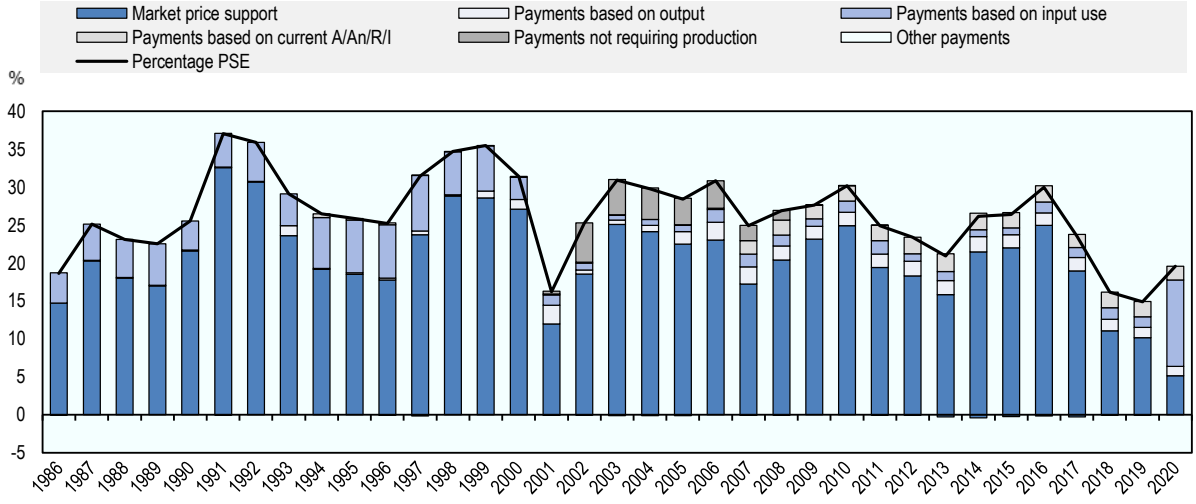
Period	Broader framework	Changes in agricultural policies
		others Gradual reduction of tariffs for some agricultural inputs and outputs Progressively reduced role for ASCUs and ASC Price controls continued Product and input subsidies phased out Introduction of Direct Income Support Compensatory payments to cover the cost of switching from crops in excess supply (e.g. hazelnuts and tobacco) to alternative activities (net imported products) Introduction of agri-environmental policies and cadastral works FTAs signed
2010-present	Open market economy but with agricultural protection	Agricultural tariffs continue to be used Export subsidies implemented Deficiency payments differentiated according to 30 agricultural basins throughout the country Infrastructure investments increased

The PSE was mostly in the range of 25-30% of agricultural gross farm receipts over the past two decades, with a significant decline after 2018 (Figure 26.4). This is a consequence of exchange rate movement reducing the level of market price support, which made up about 54% of the PSE in 2018-20 but about 78% in 2000-02.

Overall, nominal support increased since the late 1980s. Budgetary payments grew, starting with the move towards decoupled payments in the early 2000s, and remained significant through successive reforms that changed their basis. Budgetary support jumped in 2020 as a consequence of exceptional spending related to COVID-19, mainly for concessional loans and interest concessions.

Figure 26.4. Turkey: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The majority of support comes through market price support, consisting mainly of tariffs on imported products. Budgetary support comes through deficiency payments and area payments based on production characteristics. Purchases of inputs and marketing of major commodities is handled through SEEs or ACSUs, which have price-setting power.

Export subsidies apply to 14 commodity groups, out of the 19 groups eligible under Turkey's WTO commitments. These include processed fruit and vegetables, poultry meat and eggs. Export subsidies are granted in the form of reductions of the exporters' debts to public corporations (for example, for taxes, and telecommunications or energy costs). Production quotas apply at the farm level for sugar beet. Under the Nairobi agreement, export subsidies are to be phased out by the end of 2022.

Deficiency payments are provided as "premium payments" for products considered to be in short domestic supply. These are directed to producers of 17 different agricultural products, differentiated by production area to encourage ecological and economical suitability of production, and high yield and quality.

Area-based payments fall under several different rationales. Hazelnut producers receive payments based on area of production. Farmers can also receive area payments for producing fodder crops or certified saplings, organic farming, using good agricultural practices, using certified seeds, and for the rehabilitation of olive groves. Each farmer registered under the National Farmer Registration System (NFRS) receives a so-called "diesel payment" and a "fertiliser payment" separately based on current area of production.

State-supported agricultural insurance (TARSİM) comes through a public-private partnership where private insurance companies deliver uniform policies to farmers. The state pays between 50% and 67% of the total insurance premium on behalf of farmers (Agricultural Insurance Pool, 2020[4]).

Turkey is a signatory to the Paris Agreement. Agriculture represents 7.3% of total greenhouse gas (GHG) emissions. In its Nationally Determined Contribution (NDC), Turkey proposes to reduce agricultural emissions through fuel savings from consolidation of agricultural land, rehabilitating grazing lands, controlling fertiliser use, implementing modern farming practices and encouraging minimum tillage farming techniques.

Domestic policy developments in 2020-21

The Ministry of Agriculture and Forestry initiated a new Project, named Digital Agriculture Market (DITAP) in co-operation with the Ministry of Treasury and Finance and the Ministry of Trade. The digital platform makes it possible for all operations from pre-sowing to post-harvest to be carried out in a digital environment. DITAP is a web-based digital platform for the supply and demand chain and includes a wide range of members from smallholders to big players in the retail sector. DITAP provides farmers with new opportunities to strengthen their marketing capabilities. The system also allows for contract farming, which helps farmers meet the needs of the industry and the market by planning production and sales in advance. Farmers can also purchase products such as seeds and fertilisers through DITAP, with the convenience of input financing. In addition, a new agricultural land lease module, lets farmers lease their land through DITAP (DITAP, 2021[5]).

Additional coverage is now available through the state supported agricultural insurance. Starting from 2021, coverage includes heat damage to oranges, tangerines, grapefruit, lemons and grapes, rain damage to cotton during the harvest period, bird damage to sunflower and several new crops. In 2020, 2.1 million insurance policies were issued and TRY 1.6 billion (USD 250 million) of state insurance premium support was provided.

In 2020, Turkey published its national strategy document on Prevention, Reduction and Monitoring of Food Loss and Waste and its action plan in co-operation with the FAO. The action plan aims to intensify efforts

at national, regional and international levels to prevent food loss and waste. The national strategy sets 13 targets and 96 actions as part of four strategic goals to prevent food loss and waste (FAO, 2020[6]).

At the midpoint of the "Turkey Agricultural Drought Strategy and Action Plan, 2018-22", activities continue under five headings: i) drought risk estimation and crisis management; ii) ensuring a sustainable water supply; iii) effective management of agricultural water demand; iv) increasing support to R&D activities, training and extension services; and v) institutional capacity building. As part of the strategy, Drought Management Plans are to be completed for 25 basins by the end of 2023. Between 2014 and 2020, 15 such plans were completed. Ten more basins are included in the 2021 programme, along with two plans that are due for revision (required every six years). Responsible institutions must report on the implementation of the Management Plans every six months.

Within the framework of the "Rural Development Investments Support Program", 50% grant support is available for the installation of irrigation systems (drip or sprinkler). Approximately 323 000 producers were supported by grants and credit support, and pressurised irrigation systems were installed on a total area of 1.1 million hectares by the end of 2020. Since 2003, the use of closed system irrigation projects has been accelerated to reduce loss and leakage. In 2003, only 6% of irrigated area used piped irrigation networks, but by 2020 this had increased to 29%.

Domestic policy responses to the COVID-19 pandemic

A Working Group and a Scientific Board were established within the Ministry of Agriculture and Forestry to carry out monitoring and evaluation studies of COVID-19. To ensure that seasonal workers can continue to work, hygiene and personal protection products were provided and workers were allowed to travel to agricultural areas despite restrictions on movement in order to take up work. Transportation and living conditions of seasonal workers were checked to ensure sanitary conditions.

Deadlines were extended in some cases. Application deadlines for crop production supports for cereals and legumes as well as deadlines for oilseeds and olives, organic agriculture and good agricultural practices were extended to the second quarter of 2020. In April 2020, producers' principal and interest payments on concessional loans were postponed by six months. Tax payments due between April and June for food enterprises were postponed. In addition, some agricultural payments are being made in advance instead of as a sequence of smaller payments over the course of the year. Interest-free loans were made available to small farmers and food enterprises.

Actions were also taken to accelerate planting. The "Crop Production Improvement Project" was initiated in 24 provinces suitable for additional summer planting, providing a grant of 75% of seed costs. The aim of the project is to increase the yield and quality of crop production as well as encouraging new species, varieties, methods and technologies and increasing the use of agricultural mechanisation.

In co-operation with the Ministry of Environment and Urbanization, state lands not currently in use are to be progressively opened for agricultural production. A pilot project allows non-cultivated state lands to be used by farmers for sample cultivation. In the first stage of this project, 970 hectares of land are to be planted to cereals, legumes, oilseeds and feed crops.

Trade policy developments in 2020-21

The average rate of customs duties applied in 2020 for basic agricultural products outside the Customs Union Common External Tariff was 58%. Customs duties were reduced on cocoa shells, husks, skins and other cocoa waste.

In 2020, Turkey signed revised Free Trade Agreements (FTA) with EFTA, Bosnia and Herzegovina and Montenegro and ratification procedures are ongoing. FTA negotiations are actively ongoing with four countries: Ukraine, Japan, Thailand and Indonesia. FTA negotiations with the United Kingdom have been

concluded and Agreement was signed on 29 December 2020. The United Kingdom is a top-ten export destination for Turkish agricultural products.

Trade policy responses to the COVID-19 pandemic

Exports of lemons were temporarily limited. Tariffs were reduced and in-quota import amounts increased for many other commodities. These trade actions are mainly designed to ensure domestic supply, and are in part a response to actions taken by trading partners and price increases resulting from demand spikes. Since April 2020, exotic animals and pets are prohibited from entering the country to prevent this possible vector of COVID-19 infection.

On 21 October 2020, customs duty rates, which were 45% for wheat, 35% for barley and 25% for maize, were removed until at least 30 April 2021. In addition, the tax rate, which is 34% for paddy and 45% for rice, has been reduced to 5% and 15%, respectively, from 23 December 2020 to 30 April 2021.

The exportation of lemons was subjected to prior authorisation to meet rising domestic demand due to the COVID-19 pandemic. This regulation was put into force on 7 April 2020 and terminated on 7 August 2020.

The government of Turkey also removed the customs duty for 100 000 tonnes of paddy rice imports until the end of May 2021.

Contextual information

Primary agriculture accounts for 6% of GDP and employs 18% of the workforce, making agriculture one of the most important sectors of the country's economy. Turkey is a net exporter of agricultural products, which account for more than 10% of total exports, and access to world markets is a significant issue for the sector. Notwithstanding various structural bottlenecks, such as the predominance of small-sized, subsistence and semi-subsistence farms, Turkey ranks as a significant agricultural exporter of nuts, dried fruits, and some fresh vegetables; main export destinations include the European Union, Iraq, the Russian Federation and the United States.

The impact of the pandemic on economic activity unfolded later than in other countries in the region, but was sharp. Employment and aggregate demand contracted strongly in the first wave, and then rebounded following vigorous government support. However, they are again facing headwinds (OECD, 2021[7]).

Table 26.3. Turkey: Contextual indicators

	Turkey		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	609	2 347	1.5%	2.1%
Population (million)	64	83	1.5%	1.6%
Land area (thousand km²)	770	770	0.9%	0.9%
Agricultural area (AA) (thousand ha)	40 479	37 802	1.3%	1.2%
			All countries1	
Population density (inhabitants/km²)	82	108	53	63
GDP per capita (USD in PPPs)	9 478	28 424	9 265	21 975
Trade as % of GDP	15	26	12.3	14.6
Agriculture in the economy			**All countries1**	
Agriculture in GDP (%)	10.0	6.4	2.9	3.5
Agriculture share in employment (%)	36.0	18.1	-	-
Agro-food exports (% of total exports)	13.2	10.6	6.2	7.3
Agro-food imports (% of total imports)	5.9	7.8	5.5	6.7
Characteristics of the agricultural sector			**All countries1**	
Crop in total agricultural production (%)	69	44	-	-
Livestock in total agricultural production (%)	31	56	-	-
Share of arable land in AA (%)	59	52	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

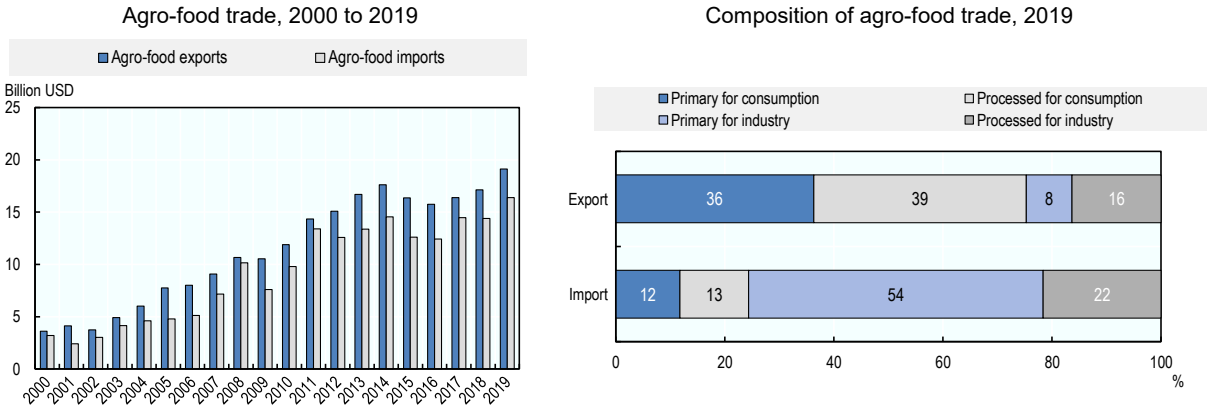
Despite the pandemic, sector growth has outpaced overall GDP. In the first three quarters, overall growth of agriculture was 5.3%. Agricultural and food products exports increased by 5% in 10 months of the year compared to the same period of the previous year. However, growth in the sector has come mainly from increased use of inputs and productivity growth lags the world average.

Figure 26.5. Turkey: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

Figure 26.6. Turkey: Agro-food trade

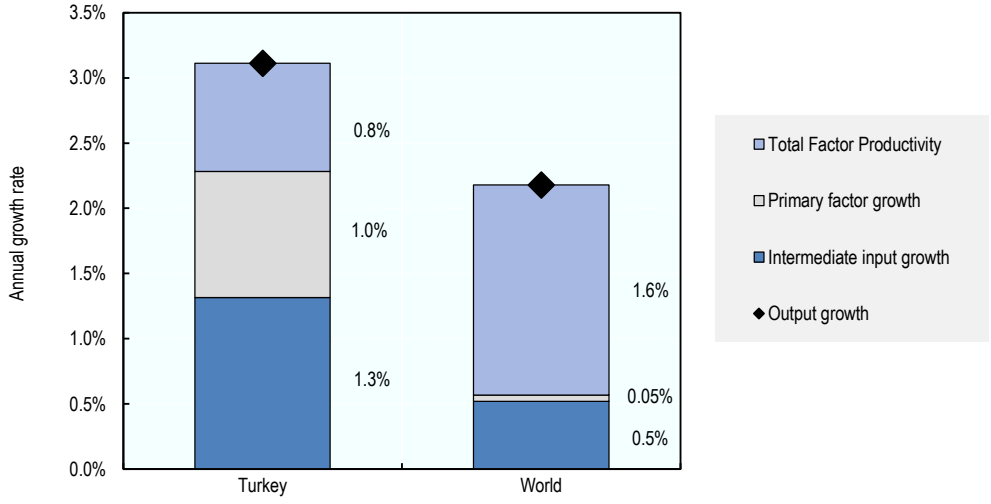


Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Agriculture is relatively carbon intensive compared with the rest of the economy, with the share of emissions about double its share in GDP. Irrigation has been under continual expansion, and agriculture is the major water user, accounting for 85% of total water abstractions. Phosphorous balances have declined since 2000, but remain more than double the OECD average.

The agricultural sector has enjoyed robust growth based on increased use of inputs. Irrigated area has expanded as a result of continued public investment, opening more land to intensive production. Total factor productivity growth makes up only about a third of agricultural output growth between 2007 and 2016.

Figure 26.7. Turkey: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 26.4. Turkey: Productivity and environmental indicators

	Turkey		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	1.0%	0.8%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	27.8	27.7	33.2	28.9
Phosphorus balance, kg/ha	8.0	7.0	3.4	2.6
Agriculture share of total energy use (%)	5.0	4.3	1.7	2.0
Agriculture share of GHG emissions (%)	14.1	12.5	8.4	9.5
Share of irrigated land in AA (%)	8.0	10.2	-	-
Share of agriculture in water abstractions (%)	75.4	84.7	46.0	43.4
Water stress indicator	18.6	26.1	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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27 Ukraine

Support to agriculture

Ukraine's support to agricultural producers, as measured by the producer support estimate (PSE), is low compared to other countries. The PSE was volatile over the past three decades, mostly due to fluctuations in market price support (MPS). During the past decade, however, PSE fluctuations narrowed around zero, averaging 2.1% of gross farm receipts during 2018-20.

In most years, total MPS was negative – reflecting average producer prices below international reference levels – but with significant variation across commodities and time. Due to tariff protection, domestic prices for meat products and sugar were above international reference levels, while those for most crops, as well as for milk, were generally below reference prices. In recent years, the overall impact of government intervention on prices was likely limited and, since 2018, the total MPS for the sector was slightly positive. Single commodity transfers (SCTs) mirror the MPS across commodities, with sugar, rye, and pig meat receiving the highest support, while oats and, to a lesser extent, sunflower seed and milk are implicitly taxed.

Budgetary support in the form of tax benefits and input support continues to be relatively small, representing less than 1% of gross farm receipts, but contributed to positive overall producer support during the last three years. Additional support was provided in 2020 in the context of the COVID-19 pandemic, mostly in the form of investment aid and payments for keeping cows, but such transfers remained small, representing less than half a percent of budgetary support to producers in that year.

Support for general services increased since 2015 but remains low compared to other countries. During 2018-20, the general services support estimate (GSSE) averaged 1.7% of agricultural value-added, well below levels seen in the mid-1990s. Most of these expenditures go to inspection and control services, and to agricultural schools. Overall, total support to the sector increased slightly in relative terms, from an average of 0.5% of GDP in 2000-02 to 0.7% in the most recent three years.

Recent policy changes

New legislation passed in 2020 ended the ban on the sale of agricultural land. As of July 2021, citizens of Ukraine will be permitted to purchase up to 100 hectares of land, while from January 2024 this possibility will extend to purchases of up to 10 000 hectares, available to legal entities whose founders or final beneficiaries are Ukrainians and which do not have business abroad or in offshore companies. This law follows the end of the moratorium on the sale of agricultural land in late 2019, along with legislation related to land documentation and illegal land appropriation.

Legislation was also passed related to climate change and environmental policies. In particular, this concerns the monitoring, reporting and verification of greenhouse gas (GHG) emissions, the use of ozone-depleting substances and fluorinated greenhouse gases, irrigation, and drainage. A new law, in force since

early 2020, provides a strategy on environmental policies and lists indicators for measuring environmental policy effects and compliance with environmental targets.

Two new free trade agreements (FTAs) entered into force in January 2021, including the Ukraine-Israel FTA, and the Political, Free Trade and Strategic Partnership Agreement between Ukraine and the United Kingdom. Both agreements facilitate bilateral trade in agricultural products, among others.

In response to the COVID-19 pandemic, a 2020 State Program of Economic Stimulation provides a number of measures that target the agricultural sector. In particular, these concern access to financial resources, enhanced market facilitation and market monitoring, further facilitating organic agriculture, and specific subsidies for capital investments, dairy producers and social insurance for family farms. During the first half of 2020, Ukraine also imposed temporary bans on the export of buckwheat (2 April to 1 July 2020) and undenatured ethyl alcohol (23 March to 15 May 2020).

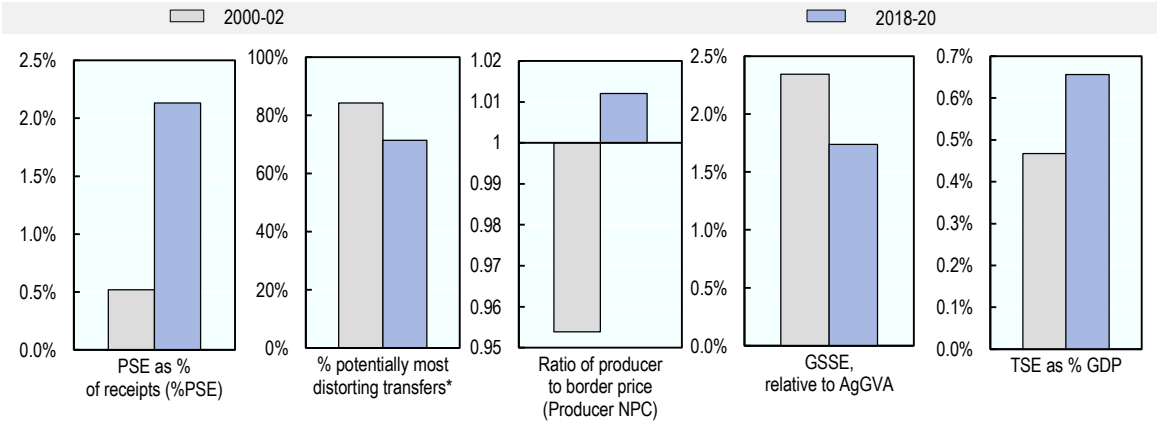
Assessment and recommendations

- With low levels of producer support overall, most-distorting policy interventions in Ukraine's agricultural markets became less dominant in recent years thanks to the reduction of both positive and negative MPS. However, domestic prices for some export commodities, notably sunflower seed and milk, remain below world price levels. Export duties applied to some of the products, market activities (though limited) of state-owned enterprises, and limitations in export infrastructure may each contribute to this negative support. In order to take advantage of its agricultural competitiveness, Ukraine should take additional steps to facilitate exports, including continued investment in logistics and transportation systems, in line with growing export volumes.
- At the same time, the re-emergence of MPS for potatoes in the context of bad harvests in 2019 points to the distortive effects of import tariffs even in markets where trade has remained marginal for some time.
- In addition to abolishing VAT regimes that supported agricultural input use, the integration of agricultural producers into the economy-wide VAT system since 2018 should increase efficiency in the sector and reduce the administrative burden. Ensuring well-functioning input markets remains key to improving farmers' access to agricultural inputs.
- Investments continue to be supported through grants and concessional loans. In recent years, the scale of this support increased, including in the context of the COVID-19 pandemic. While investments in productive capacity are essential for raising the sector's productivity and competitiveness, public support may crowd out private sector investments and should not be seen as a substitute for well-functioning credit markets.
- Productivity in agriculture grew quickly over the past decade. However, the deterioration of capital stocks despite investment aid – likely caused by economic and political uncertainties – threatens future productivity growth. Ensuring macroeconomic and political stability will be critical for maintaining and developing a productive agricultural sector.
- The end of the moratorium on the sale of agricultural land, which had been extended annually between 2002 and 2019, is a welcome step towards removing rigidities in the land market that prevent this agricultural resource from being optimally allocated. The expected entering into force of new legislation on the turn-over of agricultural land should enable land sales in the future. While much will depend on the implementation, this legislation is important to improve efficiency in the sector.
- Public expenditure on general services started to recover after the economic depression of 2014-15, but remain low in relative terms. The focus on the country's inspection and control system is necessary to support the export-oriented sector. In light of changing climate conditions, however,

also ensuring a well-functioning and sufficiently funded knowledge and information system would help the productivity of Ukraine's agricultural sector.

- Ukraine's Nationally Determined Contributions (NDCs) to the 2016 Paris Agreement on Climate Change commit the country to not exceed 60% of its 1990 GHG emission levels in 2030, including from all agricultural and other land use sources. The Action Plan that came into force in early 2020 should help implement multisectoral monitoring, reporting and verification of GHG emissions. With agriculture responsible for more than 12% of national emissions, specific reduction targets and related policy action will need to complement this Plan to achieve the emissions-reduction objectives.

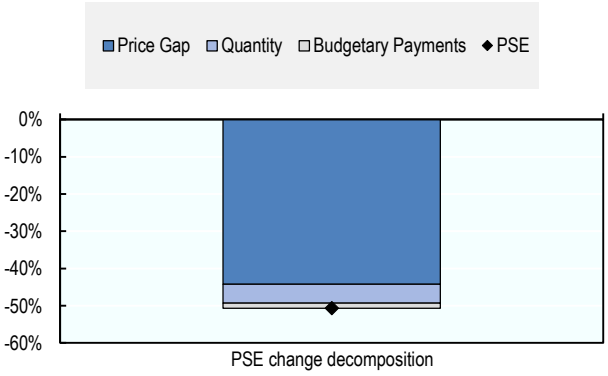
Figure 27.1. Ukraine: Development of support to agriculture



Note: *Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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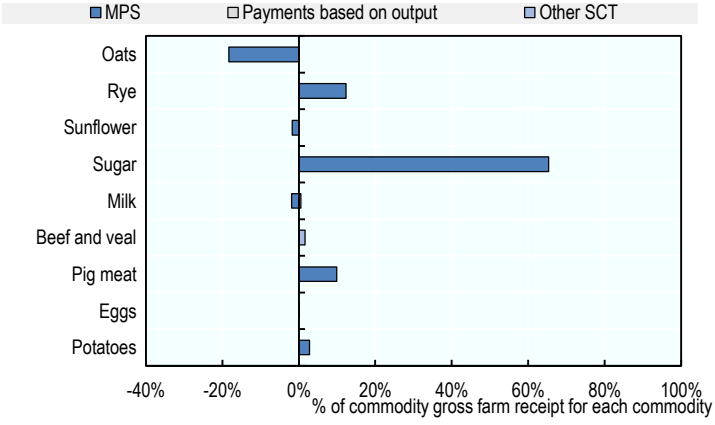
Figure 27.2. Ukraine: Drivers of the change in PSE, 2019 to 2020



Note: The producer price change and the border price change are not calculated when the negative price gap occurs at the commodity level for the current or previous year.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/18qag9

Figure 27.3. Ukraine: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/pblhns

Table 27.1. Ukraine: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**9 619**	**33 508**	**31 469**	**34 265**	**34 791**
***of which:** share of MPS commodities (%)*	86.8	83.8	82.7	83.9	84.8
Total value of consumption (at farm gate)	**8 841**	**23 717**	**21 066**	**25 394**	**24 692**
Producer Support Estimate (PSE)	**53**	**726**	**668**	**1 025**	**484**
Support based on commodity output	-415	408	357	690	178
Market Price Support[1]	-531	408	357	690	178
Positive Market Price Support	388	559	437	897	344
Negative Market Price Support	-919	-151	-80	-207	-166
Payments based on output	116	0	0	0	0
Payments based on input use	203	125	120	120	135
Based on variable input use	169	24	10	23	39
with input constraints	0	0	0	0	0
Based on fixed capital formation	31	101	109	97	95
with input constraints	0	0	0	0	0
Based on on-farm services	2	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	265	192	191	214	172
Based on Receipts / Income	265	161	158	166	160
Based on Area planted / Animal numbers	0	31	33	48	12
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	0	0	0	0
Based on long-term resource retirement	0	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**0.5**	**2.1**	**2.1**	**3.0**	**1.4**
Producer NPC (coeff.)	**0.95**	**1.01**	**1.01**	**1.02**	**1.01**
Producer NAC (coeff.)	**1.01**	**1.02**	**1.02**	**1.03**	**1.01**
General Services Support Estimate (GSSE)	**121**	**222**	**221**	**222**	**224**
Agricultural knowledge and innovation system	51	69	68	68	71
Inspection and control	26	136	130	138	141
Development and maintenance of infrastructure	36	7	14	6	2
Marketing and promotion	1	0	0	0	0
Cost of public stockholding	1	3	3	4	3
Miscellaneous	7	6	6	6	7
Percentage GSSE (% of TSE)	**69.5**	**23.5**	**24.9**	**17.8**	**31.6**
Consumer Support Estimate (CSE)	**384**	**-394**	**-270**	**-700**	**-214**
Transfers to producers from consumers	478	-351	-240	-638	-175
Other transfers from consumers	-38	-39	-24	-56	-38
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	-55	-4	-6	-6	-1
Percentage CSE (%)	**4.3**	**-1.6**	**-1.3**	**-2.8**	**-0.9**
Consumer NPC (coeff.)	**0.95**	**1.02**	**1.01**	**1.03**	**1.01**
Consumer NAC (coeff.)	**0.96**	**1.02**	**1.01**	**1.03**	**1.01**
Total Support Estimate (TSE)	**174**	**948**	**889**	**1 246**	**708**
Transfers from consumers	-440	390	264	694	213
Transfers from taxpayers	651	597	649	609	533
Budget revenues	-38	-39	-24	-56	-38
Percentage TSE (% of GDP)	**0.5**	**0.7**	**0.7**	**0.8**	**0.5**
Total Budgetary Support Estimate (TBSE)	**705**	**539**	**532**	**556**	**530**
Percentage TBSE (% of GDP)	**1.9**	**0.4**	**0.4**	**0.4**	**0.4**
GDP deflator (2000-02=100)	**100**	**1 368**	**1 315**	**1 422**	**..**
Exchange rate (national currency per USD)	**5.38**	**26.67**	**27.20**	**25.85**	**26.96**

.. Not available

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Ukraine are: wheat, maize, rye, barley, oats, sunflower, sugar, potatoes, milk, beef and veal, pig meat, poultry, and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

Prior to the 1990s, central planning regulated all sectors of Ukraine's economy, including agriculture, as part of the Soviet Union. The state administered prices, and state enterprises controlled production, marketing of agricultural inputs and outputs, and processing and distribution of food (von Cramon-Taubadel et al., 2008[1]).

The first reforms began at the end of the 1980s, when the country started to transition towards a market-based economy. The ability to lease land from collective farms or individuals facilitated private agricultural production, enabling the establishment of family farms (von Cramon-Taubadel et al., 2008[1]).

However, Ukraine went through an economic crisis in the early 1990s, involving significant economic contraction and inflation. These impacted the agricultural sector and resulted in substantial reductions in agricultural output and productivity. Consequently, several trade and price liberalisation policy reforms were reversed in the mid-1990s. Renewed reforms in agribusiness privatisation and collective farm restructuring intensified only after macroeconomic stabilisation in the 2000s (OECD/The World Bank, 2004[2]). While prior to the 1990s, the state owned all land,[1] today about three-quarters of agricultural land is private property (StateGeoCadastre, 2017[3]).[2]

In 2005, the State Agrarian Fund was established as a state-owned public joint stock company (reorganised in 2013). Its initial mandate was to regulate grain prices through intervention purchases, to store grain in state-owned silos and sell it to bakeries to guarantee bread prices, and to provide loans to grain producers. The fund progressively became involved in other activities, such as state purchases and sales of a broad range of agricultural and food products; forward contracts; flour processing and wholesaling; and sales of fuel and mineral fertilisers to producers (OECD, 2015[4]).

Two key events helped shape agricultural policies in Ukraine. First, in 2008, Ukraine became a member of the WTO, setting its agricultural bound tariffs at an average of 10.8%, expanding its export opportunities, and contributing to changes in the system of state support for agriculture. Second, in 2014, the European Union and Ukraine signed the Deep and Comprehensive Free Trade Area (DCFTA) as part of their Association Agreement. DCFTA involves tariff reductions and duty-free import quotas to facilitate trade between Ukraine and the European Union, including in agro-food products.

From 1999 to 2016, the state provided significant support through VAT accumulation, based on an agriculture-specific VAT regime. Agricultural producers accumulated in special bank accounts VAT due on their primary and processed products. The accumulated funds were directed to cover VAT on purchased inputs, with the residual available for any other production purpose. From 2014 to 2016, this mechanism provided 90% of total state support. Other domestic policy measures notably comprised input subsidies, tax concessions, price controls, import tariffs, non-tariff trade regulation, minimum purchase prices, direct state purchases, and preferential loans (Table 27.2).

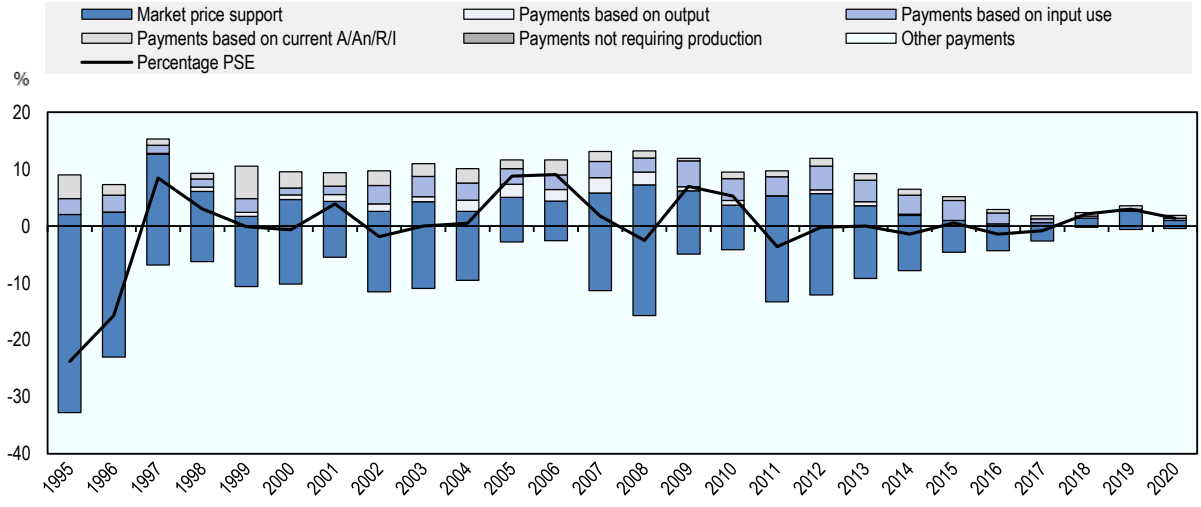
Table 27.2. Ukraine: Agricultural policy trends

Period	Broader framework	Changes in agricultural policies
Prior to 1990s	Planned economy	Planned agricultural production Controlled value chain, including trade, of agricultural production, including inputs and outputs
1990-2000	Transition economy: gradual reforms towards market economy Interrupted by deep economic crisis in the early 1990s	Increased import tariffs for agricultural and processed food products Land reform to allow private ownership Gradual dismantling of centralised marketing schemes Reversal of reforms during economic crisis
2000-present	Renewed reforms towards an open economy	Reduction of agricultural tariffs following WTO accession Export taxes and quotas for main exported products, successively eliminated or replaced by MoUs State Agrarian Fund (price controls, production controls, marketing, loans, etc.) with market interventions through minimum reference prices and state food purchases successively reduced Sugar production quotas until 2018 Various subsidies for inputs, interest support and tax concessions

Due to the negative market price support only partly offset by transfers to producers through tax concessions and other measures, support to agricultural producers was negative for most of the 1990s. While the level continued to fluctuate over the recent decade, it has been closer to zero (Figure 27.4). With little budgetary support to general services or consumers, total support to the sector remained small for most of the past 25 years.

Figure 27.4. Ukraine: Level and PSE composition by support categories, 1995 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Ukraine's agricultural policy measures are formulated in a number of major laws and decisions. The law **On State Support of Agriculture in Ukraine**, adopted in 2004, defines priorities and measures of

agricultural policy. The 2017 **Concept of development of farms and agricultural co-operatives for 2018-2020** sets out to create new rural jobs, provide support to private farms, encourage agricultural co-operation, create affordable credit conditions for farms, and increase real rural incomes through agricultural land leasing.

Agricultural producers are eligible for a **Single Tax**[3] set as a percentage of normative agricultural land values established on 1 July 1995 and adjusted since with the general consumer price index. Introduced in 1998, the Single Tax originally replaced twelve taxes for which agricultural enterprises were liable as business entities. The scope of this tax has narrowed since. At present, the Single Tax replaces three taxes – profit tax, land tax (for land used in agricultural production), and a special water use fee – with agricultural producers liable for all other taxes previously included in the Single Tax. The Single Tax regime generates implicit tax benefits to agricultural producers, estimated to be around UAH 4.3 billion (USD 160 million) annually in recent years.

The annual law **On State Budget of Ukraine** defines the financial scope of agricultural subsidy policies. In 2020, this remained at a similar level as 2019, allocating some UAH 4 billion (USD 148 million) for subsidies to agricultural producers. Given inflation of 2.7%, the 2020 budget declined slightly in real terms relative to the prior year.

In addition to the Single Tax regime, the general budget programme **On Financial Support of Agricultural Producers** provides a range of ongoing measures targeted to specific activities, such as partial compensation for the costs of agricultural machinery and equipment, and compensation to farmers for agricultural advisory services. For livestock producers, these also include interest rate support for livestock husbandry and breeding; partial reimbursement of costs related to the construction and reconstruction of animal farms and buildings; per head payments for cows to agricultural enterprises and for young cattle to rural households; and partial compensation to agricultural producers purchasing high-breeding animals, semen and embryos. In turn, on the crop side, support is provided in the form of seed cost compensation, reimbursements for different types of on-farm investments and debt repayments.

As per a Cabinet of Ministers of Ukraine (CMU) Resolution from June 2017, no price regulation of food products has taken place since July 2017. However, the State Material Reserve of Ukraine (SRU) procures and holds emergency reserves for a range of products, including agriculture and food products. Purchases are made through open tenders.

Since 2002, a moratorium bans the sale of agricultural land in Ukraine, although leasing for cultivation is permitted. The moratorium was extended annually until and including 2019. It was not formally extended into 2020. However, only from July 2021 can limited amounts of land be purchased by individual citizens of Ukraine, thanks to new legislation recently enacted. More important land purchases, including by Ukrainian legal entities, will be permitted from January 2024 (see below).

Ukraine has been a member of the WTO since May 2008. The country charges **import tariffs** on most agricultural products, with applied most-favoured-nation (MFN) tariffs for agricultural products averaging at 9.2%, well above the average for non-agricultural products at 3.7%. While most imports face *ad valorem* tariffs, Ukraine maintains a **global tariff-rate quota** for raw cane sugar. However, this quota was last used in 2011, given the excess sugar supply on the Ukrainian market in more recent years. **Export duties** are applied to some oilseeds, live animals and raw hides.

The **Association Agreement with the European Union**, ratified by Ukraine in 2014, increasingly influences the country's policies. On 27 June 2014, the European Union and Ukraine signed the **Deep and Comprehensive Free Trade Area (DCFTA)** as part of their Association Agreement. It applied provisionally from 1 January 2016 and formally entered into force on 1 September 2017. Trade liberalisation between the European Union and Ukraine is to be implemented over a transition period of seven to ten years. The European Union is to open tariff rate quotas for duty-free imports for Ukraine's principal agro-food products, such as grain, meat and milk products, and sugar, and to grant free access for the others. Ukraine is to

reduce import duties for a number of goods from the European Union. About 40% of agriculture-related import duties were reduced to zero immediately after the Agreement entered into force, and around half of import duties will be eliminated during the transition period. For about 10% of tariff lines – covering selected products in product categories such as dairy and eggs, sugar, miscellaneous edible products, animal oils and fats, and feeding stuff for animals – Ukraine maintains tariff rate quotas (TRQs) with zero in-quota tariffs, but with non-zero over-quota tariffs. Since 1 January 2016, Ukraine applies three TRQs with zero in-quota tariffs for imports from the European Union of pig meat, poultry meat and poultry meat preparations, and sugar, respectively. The parties committed to apply no export subsidies for mutually traded agricultural goods.

The DCFTA incorporates fundamental WTO rules on non-tariff barriers, such as prohibition of import and export restrictions, and disciplines on state trading. However, Ukraine's difficulty complying with EU food safety, veterinary and phytosanitary requirements remains a barrier for trade integration. Thus, the DCFTA contains provisions for technical regulations, standards and conformity assessments to harmonise with those of the European Union, as well as for technical co-operation in the field of regulations, standards and related issues between Ukraine and the European Union. In line with these provisions, the **Comprehensive Strategy of Implementing Legislation on Sanitary and Phytosanitary Measures** was approved in 2016 and provides a process for harmonisation of Ukraine's SPS legislation with EU requirements.

Other free trade agreements of Ukraine include the FTA with the European Free Trade Association (EFTA) in force since June 2012, the multilateral FTA with the Commonwealth of Independent States (CIS)[4] in force since August 2012 as well as bilateral ones with all CIS members, and the Canada-Ukraine FTA, in force since August 2017. New agreements with Israel and the United Kingdom both entered into force in January 2021 (see below).

In July 2019, the CMU approved the **Strategy for the development of exports of agricultural and food products for the period up to 2026**. It focuses on product competitiveness, an expanded range of export products, Ukrainian food brands, and supporting information and analysis on agro-food exports.

Ukraine signed the **Paris Agreement of the United Nations Framework Convention on Climate Change** in April 2016 and ratified it in September 2016. Through its NDC, Ukraine committed to total emissions across sectors, including agriculture, not exceeding 60% of those in 1990 (equivalent to not exceeding 140% of those in 2012). In December 2016, the CMU adopted the **National Concept of State Policy in the Field of Climate Change up to 2030**. The CMU approved the Action Plan for the implementation of this Concept in late 2017, while it approved the **Strategy for Low Carbon Development of Ukraine up to 2050** (SLCD) in July 2018. The SLCD defines a co-ordinated approach by various parties concerned and provides a national vision for decoupling economic growth and social development from the increase of GHG emissions. In addition, the Ministry of Agrarian Policy and Food (MAPF)[5] is developing measures to improve environmental practices related to the adaptation of agriculture and forestry to climate change, in line with obligations under the Association Agreement with the European Union.

Domestic policy developments in 2020-21

Changes to the legal framework

The **State Strategy for Regional Development for 2021-2027**, approved by the CMU in August 2020, specifically focuses on agricultural co-operation, small and medium-sized agricultural producers, storage infrastructure, and the introduction of new technologies and equipment for the processing of agricultural raw materials.

A new **Strategy for attracting private investment in agriculture for the period until 2023** was approved by the CMU in July 2019. It aims to increase agricultural exports, ensure national food security, and enhance an environmentally balanced growth of the agricultural sector.

The Law on **Agricultural Cooperation**, in force since August 2020, regulates issues related to the creation, management and dissolution of agricultural co-operatives. It eliminates the former differentiation between production and service co-operatives and defines co-operative education as a priority task of agricultural co-operatives.

Several legal acts have been put in place to regulate the documentation and market of agricultural land:

- The Law on **Amendments to Certain Legislative Acts of Ukraine on Combating Raids** entered into force in January 2020. It aims to enhance the protection against misappropriation of land and property of agricultural enterprises, including, among others, through the registration of property rights and real-estate transactions, and sets 1 January 2022 as a deadline for the completion of the State Land Cadastre, a new cadastre to be maintained by Ukraine's State Service for Geodesy, Cartography and Cadastre (StateGeoCadastre).
- By Resolution of March 2020, which entered into force in May 2020, the CMU requires that the approval of all types of land management documentation be transmitted and approved in electronic form through a personal account at StateGeoCadastre. This is expected to make the review of documents more efficient and timely and to improve objectivity and impartiality of the process.
- Aiming to facilitate the launch of a transparent land reform, following the relevant EU Directive of 2007, the Law on **the National Infrastructure of Geospatial Data**, which entered into force in June 2020, aims to enhance access to geospatial data, the development of markets for modern geo-information products and services. The ambition is a single portal for cadastres and geospatial data.
- A law adopted in November 2020 created a single state information system, the **State Agrarian Register**. It is financed from the state budget to integrate information on agricultural producers and their property as well as on related land, the environment, labour, finances and credits, among others. The law also expands the range of potential recipients of state support to include enterprises engaged in aquaculture, organic production, irrigation, vegetables, fruits and berries.
- The Law on **Amendments to Certain Legislative Acts of Ukraine concerning the Conditions of Turnover of Agricultural Lands** was ratified by the President of Ukraine and will come into force in July 2021. The law ends the ban on the sale of agricultural land by granting the right to purchase up to 100 hectares of land, as of 1 July 2021, to individual citizens of Ukraine. From 1 January 2024, purchases of up to 10 000 hectares are possible for Ukrainian citizens as well as for legal entities whose founders or final beneficiaries are Ukrainians, and which do not have businesses registered abroad or in offshore companies. The sale of land to foreigners remains prohibited and can become legal only through a referendum. The sale of state- or communally-owned agricultural land remains prohibited. A Presidential Decree in October 2020 charges the CMU to work on facilitating the transfer of state-owned agricultural land to communal ownership, and on draft laws on the support to private farms, the improvement of land management and land deregulation.

New legal acts related to specific subsectors of agriculture and food include the following ones:

- The Law on **State Regulation of Ethanol, Cognac and Fruit, Alcoholic Beverages, Tobacco and Fuel** was amended in December 2019. The state monopoly on alcohol production is abolished, allowing for alcohol production and export by any licensed business entity. Imports remain limited to authorised state enterprises. As part of this programme, state distilleries are being privatised through public procurement.

- The MAPF's Order **on Approval of Honey Requirements** from June 2019 entered into force in February 2020. The Order calls for the harmonisation of the Ukrainian legislation with the EU legislation regarding the requirements for honey. The document sets requirements for the characteristics and composition of honey, terminology, honey labelling.
- The Concept of the State Target Program for the Development of Industrial Potato Growing for the period up to 2025 and the Concept of the State Target Program for Vegetable Growing Development up to 2025, both approved in October 2020, aim to foster production and marketing of domestic potatoes and high-quality vegetable products, respectively.

A series of legal acts were put in place on climate change and environmental policies:

- The Law on **Principles of Monitoring, Reporting and Verification of Greenhouse Gas Emissions** came into force in March 2020 and applies from January 2021, reflecting Ukraine's obligations under international agreements, including the UN Framework Convention on Climate Change and the 2015 Paris Agreement. Ukraine's GHG emission monitoring legislation is to be gradually adapted to EU legislation, in line with Ukraine's EU Association Agreement.
- The Law on **the Basic Principles (Strategy) of the State Environmental Policy of Ukraine for the period until 2030**, in force since January 2020, replaces the former Strategy of Environmental Policy of Ukraine until 2020 and includes a set of 30 indicators to measure the effects of environmental policies and compliance with specific targets set by the law. The Action Plan 2021-2025 on the new Strategy has yet to be adopted.
- Following the **Irrigation and Drainage Strategy of Ukraine for the period up to 2030**, the government approved the Action Plan on its implementation in October 2020. It foresees additional state support measures to enhance the irrigation and drainage infrastructure in 2021-23. In September 2020, the government also approved the CMU Resolution **On Standards for Environmentally Safe Irrigation, Drainage, Watering Control and Sewerage Management**, which regulates measures aiming to balance water consumption for irrigation purposes.

Continuing the legislative work on the development of the organic products sector, Ukraine introduced its own system of certification of organic production through a CMU Resolution adopted in October 2020. Its main provisions are in line with the relevant EU regulation. The CMU also determined, by its Resolution adopted in February 2020, procedures for maintaining a range of state registers related to organic food production, certification bodies, and seeds and planting material. The Ministry Order on **Approval of the Procedure for Maintaining the List of Foreign Certification Bodies**, which came into force in May 2020, aims to facilitate the legal regulation of the organic products market.

Since December 2019, the State Register runs a new service to monitor grain storage information across all elevators in Ukraine, and to provide this information on a dedicated website.

Changes in agricultural support measures

A number of payment programmes from the budget for **State support for the development of animal husbandry and processing of agricultural products** continued in 2020, such as the partial compensation of the purchasing cost of high-breeding animals, the partial compensation of the construction and reconstruction cost of animal farms and buildings, and the partial compensation of the construction and reconstruction cost of grain storage and grain processing capacities. In contrast, the compensation of the construction and reconstruction of animal farms and buildings financed by bank loans in 2020 was only provided to producers and breeders who had benefitted from this programme already during 2018-19 – no new investments of this type were supported in 2020. Similarly, the subsidies to rural households for keeping registered young cattle, and to milk and beef producers for keeping registered cows, were discontinued in 2020. A new measure under this heading provides subsidies to beekeepers for maintaining between 10 and 300 bee colonies in 2020.

Within the programme "**Financial support for farm development**" related to small and medium-size producers, the partial compensation of expenses related to agricultural advisory services, the partial compensation for agricultural machinery and equipment available to all producers, and subsidies for newly established small and medium-size farms were continued in 2020. In contrast, several measures from this programme were discontinued (although carry-over payments from 2019 continued in 2020), including

- the subsidy for existing small and medium-size producers
- the special programme for small and medium-size producers providing a partial compensation of agricultural machinery and equipment
- the seed subsidy
- the interest rate support specifically aimed at small and medium-size producers.

Other support measures continued within the "**Support for orchards, vineyards and berry fields**", including the partial compensation of costs for planting material, of the cost of construction of refrigerators, and of processing lines of fruits and berries. Interest rate support under the heading "**Financial support for agriculture through preferential credits**", which is the most important measure to support investments in agriculture, also continued in 2020.

Domestic policy responses to the COVID-19 pandemic

In May 2020, the Cabinet of Ministers of Ukraine (CMU) set up the **State Program of Economic Stimulation to Overcome the Negative Effects Caused by Restrictive Measures to Prevent the Occurrence and Spread of the Acute Respiratory Disease COVID-19 caused by Coronavirus SARS-CoV-2 for 2020-2022**. Under this programme, the government implements a number of measures aimed at the agricultural sector, notably to ensure broad access of agricultural producers to financial resources, and to ensure that agricultural products continue to be available on the market during the pandemic.

The programme also includes the enhanced market monitoring for agricultural and food products and other essential goods; the development of a unified and simplified assessment of agricultural land values; the development of digital tools for facilitating the sale and promotion of agricultural products and services; and the improved conditions for the development of organic agriculture.

Finally, the programme involves several additional measures in support of the agricultural sector which were implemented in 2020:

- An additional subsidy is provided to agricultural service co-operatives to partially compensate costs of purchasing agricultural machinery and equipment.
- Private farm keeping dairy cows are eligible for a new dairy cow subsidy.
- Family farms are eligible for a partial compensation of their obligatory social insurance fees.

The CMU Resolution on **measures to stabilise prices for goods of considerable social significance, anti-epidemic goods**, adopted in April 2020 and in force since May 2020, introduces a public monitoring of prices of essential goods. It requires retail sellers to declare price increases by 5% or more relative to the retail price at the time of this resolution entering into force, or relative to a retail price declared in the meantime. Food products covered by this resolution include certain grains and grain products; refined sugar; and certain categories of milk, butter, eggs, and poultry.

Trade policy developments in 2020-21

Two new free trade agreements have recently come into force. The free trade agreement between Ukraine and Israel was ratified by Israel in November 2020 and came into force on 1 January 2021. Tariff reductions mostly focus on manufactured goods, while import duties on about 9% of agricultural tariff lines are to be

abolished by Israel, and duties on some 6% of agricultural tariff lines are to be eliminated by Ukraine, both taking effect with the entry into force of the agreement.

The Political, Free Trade and Strategic Partnership Agreement between Ukraine and the United Kingdom was signed in October 2020 and ratified by both countries. The Agreement is based on the 2014 EU-Ukraine Association Agreement and gives additional access to the UK market for around 98% of Ukrainian goods, mostly governed by newly established TRQs. Ukrainian agricultural exports to the United Kingdom benefit from duty-free tariff quotas set for 36 types of products, including meat, dairy products, cereals, sugar and others, with additional TRQs set for some of these products. In turn, Ukraine has opened TRQs for pork, poultry and semi-finished poultry products, and sugar.

EU tariff rate quotas for animal products implemented under the DCFTA have not been fully used, and those for beef, pork and lamb have never been used at all. Aiming to increase exports of animal products into the European Union, Ukraine is working towards meeting the relevant sanitary standards. By February 2020, EU veterinary services have certified seven poultry plants and 26 dairy processing enterprises, permitting them to export to the European Union. In parallel, the European Union has gradually increased its duty-free import quotas for Ukrainian poultry and processed poultry meet.

In April 2020, Ukraine ratified its accession to the OECD Seeds Schemes for seeds of cruciferous and other oilseeds or spinning crops, and for seeds of sugar and fodder beet. In the same month, Ukraine's seed certification system was recognised as equivalent by the European Union, thus facilitating Ukraine's participation in international seeds trade.

The Ministry Order on **Approval of Forms of International Certificates** approved in July 2020 aims to simplify import procedures by bringing Ukrainian legislation closer to European and international requirements.

Ukraine had **suspended VAT refunds** for exports of soybeans from September 2018, and for exports of rapeseed from January 2020, initially both for a period until the end of 2021. However, VAT refunds for exports of both commodities were re-established from 23 May 2020.

In March 2020, the Ministry of Economic Development, Trade and Agriculture (MEDTA) and main associations of grain exporters agreed on the Annex to the traditional **Memorandum of Understanding (MoU) on grain exports** signed in 2019. According to that annex, the maximum volume of wheat exports for the 2019/20 marketing year was fixed at a level of 20.2 million tonnes. However, actual wheat exports continued even after reaching this volume in May 2020. A new MoU for the marketing year 2020/21 was signed in July 2020, with its Annex agreed in August 2020. It indicates maximum export volumes of 17.5 million tonnes of wheat and 1 000 tonnes of rye.

In response to a suspension by the Russian Federation of its free trade regime with Ukraine under the Agreement on Free Trade in the Commonwealth of Independent States (CIS) Area, and the implementation of a ban by the Russian Federation on imports of agro-food products from Ukraine, Ukraine in turn has suspended trade preferences for imports from the Russian Federation foreseen by the CIS FTA. Ukraine has banned imports of a list of 46 agricultural goods from the Russian Federation. This list includes meat and meat by-products, fish, milk and dairy products, tea, coffee, grain and its processing products, vegetable and animal oils, confectionery, baby foods, beer, vodka, ethyl alcohol, cigarettes, and others. Both the suspension of trade preferences and the ban on specific imports have been prolonged on an annual basis, most recently until the end of 2021. Since July 2019, Ukraine has also banned the import of mineral fertilisers, animal feeds and veterinary products from the Russian Federation. Anti-dumping duties for chocolate and other cocoa-based food products produced in the Russian Federation, effective from 20 June 2017 for a period of five years, continue to be in place.

In January 2020, a new framework law came into force to improve the legal protection of geographical indications (GIs). Following Ukraine's obligations under the Association Agreement with the European Union, the law also aims to facilitate the adaptation of the national legislation to the EU legislation.

Trade policy responses to the COVID-19 pandemic

During the first half of 2020, Ukraine implemented bans on exports of certain products, including buckwheat (2 April to 1 July 2020) and undenatured ethyl alcohol with an alcohol concentration of at least 80% vol. (23 March to 15 May 2020).

Contextual information

Ukraine is classified by the World Bank as a lower middle income country. It features a comparatively large area of fertile arable land, making agriculture a major sector of the economy compared to most other countries in this report: while the sector's relative importance has declined, it still accounts for 9% of the country's economy and 15% of its employment. Agro-food exports represent around 40% of Ukraine's total exports.

Four-fifths of Ukraine's agricultural area is arable, and crops represent some three-quarters of agricultural output, up from two-thirds in the mid-1990s. Thirty per cent of Ukraine's crop production, and almost half of its livestock output, is generated by rural households, where a significant share of their produce is consumed without entering the market. Companies, mostly with limited liability or joint-stock companies, provide for much of the remaining output.

Table 27.3. Ukraine: Contextual indicators

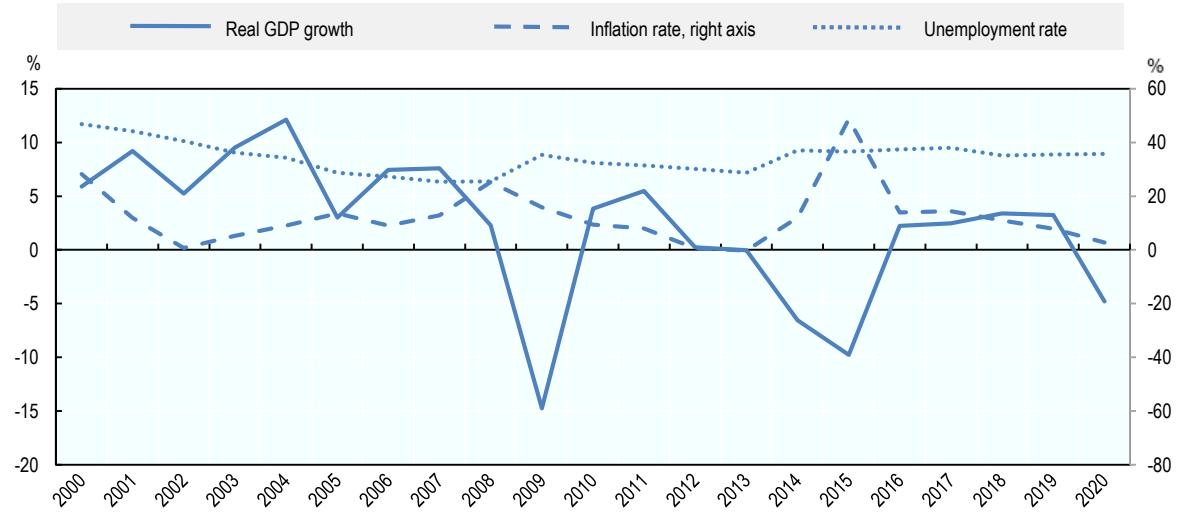
	Ukraine		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	202	561	0.5%	0.5%
Population (million)	49	44	1.1%	0.8%
Land area (thousand km^2)	579	579	0.7%	0.7%
Agricultural area (AA) (thousand ha)	41 406	41 329	1.4%	1.4%
			All countries[1]	
Population density (inhabitants/km^2)	84	76	53	63
GDP per capita (USD in PPPs)	4 107	13 341	9 265	21 975
Trade as % of GDP	46	40	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	14.5	9.0	2.9	3.5
Agriculture share in employment (%)	25.1	14.5	-	-
Agro-food exports (% of total exports)	10.1	39.4	6.2	7.3
Agro-food imports (% of total imports)	6.1	7.9	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	59	77	-	-
Livestock in total agricultural production (%)	41	24	-	-
Share of arable land in AA (%)	79	80	32	34

Notes: *or closest available year. 1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Between 2013 and 2015, real GDP had fallen by 16% while inflation rates had risen to almost 50%, due to adverse political circumstances. Since then, the economy has grown steadily at rates between 2.4% and 3.3% per year while inflation rates have come down. In 2020, due to the COVID-19 pandemic and related restrictions to the economy, real GDP shrank by almost 5% while inflation decreased to less than 3%. Unemployment continues to be high at almost 9%.

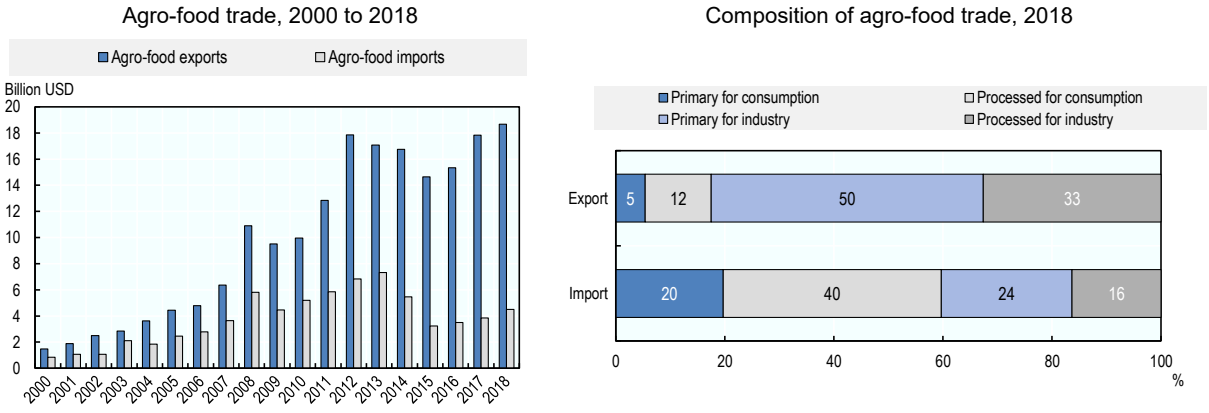
Ukraine is among the world's leading exporters of grains and vegetable oils. Its agro-food exports grew rapidly between the late 1990s and 2012, and export growth has resumed after the drop between 2012 and 2015, which was due to adverse political circumstances. Most of Ukraine's agro-food exports are intermediary, mainly primary, products for processing. Imports, in turn, are more mixed, with primary and processed products for final consumption representing about 60% of agro-food imports.

Figure 27.5. Ukraine: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; ILO estimates and projections; and Economist Intelligence Unit.

Figure 27.6. Ukraine: Agro-food trade



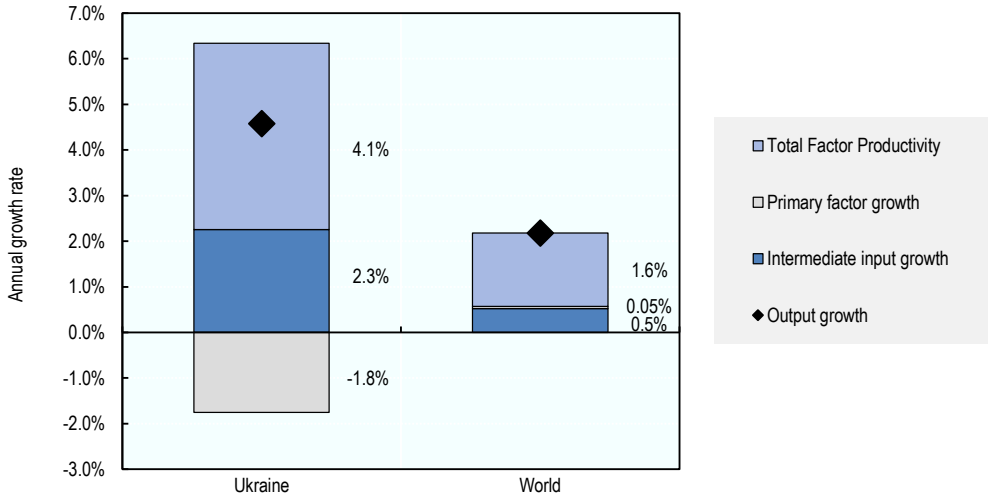
Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Both agricultural output and total factor productivity grew at rates significantly above global averages, at 4.6% and 4.1% per year respectively in the decade ending in 2016. Output was also driven by intermediate input growth, while the use of primary factors, notably of capital, shrank. The shrinking capital stock may pose a risk for continued productivity growth in the future.

Despite the declining importance of agriculture within the economy, agriculture's shares in the country's energy use and GHG emissions have increased over the past two decades. In contrast, the average

nitrogen balance has declined since 2000 and remain well below those across the OECD, while data now suggest a nation-wide negative balance for phosphorous.

Figure 27.7. Ukraine: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 27.4. Ukraine: Productivity and environmental indicators

	Ukraine		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	0.7%	4.1%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	20.9	12.2	33.2	28.9
Phosphorus balance, kg/ha	2.6	-1.1	3.4	2.6
Agriculture share of total energy use (%)	2.1	3.7	1.7	2.0
Agriculture share of GHG emissions (%)	8.7	13.0	8.4	9.5
Share of irrigated land in AA (%)	5.8	5.2	-	-
Share of agriculture in water abstractions (%)	30.0	34.9	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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von Cramon-Taubadel, S. et al. (2008), "Ukraine", *Distortions to Agricultural Incentives in Europe's Transition Economies, (eds.) Anderson, K. and Swinnen, J.*, World Bank, Washington, DC, http://hdl.handle.net/10986/6502. [1]

Notes

[1] Article 3 of the Land Code of the Ukrainian SSR, https://zakon.rada.gov.ua/laws/show/2874%D0%B0-07/ed19920101#Text.

[2] More recent estimates suggest that the share of private property in agricultural land is even higher, at 80%: Mykola Solsky (People's Deputy, Chairman of the Verkhovna Rada Committee on Agrarian and Land Policy), "It's all about the land", 2 April 2020, https://www.epravda.com.ua/columns/2020/04/2/658911/.

[3] Termed the "Fixed Agricultural Tax" before 2015.

[4] Other members and associate members include Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, the Russian Federation, Tajikistan, Turkmenistan and Uzbekistan.

[5] Between 29 August 2019 and 28 December 2020, MAPF was integrated into the Ministry of Economic Development, Trade and Agriculture, MEDTA.

28 United Kingdom

Support to agriculture

The Common Agricultural Policy (CAP) defined support to agriculture in the United Kingdom (UK) during its transition out of the European Union (EU) in 2020. Eighty per cent of support to producers originates in the CAP, whereas the national budget funds three-quarters of general services to the sector.

Producer support (PSE) is estimated at around 20% of gross farm receipts for 2018-20.[1] Market price support (MPS) accounts for 24% of farm support, and originates entirely from EU border measures during 2018-20. Almost half of farm support comes through payments decoupled from current production. About two-thirds of Exchequer-sourced expenditure go to schemes that may incentivise outputs and increase environmental pressure through on-farm investments and input use, including tax rebates for agricultural fuel. On the other hand, domestic expenditure also supports environmentally friendly production.

Public expenditure for general services to the sector (GSSE) is estimated at around 4% of agricultural value-added, slightly below the OECD average. Expenditure on agricultural knowledge and innovation services, mostly from the national budget, accounts for more than half of total support to the sector. Other significant expenditures support inspection and control services, and the marketing and promotion of farm products. Total support to agriculture (TSE) represented around 0.3% of GDP in 2018-20.

Recent policy changes

The year 2020 was marked by: (1) negotiation with the European Union over future trade and co-operation relations, (2) preparation and adoption of laws to govern agriculture in the United Kingdom after withdrawal from the European Union, and (3) bilateral trade liberalisation negotiations with third countries. Short-term measures covered the immediate transition out of the European Union, and response to adverse events, including wet weather and the COVID-19 pandemic.

Agricultural policies are devolved to the UK's nations: the governments of England, Northern Ireland, Scotland and Wales. Three acts of agricultural legislation were approved in 2020. The Agriculture Act 2020 governs agriculture in England with provisions for Northern Ireland and Wales (UK National Archives, 2020[1]). The Act became law on 11 November 2020, shortly after Scotland's Agriculture (Retained EU Law and Data) (Scotland) Act (Scottish Parliament, 2020[2]). The legislation authorises national expenditure for agricultural policies, establishes flexible continuity for the EU CAP, and foresees transition periods to introduce the next generation of measures that phase out the CAP. The transitory Direct Payments to Farmers (Legislative Continuity) Act 2020 ensured the continuity of CAP direct payments in the United Kingdom during 2020. Concurrently, a common administrative framework was jointly set up between the UK Government and the national administrations for co-ordinating agricultural policy.

Policy measures also responded to adverse events in 2020. As a response to wet weather conditions, direct payments were paid up-front in Northern Ireland. The crop diversification condition under greening was relaxed, while greening was suppressed permanently in Scotland from 2021.

Trade policy developments focused on enabling the United Kingdom to maintain and develop trade relations post-Brexit. Under UK membership in the World Trade Organization (WTO), the Agriculture Act 2020 gives power to the Secretary of State to legislate for the UK to comply with the WTO Agreement on Agriculture.

In 2020, the EU-UK Trade and Cooperation Agreement was achieved. It lays down the rules governing relations between the two (EU and UK, 2020[3]). Of relevance to agriculture, the trade component of the agreement includes duty- and quota-free imports of all goods that comply with rules-of-origin provisions.

Trade negotiations with third countries continued, and nineteen agreements were fully ratified. Provisions also introduced to extend existing relations under the EU agreements to avoid any disruption while negotiations were ongoing.

Assessment and recommendations

- The United Kingdom is at the beginning of a seven-year transition out of the Common Agricultural Policy. The next generation of policies is being developed, building on lessons learnt. On-going consultations with stakeholders are important to identify sector needs, tailor policies to these needs and ensure buy-in. If institutionalised throughout the transition process, consultations can prove effective for defining next-generation measures, and assessing their efficiency against targets and continued relevance as they are implemented.
- Short-term measures have consisted of so-called simplification, waiving the entire greening requirement or its crop diversification component, and easing penalty payments. Digital technologies can be harnessed to reduce the administrative burden of reporting and ensure that sustainability outcomes are safeguarded.
- To achieve agricultural productivity and sustainability, next-generation policies should strengthen agricultural innovation systems and the sector's resilience to adverse events. These require information systems that enhance risk awareness, measures that support both prevention and *ex ante* approaches minimising exposure to multiple risks, and preparedness that prioritises business continuity. Research and development, and extension and advisory services have a role to play, as does emphasis on continued public support for these activities.
- The current policy mix supports farm holdings through decoupled payments and payments that promote environmentally friendly practices. At the same time, market measures and tax rebates on agricultural diesel incentivise output and may encourage environmentally harmful practices. Evaluation of the policy mix against well-defined objectives would improve policy coherence for sustainable productivity growth.
- The United Kingdom is in active negotiations to ensure continued co-operation and trading relations with the European Union and third countries. The ambition could be to achieve greater openness, as the current level of trade restrictions in the European Union triggered approximately one-fifth of support, on average, this past decade.

Box 28.1. Estimates of support: Implications of the United Kingdom's withdrawal from the European Union

This edition of the Monitoring and Evaluation (M&E) presents agricultural policy developments in the United Kingdom in a separate chapter for the first time, following the UK's withdrawal from the European Union. Every effort was made to ensure consistency with past reporting in the M&E series of the United Kingdom as an EU Member.

In addition to explaining the UK's agricultural policies, the chapter includes calculations of its full set of support indicators. This box describes the calculation choices made. More detailed information is available in the definitions and sources associated with the online database (OECD, 2021[4]).

Public expenditure reported under the UK indicators of support is the sum of national budget expenditure of the UK Exchequer and European Funds' expenditure attributed to the United Kingdom under the CAP. For EU support indicators in past M&E exercises, Exchequer expenditure on domestic schemes and co-funded Pillar 2 schemes of the CAP under the European Agricultural Fund for Rural Development (EAFRD) are reported and available in the OECD database. However, EU CAP expenditures in the OECD database were aggregated across countries. Therefore, the new indicators had to identify EU CAP expenditure attributed to the United Kingdom both under the European Agricultural Guarantee Fund (EAGF) – including expenditure under the Common Market Organisation (CMO) and direct payments – and under the EAFRD. It was possible to do so for 2017 to 2020.

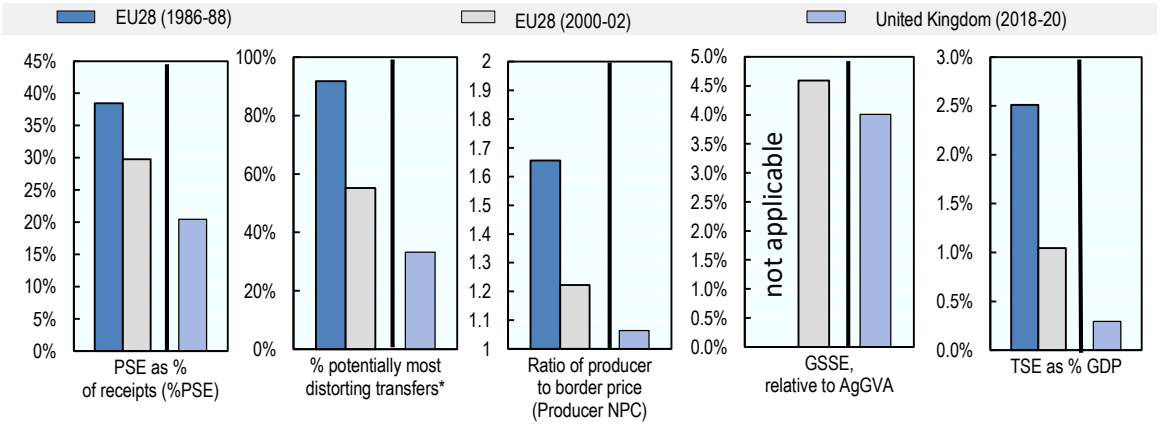
In 2020, the CAP continued to command part of agricultural expenditures in the United Kingdom, and the United Kingdom remained part of the EU Single Market. Hence, through 2020, the market price differential (MPD) for the United Kingdom is based on EU producer and border prices, and it is assumed that the UK MPD equals the EU MPD. MPS is calculated for the specific UK commodity coverage by combining the EU MPD with UK quantity and value measures of production and consumption. MPS is calculated for a subset of commodities[1] based on the so-called standard set of MPS commodities (OECD, 2016[5]) for 2017 to 2020.

Due to these data limitations, the support indicators presented in Figure 28.1 follow two methodologies. They cover the UK for 2018-20 and the EU for preceding years. Efforts will be made to improve the expenditure coverage and extend the calculations to earlier periods in order to achieve data consistency over a longer period and analyse the evolution of support over time.

The system coherence requires that the United Kingdom also be included in the EU aggregate for the period during which it was a member and implemented the Common Agricultural Policy.

Note: 1. Market price support for the United Kingdom is calculated for wheat, maize, barley, oats, rapeseed, sugar, milk, beef and veal, sheep meat, pig meat, poultry, and eggs.

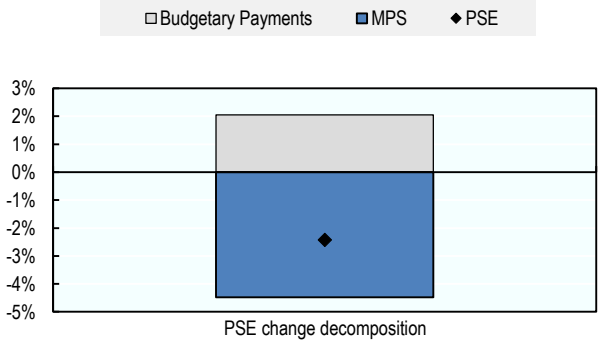
Figure 28.1. United Kingdom: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers. Calculations for 2018-20 combine UK and EU-CAP elements.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/tvrgnb

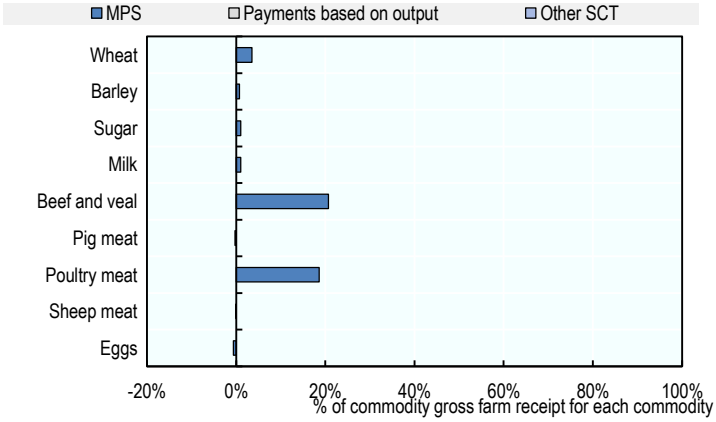
Figure 28.2. United Kingdom: Drivers of the change in PSE, 2019 to 2020



Note: Calculations combine UK and EU-CAP elements.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/4x5tl9

Figure 28.3. United Kingdom: Transfer to specific commodities (SCT), 2018-20



Note: Calculations combine UK and EU-CAP elements.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/xcrpje

Table 28.1. United Kingdom: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	..	**30 971**	**31 775**	**31 101**	**30 037**
***of which:** share of MPS commodities (%)*	..	72.9	73.8	73.0	72.0
Total value of consumption (at farm gate)	..	**33 809**	**35 157**	**31 673**	**34 596**
Producer Support Estimate (PSE)	..	**7 493**	**7 751**	**7 436**	**7 292**
Support based on commodity output	..	1 836	2 136	1 848	1 523
Market Price Support[1]	..	1 836	2 136	1 848	1 523
Positive Market Price Support	..	1 851	2 156	1 873	1 523
Negative Market Price Support	..	-15	-20	-25	0
Payments based on output	..	0	0	0	0
Payments based on input use	..	935	923	922	960
Based on variable input use	..	635	655	604	646
with input constraints	..	0	0	0	0
Based on fixed capital formation	..	250	215	265	270
with input constraints	..	0	0	0	0
Based on on-farm services	..	50	53	53	44
with input constraints	..	0	0	0	0
Payments based on current A/An/R/I, production required	..	752	716	774	767
Based on Receipts / Income	..	0	0	0	0
Based on Area planted / Animal numbers	..	752	716	774	767
with input constraints	..	752	716	774	767
Payments based on non-current A/An/R/I, production required	..	0	0	0	0
Payments based on non-current A/An/R/I, production not required	..	3 518	3 588	3 466	3 501
With variable payment rates	..	0	0	0	0
with commodity exceptions	..	0	0	0	0
With fixed payment rates	..	3 518	3 588	3 466	3 501
with commodity exceptions	..	0	0	0	0
Payments based on non-commodity criteria	..	85	51	74	130
Based on long-term resource retirement	..	18	18	18	18
Based on a specific non-commodity output	..	67	33	56	112
Based on other non-commodity criteria	..	0	0	0	0
Miscellaneous payments	..	366	337	352	410
Percentage PSE (%)	..	**20.5**	**20.7**	**20.3**	**20.4**
Producer NPC (coeff.)	..	**1.06**	**1.07**	**1.07**	**1.05**
Producer NAC (coeff.)	..	**1.26**	**1.26**	**1.25**	**1.26**
General Services Support Estimate (GSSE)	..	**720**	**685**	**743**	**731**
Agricultural knowledge and innovation system	..	396	370	409	409
Inspection and control	..	190	185	189	196
Development and maintenance of infrastructure	..	36	27	40	41
Marketing and promotion	..	96	98	106	84
Cost of public stockholding	..	2	5	0	0
Miscellaneous	..	0	0	0	0
Percentage GSSE (% of TSE)	..	**8.8**	**8.1**	**9.1**	**9.1**
Consumer Support Estimate (CSE)	..	**-2 056**	**-2 564**	**-2 007**	**-1 596**
Transfers to producers from consumers	..	-1 852	-2 190	-1 854	-1 511
Other transfers from consumers	..	-250	-428	-213	-108
Transfers to consumers from taxpayers	..	11	5	4	24
Excess feed cost	..	35	50	56	0
Percentage CSE (%)	..	**-6.1**	**-7.3**	**-6.3**	**-4.6**
Consumer NPC (coeff.)	..	**1.07**	**1.08**	**1.07**	**1.05**
Consumer NAC (coeff.)	..	**1.06**	**1.08**	**1.07**	**1.05**
Total Support Estimate (TSE)	..	**8 223**	**8 440**	**8 183**	**8 046**
Transfers from consumers	..	2 102	2 618	2 067	1 620
Transfers from taxpayers	..	6 371	6 250	6 329	6 535
Budget revenues	..	-250	-428	-213	-108
Percentage TSE (% of GDP)	..	**0.3**	**0.3**	**0.3**	**0.3**
Total Budgetary Support Estimate (TBSE)	..	**6 387**	**6 304**	**6 335**	**6 523**
Percentage TBSE (% of GDP)	..	**0.2**	**0.2**	**0.2**	**0.2**
GDP deflator (1986-88=100)	..	**232**	**225**	**229**	**243**
Exchange rate (national currency per USD)	..	**0.77**	**0.75**	**0.78**	**0.78**

.. Not available

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for the United Kingdom are: wheat, maize, barley, oats, rapeseed, sugar, milk, beef and veal, sheep meat, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

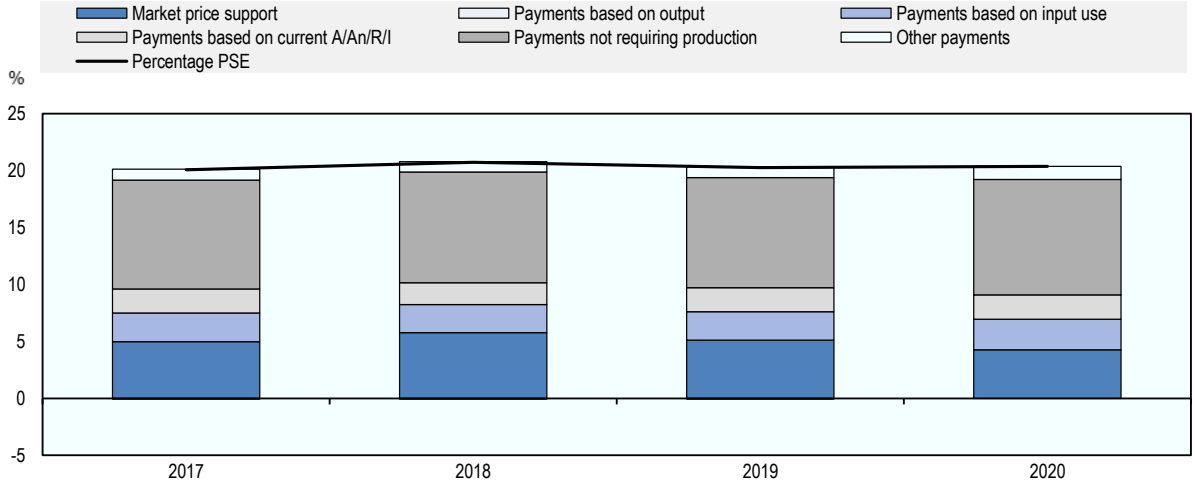
The United Kingdom joined the European Economic Community in 1973. Since then, its agriculture was shaped by reform of the EU CAP, as described in Chapter 11.

The 2009 CAP Health Check allowed member states to adopt a selection of measures under their Pillar 2. Subsequently, elective measures were also allowed under Pillar 1 of the CAP 2014-20, covering 2015 to 2023. The UK nations' choices of elective measures were generally aligned in this context, while specific payments were sometimes picked, such as the redistributive payment in Wales and Voluntary Coupled Support in Scotland. The United Kingdom opted to transfer 10.8% of its broad-based direct payments envelope to targeted longer-term expenditure under Pillar 2.

Legislation (Agriculture Act) adopted in 2020 foresees the implementation in England of schemes that prioritise farm sustainability, productivity and competitiveness.

Figure 28.4. United Kingdom: Level and PSE composition by support categories, 2017 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The main policy instruments described below relate to measures implemented in the United Kingdom within the framework of the Common Agricultural Policy[2] that continued until 2021, and domestic measures decided at national level. Agricultural policy in the United Kingdom is devolved to the UK nations: the governments of England, Northern Ireland, Scotland and Wales. As a result, different elective schemes apply in these jurisdictions, as described below.

The CAP funded 80% of support to agricultural producers in the United Kingdom. In addition to output support delivered through markets, the largest envelopes under the CAP fund per-hectare payments

decoupled from production (Figure 28.4). The Basic Payment Scheme (BPS) accounts for 66% of direct payments, the payment for greening (agricultural practices beneficial for the climate and the environment) accounts for 30%, and the so-called young farmer scheme accounts for 2%. Only Wales offers the elective decoupled redistributive payment for first hectares of farmland (EC, 2016[6]). Together, these absorb 99% of direct payments under the European Agricultural Guarantee Fund (EAGF). Output-linked Voluntary Coupled Support is limited to three schemes that support the Scottish suckler cow and upland sheep sectors (EC, 2019[7]).

Measures funded by the CAP's European Agricultural Fund for Rural Development (EAFRD) are co-financed by the national budget and require a minimum five to seven years commitment. From a budgetary standpoint, the top three elective measures under EAFRD support in the United Kingdom are: (1) agri-environment and climate measures, (2) agricultural investments, and (3) payments to areas with natural constraints. Organic farming is also supported, although with smaller budgets.

In addition to the CAP, national measures promote on-farm investments through capital grants, credit concessions and guarantees. National measures also reduce the costs of farm inputs. Public revenues foregone under the rebate on excise duties for agricultural diesel (so-called red diesel) represent the third-largest element of support after the BPS and greening. At the same time, Exchequer-sourced output payments support environmentally friendly production.

National measures are prominent in funding sector-wide general services, as three-quarters of the spending comes from the national budget. These mainly support research and development to underpin the UK's knowledge and innovation system. The national budget also funds inspection and control services. CAP funding supports knowledge, advisory and extension services which ensure on-farm innovation uptake and capacity building, farm and business development, and marketing and promotion of farm products and producer groups.

Until 31 December 2020, the United Kingdom was part of the EU Single market, with its trade governed by the overarching settings of EU trade as foreseen in the Withdrawal Agreement (HM Government, 2019[8]).

Domestic policy developments in 2020-21

The year 2020 was marked by the negotiation with the European Union of future trade and co-operation relations, by the legislative preparation and adoption of the laws that govern agriculture in the United Kingdom after withdrawal from the European Union and by bilateral trade liberalisation negotiations. Shorter-term measures ensured the immediate transition out of the European Union and responses to adverse events, including wet weather and the outbreak of the COVID-19 pandemic.

Domestic legislative developments in 2020 included the adoptions of three agricultural acts. The **Agriculture Act 2020** governs agriculture in England with provisions for Northern Ireland and Wales (UK National Archives, 2020[1]). The Act became law on 11 November 2020 shortly after Scotland's **Agriculture (Retained EU Law and Data) (Scotland) Act** which became law on 1 October 2020 (Scottish Parliament, 2020[2]). These pieces of legislation authorise national expenditure for agricultural policies and establish a flexible continuity of the EU CAP. The Agriculture Act 2020 legislates for a seven-year transition period, beginning from 2021, during which the next generation of measures are to be introduced in England to phase out the CAP. Year 2024 is announced as the first year when England fully introduces the new schemes, including the three new Environmental Land Management schemes (DEFRA, 2020[9]). The schemes are under development through collaboration with farmers and a range of environmental and agricultural stakeholders (DEFRA, 2021[10]). The Sustainable Farming Incentive is the first of these three schemes to begin roll-out in mid-2022, with the other two, the Local Nature Recovery and the Landscape Recovery, to be launched in 2024. In Wales, proposals are being developed to reform the way in which government supports agriculture, including farm woodland management.

The transitory **Direct Payments to Farmers (Legislative Continuity) Act 2020** ensured the continuity of the CAP direct payments in the United Kingdom in 2020.

A common administrative framework has been set up to ensure the co-ordination of agricultural policy between the UK Government and the devolved administrations.

Under so-called simplification, the EU financial discipline was not applied and the BPS advance payment condition relaxed in 2020 in Northern Ireland. Penalty calculations were simplified for small over-claims of the BPS and made proportionate in England and Northern Ireland.

Similar simplification measures were also introduced in 2020 to respond to adverse wet weather. Direct payments were advanced and paid in full in Northern Ireland. The crop diversification condition under greening was relaxed in England, Northern Ireland and Wales.

Simplification will be continued and, from 2021, greening will no longer be required in England, Wales and Northern Ireland, while crop diversification will be suppressed in Scotland. Penalties under England's Countryside Stewardship Scheme will be replaced by payment reduction.

Domestic policy responses to the COVID-19 pandemic

Sector specific payments were announced to alleviate the effects of price drop and income losses in dairy (England, Wales, Northern Ireland), beef, sheep, ornamental horticulture and potato (Northern Ireland).

In response to the disruptions caused by the coronavirus outbreak, deadlines for applications for the BPS, the Countryside Stewardship and the Environmental Stewardship schemes were extended in England to allow for late applications. Inspection requirements were eased and physical checks replaced by new technologies in Scotland.

Trade policy developments in 2020-21

After 31 December 2020, the free movement of people, goods, services and capital with the European Union was ended and EU trade agreements no longer applied to the United Kingdom. Therefore, the United Kingdom actively engaged in negotiating trade agreements during 2020 to maintain and develop its trade relations post-Brexit. As a member of the WTO, the Agriculture Act 2020 gives power to the Secretary of State to legislate for the United Kingdom to comply with the World Trade Organization (WTO) Agreement on Agriculture.

The **EU-UK Trade and Cooperation Agreement** was achieved on 24 December 2020. It lays down the rules governing the relations between the two. Of relevance to agriculture, the trade component of the agreement includes duty and quota free imports on all goods that comply with rules of origin provisions. Terms of the free trade agreement include duty and quota free imports on all goods that comply with rules of origin provisions (EU and UK, 2020[3]).

Trade negotiations with other countries and regions were continued and 19 agreements were fully ratified,[3] including with Japan and Ukraine (DIT, 2021[11]). The bilateral trade agreement with Japan entered into force on 1 January 2021. The UK-Japan Comprehensive Economic Partnership Agreement (CEPA) parallels the market access and tariff commitments provided for agricultural products under the Japan-EU Economic Partnership Agreement (which entered into force on 1 February 2019). Similarly, Geographical Indication products of both countries are listed for protection in the CEPA. The Political, Free Trade and Strategic Partnership Agreement between Ukraine and the United Kingdom came into force in January 2021.

Agreements with Albania, Canada, Jordan and Mexico were signed. Mutual Recognition Agreements were signed with Australia, New Zealand, and the United States. Under MRAs countries recognise the results of one another's conformity assessments. Provisions were also introduced to extend existing relations

under the EU agreements to avoid any disruption while negotiations are on-going with Albania, Algeria, Australia, Bosnia and Herzegovina, Cameroon, Ghana, Moldova, Montenegro, New Zealand, Serbia, Turkey, and the United States.

Contextual information

The United Kingdom is a high income advanced economy. The country's GDP per capita is more than twice the average of the countries covered in this report. It accounts for less than 1% of the land and agricultural land in the countries included in this report. Agriculture has a small share in the economy and employment while the agro-food sector has a larger importance in trade (Table 28.2).

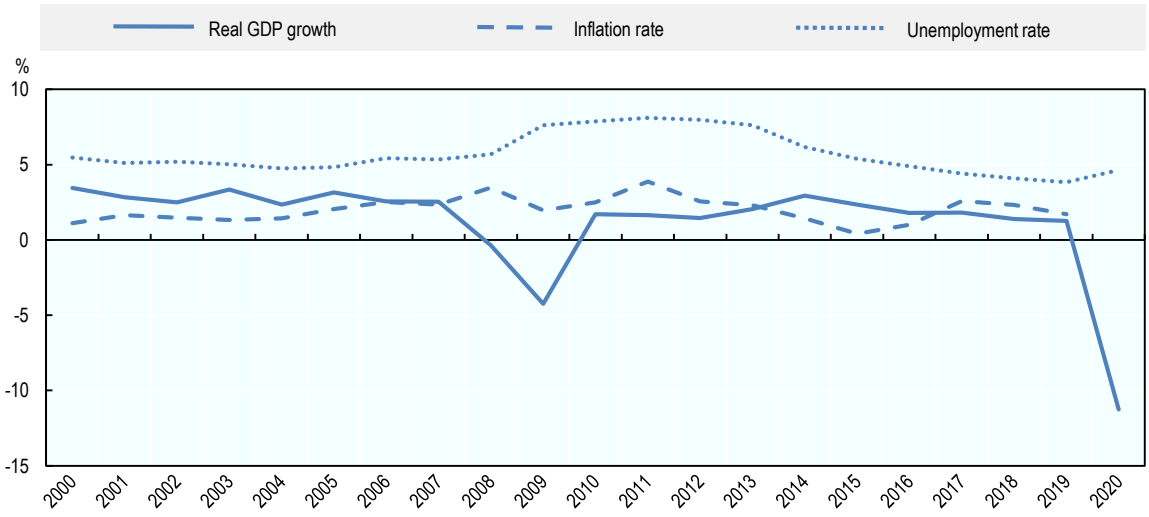
Table 28.2. United Kingdom: Contextual indicators

	United Kingdom		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	1 556	3 255	3.9%	2.9%
Population (million)	59	67	1.4%	1.3%
Land area (thousand km^2)	242	242	0.3%	0.3%
Agricultural area (AA) (thousand ha)	16 964	17 351	0.6%	0.6%
			All countries[1]	
Population density (inhabitants/km^2)	244	279	53	63
GDP per capita (USD in PPPs)	26 422	48 725	9 265	21 975
Trade as % of GDP	20	20	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	1.0	0.7	2.9	3.5
Agriculture share in employment (%)	1.5	1.0	-	-
Agro-food exports (% of total exports)	5.2	6.4	6.2	7.3
Agro-food imports (% of total imports)	7.8	9.1	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	41	41	-	-
Livestock in total agricultural production (%)	59	59	-	-
Share of arable land in AA (%)	35	35	32	34

Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

The outbreak of the COVID-19 pandemic put an end to a decade of moderate economic growth in the United Kingdom. The economy shrank by 10% while the unemployment rate increased to 4.6% in 2020 after eight years of uninterrupted decline (Figure 28.5).

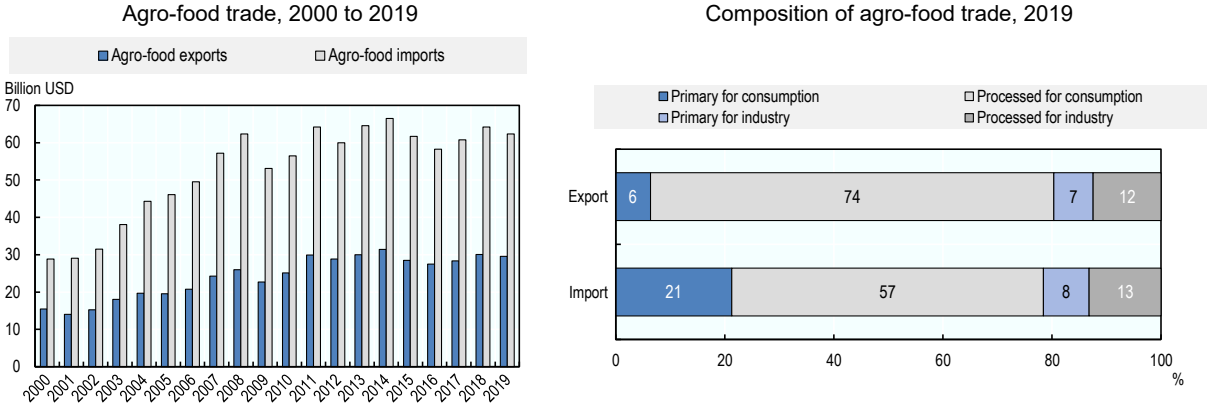
Figure 28.5. United Kingdom: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

The United Kingdom is a net agro-food importer. Agro-food exports account for more than 6% of total exports and imports are close to 10%. Processed agro-food products make most of both exports (86%) and imports (70%). Most of those are destined for final consumption (Figure 28.6).

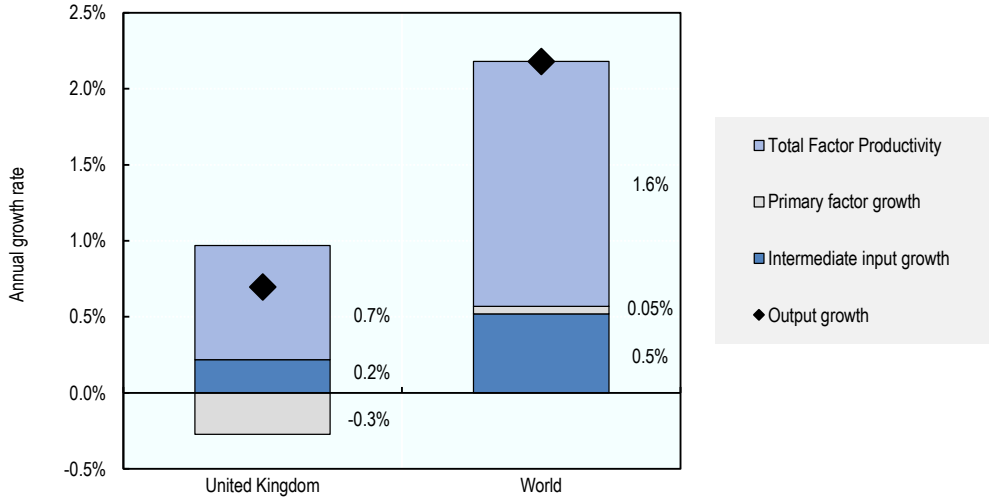
Figure 28.6. United Kingdom: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Over the 2007-16 period, total factor productivity in the United Kingdom grew by 0.7% per year on average, more than double TFP growth in the 1991-2000 period but well below the global average. The decline of primary factors was compensated by intermediate input growth (Figure 28.7).

Figure 28.7. United Kingdom: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Environmental indicators indicate an improvement from 2000 to 2016, the nitrogen balance fell by nearly 20%, the phosphorous balance declined by about 40%, and the share of agriculture in water abstractions fell by 18% as the agricultural irrigated area was halved. At the same time, the sector's share in the country's energy use was increased by 20% and the share of its greenhouse gas (GHG) emissions grew by nearly 40% (Table 28.3).

Table 28.3. United Kingdom: Productivity and environmental indicators

	United Kingdom		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	0.3%	0.7%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	107.0	86.1	33.2	28.9
Phosphorus balance, kg/ha	9.6	5.8	3.4	2.6
Agriculture share of total energy use (%)	0.8	1.0	1.7	2.0
Agriculture share of GHG emissions (%)	6.4	8.8	8.4	9.5
Share of irrigated land in AA (%)	0.8	0.4	-	-
Share of agriculture in water abstractions (%)	17.5	14.2	46.0	43.4
Water stress indicator	..	4.3	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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Notes

[1] Support calculations in this chapter combine UK national payments and EU-CAP expenditure to the United Kingdom, UK production quantities and values, and EU domestic and border prices. More details are provided in Box 28.1.

[2] Chapter 11 of this report provides a detailed description of the European Union's Common Agricultural Policy.

[3] Agreements were fully ratified with Central America, Chile, Côte d'Ivoire, Eastern and Southern Africa (ESA) trade bloc, Egypt , Faroe Islands, Georgia, Israel, Japan, Kosovo, Lebanon, Liechtenstein, Palestinian Authority, Singapore, South Korea, Southern Africa Customs Union and Mozambique (SACUM) trade bloc, Switzerland, Tunisia, Ukraine.

29 United States

Support to agriculture

Support provided to agricultural producers in the United States consistently measures below the OECD average. Producer support declined from 19.5% of gross farm receipts in 2000-02 to 12% in 2018-20. The share of potentially most-distorting transfers was 32% in 2018-20, also below the OECD average and lower than in 2000-02. On average, prices received by farmers in 2018-20 were 4% higher than in world markets, largely as a result of market price support (MPS) for milk, sugar and to a lesser extent sheep meat. Border measures (including tariff rate quotas) protect these commodities. Producer prices of other commodities mostly align with border prices.

MPS has become a progressively smaller share of US support to agriculture, while budgetary support increased over time, due mainly to increases in payments that require production (reflecting the emphasis placed on farm insurance and risk management), as well as increases in input payments. Reflecting that crop insurance and the primary crop commodity programmes are counter-cyclical to market prices, budgetary support relates inversely to market price developments. Budgetary support peaked when world commodity prices were depressed (in terms of USD), while high commodity prices after 2007-08 contributed to lower levels of support.

Support to consumers accounts for close to half of total support to US agriculture as a result of US domestic food assistance programmes. Expenditures for general services (GSSE) were equivalent to 6.1% of agricultural value added in 2018-20, up from 5.2% in 2000-02 and slightly above the OECD average. Total support to agriculture was 0.5% of GDP in 2018-2020.

Recent policy changes

Implementation of the Agriculture Improvement Act of 2018 (2018 Farm Bill) continued during 2020, along with continued implementation of the 2019 suite of trade mitigation programmes, and 2018 and 2019 Congressional ad hoc disaster assistance programmes with 2020 supplements. On trade mitigation, in February 2020, the United States Department of Agriculture (USDA) announced the third and final tranche of payments under the 2019 Market Facilitation Program (MFP). The MFP provided up to USD 14.5 billion to producers of commodities affected by the loss of traditional export markets resulting from retaliatory tariffs. The February 2020 payments provided the remaining 25% of authorised payments.

On disaster assistance, in December 2019, the Further Consolidated Appropriations Act 2020 provided an additional USD 1.5 billion for disaster assistance programme delivery, and added several new qualifying disaster events and eligible participants under the Wildfire and Hurricane Indemnity Program Plus (WHIP+). In addition, USDA's Risk Management Agency (RMA) introduced a policy to help producers recover from hurricanes. The Hurricane Insurance Protection-Wind Index (HIP-WI) Endorsement covers 70 crops and is available in counties near the Gulf of Mexico, Atlantic Ocean and Hawaii. Sustained hurricane-force winds from a named hurricane are the only cause of loss recognised for HIP-WI.

Several trade agreements came into force in 2020: the Japan-US Free Trade Agreement, the United States-Mexico-Canada Agreement and the "Phase One" Trade Agreement with the People's Republic of China (hereafter "China").

The USDA implemented a series of policies to address the COVID-19 pandemic. On support for producers, the Coronavirus Farm Assistance Program (CFAP), provided around USD 23.5 billion in direct income payments to farmers and ranchers. CFAP provided financial assistance based on actual losses to producers of agricultural commodities who faced price declines due to COVID-19, and significant additional marketing costs because of lower demand, surplus production, and disruptions to shipping patterns and the orderly marketing of commodities. The programme covered over 300 commodities, from livestock and row crops to specialty crops and aquaculture. CFAP was implemented through two payment rounds (CFAP-1 and CFAP-2) based on separate eligibility requirements and payment formulas. The USDA's Farm Service Agency (FSA) broadened use of the Disaster Set-Aside loan provision to allow farmers with USDA farm loans who were affected by COVID-19 to have a payment set aside. FSA also made available a one-time option for an annual instalment payment deferral of Farm Storage Facility Loans. USDA's RMA provided crop insurance programme flexibilities to assist producers affected by COVID-19 market disruptions.

COVID-specific support for consumers included commodity distribution programmes and additional funding for USDA domestic food assistance programmes. On commodity distribution, the USDA partnered with regional and local distributors whose workforce had been significantly impacted by the closure of restaurants, hotels, and other food service entities to purchase and distribute USD 4 billion in fresh produce, dairy and meat products through the Farmers to Families Food Box Program. The USDA Secretary authorised USD 470 million in additional Section-32-funded food purchases for distribution to communities in response to the COVID-19 national emergency. The USDA also issued Disaster Household Distributions, a food assistance programme that provides food to meet specific needs when traditional channels are unavailable.

On domestic food assistance programmes, the USDA allowed States to issue benefits to households in the Supplemental Nutrition Assistance Program (SNAP) that normally receive less than the maximum benefit, and to provide programme flexibilities for SNAP issuance methods, and application and reporting requirements. A pre-planned online purchasing pilot for SNAP participants was also expanded as part of the USDA's COVID-19 response. The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) programme received an additional USD 500 million in appropriations during the COVID-19 health emergency. The USDA gave states the option to allow parents or guardians to take meals served under the Child and Adult Care Food Program home to their children and provided other means of getting meals to children who normally receive free or reduced-price meals at school.

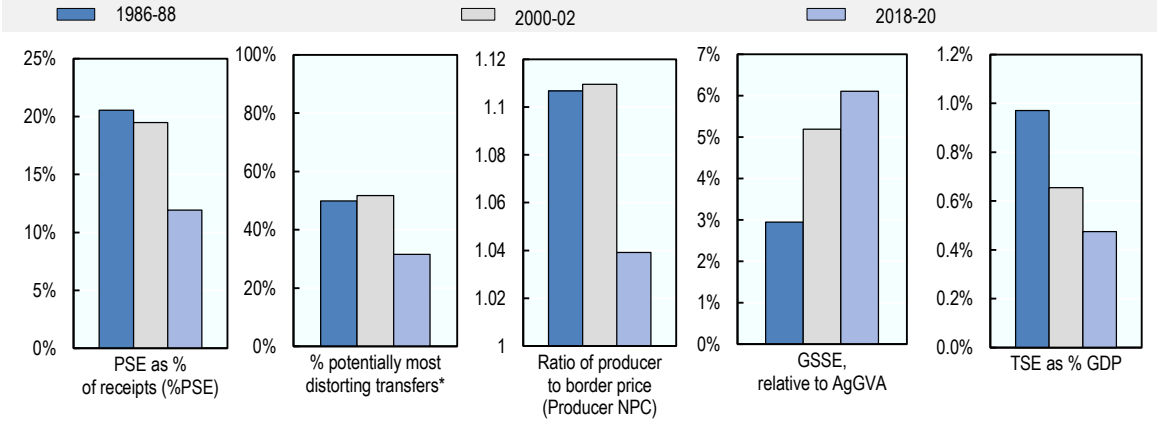
Assessment and recommendations

- Levels of producer support and border protection decreased in the early 2000s. However, low levels of support primarily reflected higher world commodity prices, as many agricultural support programmes are counter-cyclical to market prices, and producer support has increased in recent years.
- Increased emphasis on insurance and risk management policy tools is, in principle, a good approach to supporting producers when they are in need. However, most insurance programmes remain commodity-specific. Moving to an all farm-revenue approach would exploit differences in price and yield variability across products, reducing government costs for a given objective, and also remove distortions across commodity sectors. Risk management instruments should also be evaluated for their impact on farm-level incentives to adapt and transform in response to a changing

risk environment and ensure that they do not transfer risk that should be borne by farmers to the public budget.

- Voluntary conservation programmes – such as the Environmental Quality Incentives Program (EQIP) and the programmes consolidated into the Agricultural Conservation Easement Program (ACEP) appear to be effective in addressing soil conservation and water pollution problems. However, conservation programmes could be better leveraged to improve *ex ante* management of natural hazard risk and support a more resilient recovery following a natural hazard event (Gray and Baldwin, 2021[1]).
- Recent Farm Bills continue support for farm incomes and strengthen the risk management system to build farmers' resilience against natural disasters and market shocks. It will be important to ensure that the recent return to providing ad hoc support does not become entrenched, so as to not dis-incentivise necessary adjustments to new market and environmental conditions or undermine the *ex ante* framework established by agricultural risk management and disaster assistance policies.
- While a high rate of productivity growth – driven by farm consolidations and adoption of innovations – helps keep US agro-food exports competitive, future opportunities will also be determined by access to markets facilitated by trade agreements. Resolving current trade uncertainties will be important to ensure that farmers can pursue available market opportunities.

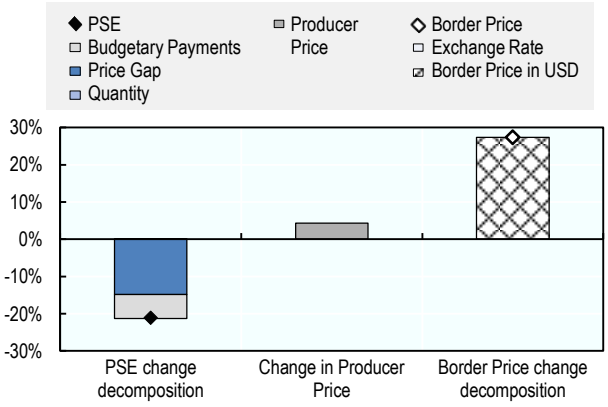
Figure 29.1. United States: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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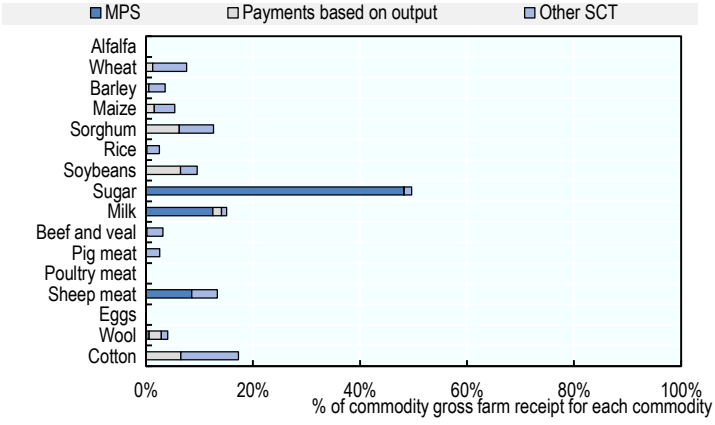
Figure 29.2. United States: Drivers of the change in PSE, 2019 to 2020



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Figure 29.3. United States: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/72wxt0

Table 29.1. United States: Estimates of support to agriculture

Million USD

	1986-88	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**143 469**	**193 454**	**338 958**	**368 423**	**316 994**	**331 458**
***of which:** share of MPS commodities (%)*	78.3	73.6	73.4	76.6	72.2	71.5
Total value of consumption (at farm gate)	**124 148**	**164 683**	**320 044**	**289 637**	**326 918**	**343 576**
Producer Support Estimate (PSE)	**34 253**	**43 789**	**44 900**	**42 196**	**51 718**	**40 787**
Support based on commodity output	14 031	19 713	13 002	19 210	10 683	9 114
Market Price Support[1]	10 922	12 532	7 712	10 518	10 117	2 501
Positive Market Price Support	11 008	12 532	7 712	10 518	10 117	2 501
Negative Market Price Support	-86	0	0	0	0	0
Payments based on output	3 108	7 181	5 290	8 692	566	6 613
Payments based on input use	7 061	7 572	9 190	8 668	8 609	10 293
Based on variable input use	3 697	3 091	2 034	1 949	1 619	2 534
with input constraints	739	168	862	576	618	1 394
Based on fixed capital formation	1 233	361	2 017	1 996	2 042	2 013
with input constraints	1 233	358	1 935	1 920	1 891	1 996
Based on on-farm services	2 131	4 120	5 139	4 723	4 948	5 746
with input constraints	349	677	1 540	1 522	1 455	1 644
Payments based on current A/An/R/I, production required	12 231	5 655	16 070	10 095	23 993	14 122
Based on Receipts / Income	912	2 055	2 227	2 328	2 205	2 146
Based on Area planted / Animal numbers	11 319	3 600	13 843	7 767	21 787	11 976
with input constraints	2 565	1 570	13 842	7 763	21 787	11 976
Payments based on non-current A/An/R/I, production required	0	0	194	216	365	2
Payments based on non-current A/An/R/I, production not required	338	8 789	4 680	2 594	6 098	5 349
With variable payment rates	0	3 969	4 672	2 588	6 080	5 349
with commodity exceptions	0	3 969	4 672	2 588	6 080	5 349
With fixed payment rates	338	4 819	8	6	18	0
with commodity exceptions	0	4 819	0	0	0	0
Payments based on non-commodity criteria	592	2 061	1 763	1 413	1 970	1 907
Based on long-term resource retirement	592	2 050	1 751	1 393	1 961	1 900
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	11	12	21	8	7
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**20.5**	**19.5**	**11.9**	**10.5**	**14.4**	**11.0**
Producer NPC (coeff.)	**1.11**	**1.11**	**1.04**	**1.05**	**1.03**	**1.03**
Producer NAC (coeff.)	**1.26**	**1.24**	**1.14**	**1.12**	**1.17**	**1.12**
General Services Support Estimate (GSSE)	**3 108**	**6 164**	**11 343**	**10 883**	**11 174**	**11 971**
Agricultural knowledge and innovation system	1 129	1 805	2 878	2 454	2 658	3 521
Inspection and control	372	685	1 315	1 418	1 254	1 273
Development and maintenance of infrastructure	13	461	3 900	4 209	3 730	3 760
Marketing and promotion	495	957	1 633	1 319	1 846	1 735
Cost of public stockholding	0	107	28	0	44	40
Miscellaneous	1 100	2 149	1 589	1 483	1 642	1 642
Percentage GSSE (% of TSE)	**6.6**	**8.9**	**11.4**	**11.0**	**10.8**	**12.4**
Consumer Support Estimate (CSE)	**-1 647**	**5 110**	**32 796**	**33 227**	**26 823**	**38 338**
Transfers to producers from consumers	-10 379	-12 238	-7 606	-10 307	-10 011	-2 501
Other transfers from consumers	-1 651	-2 078	-2 970	-2 292	-3 359	-3 259
Transfers to consumers from taxpayers	10 089	19 425	43 371	45 825	40 192	44 097
Excess feed cost	294	0	0	0	0	0
Percentage CSE (%)	**-1.4**	**3.5**	**11.9**	**13.6**	**9.4**	**12.8**
Consumer NPC (coeff.)	**1.11**	**1.10**	**1.03**	**1.05**	**1.04**	**1.02**
Consumer NAC (coeff.)	**1.01**	**0.97**	**0.89**	**0.88**	**0.91**	**0.89**
Total Support Estimate (TSE)	**47 450**	**69 379**	**99 614**	**98 904**	**103 083**	**96 855**
Transfers from consumers	12 030	14 316	10 576	12 599	13 369	5 759
Transfers from taxpayers	37 071	57 141	92 008	88 597	93 073	94 354
Budget revenues	-1 651	-2 078	-2 970	-2 292	-3 359	-3 259
Percentage TSE (% of GDP)	**1.0**	**0.7**	**0.5**	**0.5**	**0.5**	**0.5**
Total Budgetary Support Estimate (TBSE)	**36 528**	**56 847**	**91 902**	**88 386**	**92 966**	**94 354**
Percentage TBSE (% of GDP)	**0.7**	**0.5**	**0.4**	**0.4**	**0.4**	**0.5**
GDP deflator (1986-88=100)	**100**	**139**	**196**	**193**	**196**	**198**
Exchange rate (national currency per USD)	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for the United States are: wheat, maize, barley, sorghum, alfalfa, cotton, rice, soybean, sugar, milk, beef and veal, sheep meat, wool, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

An omnibus legislative package known as the Farm Bill primarily governs agricultural policy in the United States. Farm Bills authorise agricultural and food policies in areas including nutrition assistance, crop insurance, commodity support, conservation and agricultural research. Each Farm Bill amends previous agricultural and related policies, and establishes new policies on a five-year cycle that can be extended or shortened depending on legislative priorities.

Historically, the commodity support component of Farm Bills focused on stabilising and boosting farm income to aid economic recovery and development during the Depression and post-war eras through price and income support for a specified set of commodities, including but not limited to corn, soybeans, wheat, cotton, rice, peanuts, dairy, and sugar (OECD, 2011[2]). Over time, Farm Bills expanded in scope: the 1973 Farm Bill first included a nutrition title while subsequent farm bills added titles on policy areas such as agricultural trade, farm credit, rural development and crop insurance. The 1985 Farm Bill added conservation provisions; the 1990 Farm Bill, organic agriculture; the 1996 Farm Bill, agricultural research ; the 2002 Farm Bill, bioenergy; and the 2008 Farm Bill, horticulture and local food systems (Congressional Research Service, 2019[3]).

Agricultural policy reform in the United States has been characterised by a significant shift towards less production- and trade-distorting forms of support. Commodity programmes originally supported farm incomes through a combination of taxpayer-funded production payments and supply management in the form of acreage limits and commodity storage programmes. The Food Security Act of 1985 introduced changes that moved farmers towards more market orientation by reducing price supports in favour of direct payments, introducing greater planting flexibility and giving more attention to export opportunities for US farm products (OECD, 2011[2]).

Reforms continued with subsequent Farm Bills. The 1996 Farm Bill[1] re-designed income support programmes by replacing target prices, price-based deficiency payments and acreage controls with historically based direct payments independent of current production. A series of ad hoc emergency top-up payments supplemented the historically based payments implemented under the 1996 Farm Bill to provide additional assistance in the face of low commodity prices. These ad hoc payments were institutionalised under the 2002 Farm Bill[2] as counter-cyclical payments linked to the historically based direct payments, and continued under the 2008 Farm Bill[3] (OECD, 2011[2]). The 2014 Farm Bill ended these direct and counter-cyclical payments but continued direct income support based on historical production with programmes triggering payments based on either reference prices or revenue benchmarks. It also ended the dairy price support programme, replacing it with a premium-based milk-to-feed margin protection programme. The 2018 Farm Bill continued these programmes with only small adjustments (Table 29.2).

The largest of the farm programmes in the Farm Bill, the Federal Crop Insurance Program (FCIP), was established in the 1930s to cover yield losses from most natural causes.[4] The programme's current form was authorised by the Federal Crop Insurance Act of 1980 and modified by subsequent Farm Bills and other legislation. The 1980 act introduced federal premium subsidies and brought in private insurance companies (Approved Insurance Providers, or AIPs) to deliver crop insurance policies. The catastrophic (CAT) coverage level was created in 1994, under which 100% of the premium is subsidised and producers pay a fee.[5] The Agricultural Risk Protection Act of 2000 expanded the geographic availability of insurance, increased premium subsidy levels, and removed restrictions on livestock insurance products.

Table 29.2. United States: Main agricultural policy trends

Period	Framework	Changes in agricultural policies
1980	Federal Crop Insurance Act of 1980[1]	Introduced federal premium subsidies for crop insurance (30% at the 65% coverage level) Created a public-private partnership with private insurance companies (Approved Insurance Providers), which became responsible for delivering crop insurance policies
1985	Food Security Act of 1985	Established marketing loans for cotton and rice, removing market price support element of cotton and rice commodity loans Set up the Export Enhancement Programme and the Dairy Export Incentive Programme. Established the Conservation Reserve Programme (CRP) Established conservation cross-compliance requirements (highly erodible land and wetland conservation provisions)
1990	Food, Agriculture, Conservation, and Trade Act of 1990	Introduced 15% "normal flex acres" and 10% "optional flex acres" Extended marketing loan provisions to oilseeds in 1991, and to wheat and feed grains in 1993 Allowed oilseeds and alternative crops to be planted on land in a 0/85-92 programme without loss of payments.
1994	Federal Crop Insurance Reform and Department of Agriculture Reorganization Act of 1994[1]	Catastrophic (CAT) crop insurance coverage level created Increased premium subsidies for higher coverage levels (buy-up coverage)
1996	Federal Agriculture Improvement and Reform Act of 1996	Replaced crop deficiency payments and target prices with fixed direct payments decoupled from current prices and production levels to be reduced over time Eliminated most planting restrictions Extended marketing loan provisions to most other covered crops and created alternative direct Loan Deficiency Payments (LDP) Phased-out the dairy support price (although interim legislation modified this provision) Consolidated cost share and technical assistance programmes for crop and livestock producers into the Environmental Quality Incentives Programme (EQIP) Extended CRP authorisation and capped enrolment Lifted conservation cross-compliance requirements for crop insurance participation
2000	Agricultural Risk Protection Act of 2000[1]	Expanded the geographic availability of crop insurance, increased premium subsidy levels, and removed restrictions on livestock insurance products
2002	Farm Security and Rural Investment Act of 2002	Annually decreasing Production Flexibility Contract payments replaced by fixed Direct Payments programme Created the Counter-Cyclical Payments programme triggering supplemental direct income support payments when prices fell below targets Added soybeans and peanuts as covered commodities under the fixed Direct Payment and Counter-Cyclical Payments programme Increased payments for environmental conservation and protection Eliminated peanut price support quota system, buying out peanut quota rights
2008	Food, Conservation, and Energy Act of 2008	Retained Direct Payment, Counter-Cyclical Payment and Marketing Assistance Loan programmes Created the Average Crop Revenue Election (ACRE) as a revenue-based alternative to the Counter-Cyclical Payment programme Changed the dairy price support programme basis from milk price to prices of dairy products Increased marketing assistance loan rates and Counter-Cyclical Payment programme target prices for a number of programme crops and sugar Introduced a permanent disaster assistance programme (Supplemental Agricultural Disaster Assistance) to end the need for ad hoc programs Significantly increased funding for domestic food assistance programmes Ended the Export Enhancement Programme

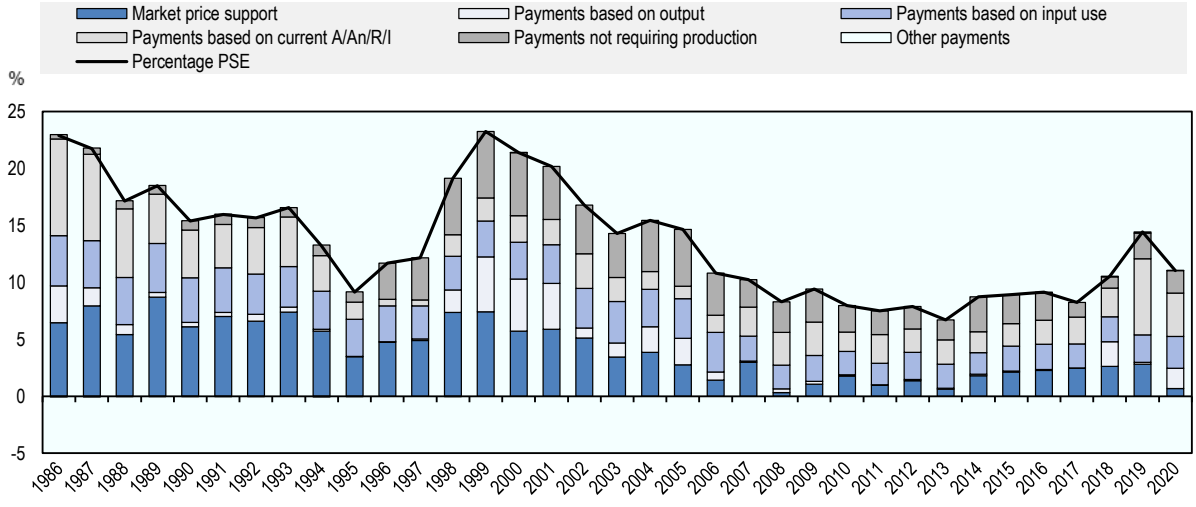
Period	Framework	Changes in agricultural policies
2014	Agricultural Act of 2014	Repealed Direct Payment, Counter-Cyclical Payment, and ACRE programmes; created the Price Loss Coverage (PLC) and Agriculture Risk Coverage (ARC), which used the historical payment base established for the repealed programmes Added new crop insurance options: Supplemental Coverage Option (SCO), Stacked Income Protection Plan (STAX) for upland cotton; Expanded the Noninsured Crop Assistance Program (NAP) to allow for higher premium-based coverage Re-established conservation cross-compliance requirement to receive crop insurance premium subsidies Expanded programmes for specialty crops, organic farmers, bioenergy, rural development, and beginning farmers and ranchers, continuing orientation to technical assistance, research, and development loans.
2018	Agriculture Improvement Act of 2018	Continued 2014 Farm Bill programmes with only minor changes, with some additions to programmes for specialty crops, organic farmers, local and regional markets, and beginning, military veteran and minority farmers.

Notes: 1. Crop insurance legislation.
Source: Congressional Research Service (2018[4]); OECD (2011[2]; 2014[5]; 2019[6]); USDA ERS (2020[7]).

Producer support increased in recent years after declining since 2000-02. MPS became a progressively smaller share of US support to agriculture. Budgetary support increased over time, mainly due to increases in payments that require production (reflecting the increasing emphasis placed on farm insurance and risk management, including the Federal Crop Insurance Program), as well as increases in input payments and payments not requiring production (Figure 29.4).

Figure 29.4. United States: Level and PSE composition by support categories, 1986 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

The Agricultural Improvement Act of 2018 (the 2018 Farm Bill) provides the basic legislation governing farm programmes for 2019 to 2023. The twelve titles of the 2018 Farm Bill authorise policies for commodity

programmes, conservation on agricultural land, agricultural trade promotion and international food aid, nutrition programmes, farm credit, rural development, agricultural research, forestry on private lands, energy, horticulture and organic agriculture, and crop insurance. Around 76% of budgetary spending under the 2018 Farm Bill is projected for programmes in the Nutrition title – primarily the *Supplemental Nutrition Assistance Program* (SNAP) – with farm programmes accounting for less than 25% of projected budgetary outlays. Of the farm programmes, crop insurance is projected to account for 9% of total expenditures, and Commodities and Conservation for 7% each. The remaining titles together account for 1% of projected spending.

The primary crop commodity programmes under the 2018 Farm Bill include programmes that make payments to producers with historical base acres[6] of programme crops (wheat, feed grains, rice, oilseeds, peanuts, pulses and seed cotton) when prices fall below statutory minimums or when crop revenue is low relative to recent levels. Producers are not required to produce the covered commodity to receive payments on their historical base. Price Loss Coverage (PLC), a counter-cyclical price programme, makes a payment when market prices for covered crops fall below fixed reference prices. Agriculture Risk Coverage (ARC), a revenue-based programme, makes a payment when actual revenue at the county level falls below rolling average benchmark revenues. For both programmes, payments are made on 85% of base acres. For their base acre elections, participating producers are required to choose between the PLC and ARC programmes on a commodity-by-commodity basis that holds for both 2019 and 2020, and then annually for each year through 2023.

The crop insurance programme offers coverage options for both yield and revenue losses. Traditional crop insurance makes subsidised crop insurance available to producers who purchase a policy to protect against losses in yield, crop revenue, or whole farm revenue. The 2018 Farm Bill expanded the list of insurable commodities to include hemp.[7] In addition, the Supplementary Coverage Option (SCO) offers producers additional area-based insurance coverage in combination with traditional crop insurance policies (but excluding crops for which producers have elected to participate in the ARC programme). The Stacked Income Protection Plan (STAX) provides premium subsidies to upland cotton producers to purchase area-based revenue insurance policies. Producers who choose to enrol former upland cotton base acres as seed cotton base (seed cotton became a covered commodity under the PLC and ARC programmes as a result of the Bipartisan Budget Act of 2018) are not eligible to purchase STAX policies. Participants in the STAX programme may not purchase SCO policies for the same upland cotton acreage.

Sugar is supported by a tariff rate quota (TRQ), together with provisions for non-recourse loans and marketing allotments. Minimum prices with government purchases of butter, skim milk powder and cheddar cheese no longer support milk and dairy products, but tariffs and TRQs continue to exist. For dairy producers, the Dairy Margin Coverage (DMC) programme, insures the margin between milk price and feed costs for a premium, with payments made on enrolled historical milk production. The 2018 Farm Bill also allows producers to participate in both DMC and dairy livestock insurance programmes. Under the new Milk Donation Reimbursement Program (MDP) fluid milk producers with pre-approved plans may be reimbursed for costs incurred in donating fluid beverage milk to low-income groups. Marketing assistance loans continue for wheat, feed grains, cotton, rice, oilseeds, pulses, wool, mohair and honey, as do border measures (including TRQs) for beef and sheep meat and some other products, although US agricultural tariffs are generally low, at 4.7% on average in 2019.[8]

At the federal level, agri-environmental programmes focus on land retirement and measures to encourage crop and livestock producers to adopt practices that reduce environmental pressures on working land (cropland and grazing land in production). Working land programmes include the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP). Land retirement programmes include the Agricultural Conservation Easement Program (ACEP) and the Conservation Reserve Program (CRP). The Regional Conservation Partnership Program offers options for regionally or watershed focused conservation efforts that may combine both land retirement and working lands programmes. Since the enactment of the 1985 Farm Act, eligibility for most federal commodity programme

payments, including crop insurance premium subsidies, is subject to recipients having established an individual farm-based conservation plan to protect highly erodible cropland and wetlands.

Other farm programmes include direct and guaranteed loans (including microloans) for farmland purchase and for operating credit, designed to assist producers who face difficulty obtaining credit in the private market, particularly beginning, military veteran and socially disadvantaged farmers. Farm Bill programmes also support public agricultural research and technical assistance, including programmes targeted to specialty crops; organic production; pest and disease prevention; the promotion of sustainable farming practices; and standing disaster programmes for livestock, forage, and trees, bushes and vines to help producers cope with production, financial and physical losses related to or caused by natural disasters.

Production of ethanol and other biofuels is supported mainly in the form of mandated blending for fuel use, and loan and grant programmes.

A wide range of other legislation also affects agriculture in the United States at federal, state and local levels, including trade measures, food safety regulation, commodity trading and finance, tax policy, energy, and transportation.

The United States continually works to enhance agricultural productivity, including under increasing climate variability and extreme weather events. To support adaptation to climate change, The USDA operates a network of Regional Climate Hubs. These link USDA research and programme agencies in order to develop and deliver science-based, region-specific information and technologies to agricultural producers and professionals, so as to enable climate-informed decision-making and direct stakeholders towards resources needed to implement those decisions.

USDA also helps producers reduce GHG emissions, enhance carbon sequestration and adapt to a changing climate while improving the natural resource base by providing technical and financial assistance to landowners through its conservation programmes. For example, the Soil Health Initiative promotes and supports adoption of soil health practices and systems through various conservation programmes, including EQIP and CSP.

Domestic policy developments in 2020-21

Implementation of provisions of the Agriculture Improvement Act of 2018 (2018 Farm Bill) continued during 2020, accompanied by continued implementation of the 2019 suite of trade mitigation programmes and the 2018 and 2019 Congressional ad hoc disaster assistance programmes with 2020 supplements. Most prominently, however, USDA implemented a series of policies to address the COVID-19 pandemic, including producer programmes, food assistance programmes, and regulatory flexibilities along the supply chain. Several trade agreements came into force in 2020: the Japan-US Free Trade Agreement, the United States-Mexico-Canada Agreement, and the “Phase One” Trade Agreement with China.

On **trade mitigation**, in February 2020, USDA announced the third and final tranche of payments under the 2019 Market Facilitation Program (MFP). The MFP provided payments up to USD 14.5 billion in three tranches to producers of commodities affected by retaliatory tariffs resulting in the loss of traditional export markets, including non-specialty crops, hogs, milk, and certain specialty crops (fresh sweet cherries, tree nuts, fresh grapes, cranberries, and cultivated ginseng). The February 2020 payments were the last of three tranches of MFP payments, providing the remaining 25% of authorised payments.

On **disaster assistance**, in December 2019, *the Further Consolidated Appropriations Act, 2020* provided an additional USD 1.5 billion for the continuation of disaster assistance programme delivery and added several new qualifying disaster events and eligible participants under the WHIP+ programme (OECD, 2020[8]). These were losses from excessive moisture or drought suffered in 2018 and 2019; compensation to grower members of sugar beet co-operatives for sugar beet losses in 2018 and 2019; and crop quality

losses that resulted in price deductions or penalties when marketing the damaged crops due to qualifying disaster events in 2018 and 2019.

On **crop insurance**, USDA's Risk Management Agency (RMA) introduced a new policy in 2020 that will help producers recover from hurricanes. The Hurricane Insurance Protection – Wind Index (HIP-WI) covers 70 different crops and is available in counties near the Gulf of Mexico and the Atlantic, as well as Hawaii. The policy covers a portion of the deductible of a producer's underlying crop insurance policy when their county, or an adjacent county, is within the area of sustained hurricane-force winds, as determined by National Oceanic and Atmospheric Administration (NOAA) hurricane wind extents data. Sustained hurricane winds are the only cause of loss for HIP-WI.

On **organic agriculture**, the United States and Taiwan signed a new organic equivalence arrangement allowing organic products certified in the United States or Taiwan to be sold as organic in either market, and the United States and Japan announced the expansion of their organic equivalence arrangement to include livestock products. The United States has organic equivalence arrangements with Canada, the European Union, Japan, Korea, Switzerland, and Taiwan.

On **agricultural biotechnology**, USDA's Animal and Plant Health Inspection Service (APHIS) published the Sustainable, Ecological, Consistent, Uniform, Responsible, Efficient (SECURE) rule, the first comprehensive revision of the Agency's biotechnology regulations in over 30 years. The new rule will facilitate the development and availability of these technologies through a transparent, consistent, science-based, and risk-proportionate regulatory system. Specifically, the new rule puts in place a more efficient process to identify plants that would be subject to regulation, focusing on the properties of the plant rather than on its method of production. APHIS will evaluate plants developed using genetic engineering for plant pest risk under a new process called a regulatory status review, regulating only those that plausibly pose an increased plant pest risk.

On **natural resources and environmental measures**, the new Conservation Reserve Program (CRP) Soil Health and Income Protection Program (SHIPP) pilot, authorised under the 2018 Farm Act, was launched in 2020. The programme is available to producers in Iowa, Minnesota, Montana, North Dakota and South Dakota. Through SHIPP, producers have the option of three-, four- or five-year CRP contracts to establish perennial cover on less productive cropland in exchange for payments. This pilot enables producers to plant perennial cover that, among other benefits, will improve soil health and water quality while having the option to harvest hay and graze during certain times of the year. Up to 50 000 acres can be enrolled.

Also on natural resources, the new CRP CLEAR30 Program offers farmers and landowners with expiring water-quality practice CRP contracts in the Great Lakes and Chesapeake Bay regions the opportunity to enrol in a 30-year CRP contract. The longer contracts will help ensure that practices remain in place for 30 years, which will help reduce sediment and nutrient runoff and help prevent algal blooms. Traditional CRP contracts run from 10 to 15 years.

On **biofuels**, in February 2020, the USDA announced the new *Higher Blends Infrastructure Incentive Program (HBIIP)*. The HBIIP makes USD 100 million in grants available for transportation fuel and biodiesel distribution facilities to retrofit or upgrade fuel storage, dispenser pumps, and related infrastructure to be able to sell ethanol and biodiesel. The programme builds on biofuels infrastructure investments and experience gained through the Biofuels Infrastructure Partnership (BIP) administered by USDA from 2016–19 (OECD, 2016[9]), which awarded competitive grants, matched by states, to expand the availability of E15 and E85 infrastructure.

On local and regional **food systems,** in 2020 USDA's new *Office of Urban Agriculture and Innovative Production* announced the first grants under its competitive grants programme. The programme was authorised by the 2018 Farm Bill to address food access and education and innovative ways to increase local food production in urban environments. USDA awarded USD 1.44 million for planning projects that

target areas of low food access, provide job training and education, business and start-up costs for new farmers, and the development of policies related to zoning and other needs of urban production. An additional USD 1.88 million was awarded to implement projects that accelerate existing and emerging models of urban, indoor and other agricultural practices that serve multiple farmers.

On **food loss and waste**, the Office of Urban Agriculture and Innovative Production announced just over USD 1 million in funding for 13 pilot projects through its *Community Compost and Food Waste Reduction Projects* programme, to develop and test strategies for planning and implementing municipal compost plans and food waste reduction. Priority projects anticipate or demonstrate economic benefits, incorporate plans to make compost easily accessible to farmers (including community gardeners), integrate other food waste strategies (including food recovery efforts), and collaborate with multiple partners.

Domestic policy responses to the COVID-19 pandemic

Most programmes to address COVID-related disruptions in the US agricultural and food system are funded by COVID-specific authorising legislation, including the *Families First Coronavirus Response Act (FFCRA)*, which was enacted on 18 March 2020, and the *Coronavirus Aid, Relief, and Economic Security Act (CARES Act)*, which was enacted on 27 March 2020.[9] The CARES Act provided USD 9.5 billion in disaster relief to prevent, prepare for, and respond to coronavirus by supporting agricultural producers impacted by COVID-19, including producers of specialty crops, producers that supply local food systems (such as farmers markets, restaurants, and schools), and livestock producers (including dairy producers). The CARES Act provided USD 14 billion to replenish the borrowing authority for the Commodity Credit Corporation (CCC).[10] In addition, the *Consolidated Appropriations Act, 2021*, which was enacted on 27 December 2020, provides additional funding for COVID-19 programmes that will be implemented in 2021. USDA also used existing authorities under the Commodity Credit Corporation (CCC) Charter Act to respond to COVID-19.

On **COVID-specific support for agriculture**, a new USDA programme, the Coronavirus Farm Assistance Program (CFAP), provided around USD 23.5 billion in **direct income payments to farmers and ranchers**. CFAP provided financial assistance based on actual losses to producers of agricultural commodities who had faced price declines due to COVID-19 and additional significant marketing costs because of lower demand, surplus production, and disruptions to shipping patterns and the orderly marketing of commodities. The programme covered over 300 eligible commodities, from livestock and row crops to specialty crops and aquaculture. CFAP funding was authorised through the CARES Act (USD 9.5 billion) as well as USD 14 billion in funding provided through the Commodity Credit Corporation (CCC) Charter Act. Approximately USD 500 million of the CARES Act funds were used for the Farmers to Families Food Box programme described below, and actual outlays of additional CCC funds remained below the total authorised at the end of 2020. CFAP was implemented through two payment rounds (CFAP-1 and CFAP-2) based on separate eligibility requirements and payment formulas.

USDA also introduced flexibilities into its programmes and services in response to the COVID-19 pandemic and as part of its implementation of the CARES Act.

On **farm finance and credit**, USDA's Farm Service Agency (FSA) broadened the use of the Disaster Set-Aside loan provision, normally used in the wake of natural disasters, to allow farmers with USDA farm loans who were affected by COVID-19 to have a payment set aside. To assist Farm Storage Facility Loan borrowers experiencing financial hardship from the pandemic and other challenges in production agriculture, a one-time option for an annual instalment payment deferral was made available.

On **crop insurance**, USDA's RMA provided administrative flexibilities to protect the health and safety of crop insurance programme participants, including insurance providers, as well as more substantial programme flexibilities to assist producers affected by COVID-19 market disruptions. These included:

- Allowing dairy producers who were forced to dump milk as a result of government-ordered shutdowns to report that milk as marketed for insurance purposes.
- Allowing organic producers to report acreage as certified organic, or transitioning to organic, for the 2020 crop year if they can show that they have requested a written certification from a certifying agent by their policy's acreage reporting date.

USDA also extended the repayment period for agricultural producers to repay Marketing Assistance Loans (MAL) from 9 to 12 months.

On **farm labour**, in April 2020, the Department of Homeland Security along with the USDA announced a temporary rule change to H-2A visa requirements to help agricultural producers to avoid disruptions in their labour force. The H-2A visa applies to foreign workers who perform agricultural labour on a temporary or seasonal basis before returning to their home countries. The temporary change in rules allows foreign workers who are already in the United States to change employers more quickly and easily, as well as stay beyond the three-year maximum allowable period.

On **animal health**, as the national animal health reference laboratory, USDA's APHIS established confirmatory testing services for animal samples for SARS-CoV-2 and tested more than 500 animals for the virus, confirming 66 animals as positive. APHIS also worked with 37 laboratories in the National Animal Health Laboratory Network (NAHLN) to get them set up for added COVID-19 testing services, including 22 with capability to test human samples, and collaborated closely with both animal and public health officials on a variety of COVID-19 related projects. Additionally, APHIS created a National Incident Coordination Center to support producers impacted by COVID-19 closures and slowdowns at meat processing plants. As part of these efforts, the National Veterinary Stockpile quickly deployed more than USD 2.24 million worth of critical equipment, supplies and services to directly support affected producers.

On **COVID-specific support for agro-food supply chains**, in April 2020, President Trump issued an executive order under the Defense Production Act authority to keep meat and poultry processing facilities operating during COVID-19. The President directed the Secretary of Agriculture to take all appropriate actions to ensure that meat and poultry processors continued operations, consistent with the guidance for their operations jointly issued by the Centers for Disease Control (CDC) and the US Department of Labor's (DOL) Occupational Safety and Health Administration (OSHA), to ensure that the plants can operate safely.

In May 2020, USDA and the Food and Drug Administration (FDA) established a Memorandum of Understanding to clarify procedures in order to "prevent interruptions at FDA regulated food facilities," including fruit and vegetable processing facilities.

COVID-specific support for consumers included commodity distribution and additional funding for USDA domestic food assistance programmes.

On **commodity distribution**, as part of CFAP and using funding authorised under the Families First Coronavirus Response Act (FFCRA) and the CARES Act, in 2020 USDA partnered with regional and local distributors whose workforce had been significantly impacted by the closure of many restaurants, hotels, and other food service entities. USDA purchased and distributed USD 4 billion in fresh produce, dairy and meat products through the *Farmers to Families Food Box Program*. The programme delivered more than 125 million pre-approved, family-sized boxes of fresh produce, dairy and meat products to food banks and other non-profits serving low-income households.

CFAP programme funding also provided more than USD 850 million (USD 400 million through FFCRA and USD 450 million through the CARES Act) to make additional purchases for distribution through *The Emergency Food Assistance Program* (TEFAP), an ongoing programme that provides emergency food assistance to low-income families through food banks and other nutrition assistance programmes.

US Secretary of Agriculture Sonny Perdue authorised USD 470 million in additional Section 32-funded food purchases[11] for distribution to communities in need in response to the COVID-19 national emergency. USDA also issued *Disaster Household Distributions*, a food assistance programme that provides food targeted to meet specific needs when traditional channels of food are unavailable. Distributions were made to 16 states and territories and 29 tribal governments.

On USDA **domestic food assistance programmes**, under FFCRA authority, USDA allowed States to issue benefits to *Supplemental Nutrition Assistance Program* (SNAP) households that normally receive less than the maximum benefit, and to provide programme flexibilities for SNAP issuance methods, application, and reporting requirements. These modifications are applicable during the COVID-19 health emergency. USDA's Food and Nutrition Service (FNS) rapidly expanded a pre-planned online purchasing pilot for SNAP participants as part of its COVID-19 response. Within six weeks of its launch in New York in mid-April, USDA had expanded SNAP online purchasing to 36 states and the District of Columbia, covering 90% of SNAP households, and eventually reaching an additional 10 states and covering more than 97% of SNAP beneficiaries. SNAP spending increased 52% in FY2020 to USD 84.8 billion.

The FFCRA provided an additional USD 500 million in appropriations for the *Special Supplemental Nutrition Program for Women, Infants, and Children* (WIC) programme during the COVID-19 health emergency. WIC provides supplemental foods, nutrition education, breastfeeding promotion and support, and health care referrals to low-income pregnant, postpartum, and breastfeeding women, infants, and children under five who are determined by health professionals to be at nutritional risk. FNS used programme flexibilities and waiver authorities provided by Congress to facilitate participation, in particular by allowing for remote approval of participants and flexible options for receiving benefits and picking up food packages.

USDA provided states the option to allow parents or guardians to take meals home to their children being served under the *Child and Adult Care Food Program*. Typically, children would need to be present at school to receive a meal through this programme. Flexibilities were also provided to assist seniors and individuals with disabilities served through the same programme.

USDA's FNS also provided alternative means of getting meals to children who would normally receive free or reduced-price meals at school. A new programme called Pandemic EBT (Electronic Benefits Transfer)[12] provided for the electronic transfer of funds to households to cover the cost of meals children would normally receive at school. The *Emergency Meals to You* programme, a public-private partnership, delivered more than 40 million meals to approximately 400 000 children in rural areas during 2020 school and summer meal programme closures. Various programme flexibilities, including allowing parents and guardians to pick up meals rather than requiring children to be served meals in group settings, provided local schools and meal programme operators with the option to tailor their offerings to community needs. Programme flexibilities also allowed states and local school districts to develop hybrid in-school and alternative meal strategies. USDA also developed a *Meals for Kids* interactive site finder to help parents and children locate sites and meal service times.

USDA also provided additional food distributions through the *Food Distribution Program on Indian Reservations* (FDPIR), a programme which provides USDA Foods to eligible households living on Indian reservations and to American Indian households residing in approved areas near reservations and throughout the state of Oklahoma. Many households participate in FDPIR as an alternative to SNAP because they do not have easy access to SNAP offices or authorised food stores. Up to USD 50 million in CARES Act funds have also been made available to tribal governments for COVID-related infrastructure costs, such as personal protective equipment, freezers/coolers, mobile IT equipment, tailgate equipment, and vehicles for home deliveries.

Trade policy developments in 2020-21

The **Japan-US Free Trade Agreement** went into effect on 1 January 2020, providing for 5 to 15 year phase-in periods for tariff reductions on canola oil, wheat, beef, pork, feed grains, and oilseeds (USTR, 2019[10]).

On 16 January 2020, the US Senate approved the **United States-Mexico-Canada Agreement (USMCA)** by a vote of 89-10 following the December 2019 passage of the agreement by the US House of Representatives. The new agreement entered into force on 1 July 2020, replacing the North American Free Trade Agreement (NAFTA). The agreement continues tariff-free access for most agricultural commodities, expands market access for some additional commodities, and provides for new rules governing agricultural biotechnology and sanitary and phytosanitary measures.

The United States and the People's Republic of **China** (hereafter "China") reached a **"Phase One" Trade Agreement** that includes commitments by China to enact structural and economic reforms and make additional purchases of US goods and services in the coming years. The agreement also lifts or modifies import restrictions on a number of US agricultural products. The United States agreed to modify tariff actions on Section 301 as part of this agreement. The agreement was signed on 15 January 2020 and entered into force one month later.

Trade policy responses to the COVID-19 pandemic

To alleviate the impact of the COVID-19 pandemic on animal origin commodity imports, USDA's APHIS provided flexibility by accepting electronic import documents, including veterinary certificates, regardless of the disease status of the exporting country. The provisions are set to expire on 30 June 2021.

Contextual information

The United States is the world's second largest economy and the third largest country by land area and population. US GDP per capita is almost three times the average of all countries analysed in this report (Table 29.3). Primary agriculture accounts for a small part of the economy – around 0.9% of GDP and 1.5% of employment – but agro-food exports account for over 10% of total exports. The US agricultural sector benefits from a large domestic consumer market, as well as abundant arable and pasture land and diverse climatic conditions that support production of a wide range of commodities. In recent years, total agricultural production has been divided relatively equally between crops and livestock, although their shares vary over time. Key industries include grains (maize and wheat), oilseeds (soybeans), cotton, cattle, dairy, poultry, and fruits and vegetables.

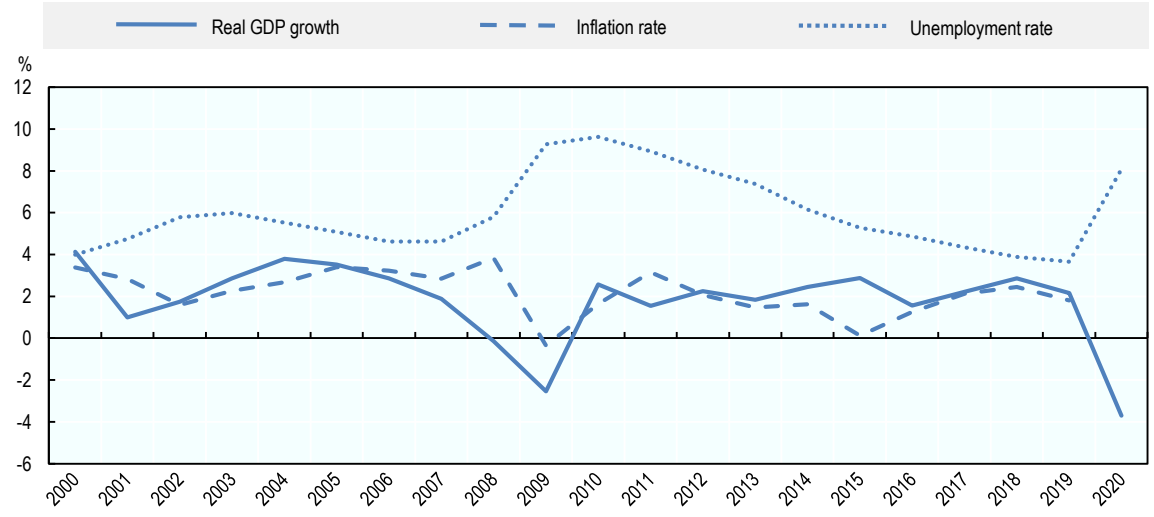
The US economy contracted in 2020 and the unemployment rate increased for the first time since 2010 as a result of the COVID-19 pandemic and related restrictions (Figure 29.5). The United States is the world's largest agricultural exporter and was a net exporter up until 2018, although the US agro-food trade surplus had narrowed in recent years (Figure 29.6). North America and developing East and Southeast Asia were the largest markets for US agricultural exports in 2019. Exports are dominated by primary products for further processing and processed products for final consumers, while half of agro-food imports are processed products for final consumption.

Table 29.3. United States: Contextual indicators

	United States		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	10 252	21 433	25.7%	18.8%
Population (million)	282	329	6.6%	6.3%
Land area (thousand km²)	9 162	9 147	11.0%	10.8%
Agricultural area (AA) (thousand ha)	414 399	405 810	13.6%	13.3%
			All countries[1]	
Population density (inhabitants/km²)	31	36	53	63
GDP per capita (USD in PPPs)	36 305	65 143	9 265	21 975
Trade as % of GDP	9	9	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	1.2	0.9	2.9	3.5
Agriculture share in employment (%)	1.8	1.5	-	-
Agro-food exports (% of total exports)	7.8	10.1	6.2	7.3
Agro-food imports (% of total imports)	3.5	5.7	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	56	51	-	-
Livestock in total agricultural production (%)	44	49	-	-
Share of arable land in AA (%)	42	39	32	34

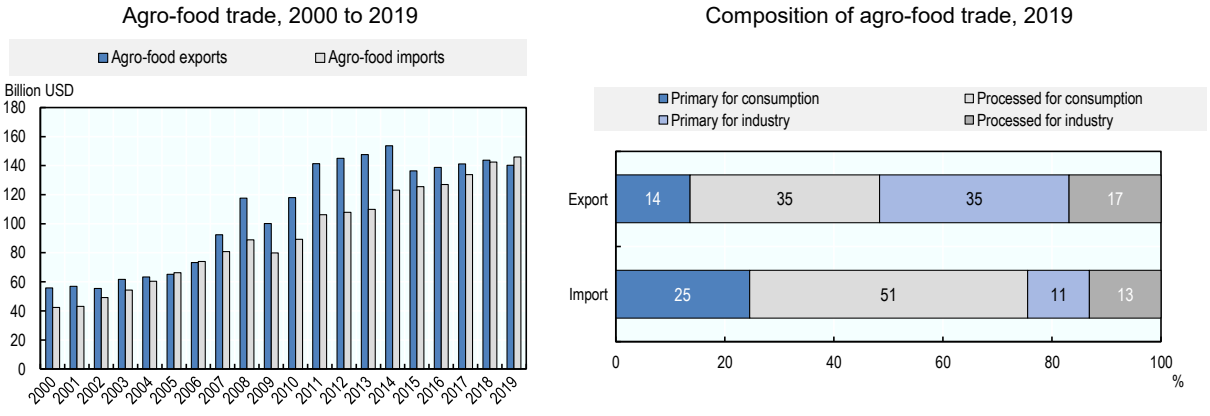
Notes: *or closest available year.
1. Average of all countries covered in this report.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Figure 29.5. United States: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; and ILO estimates and projections.

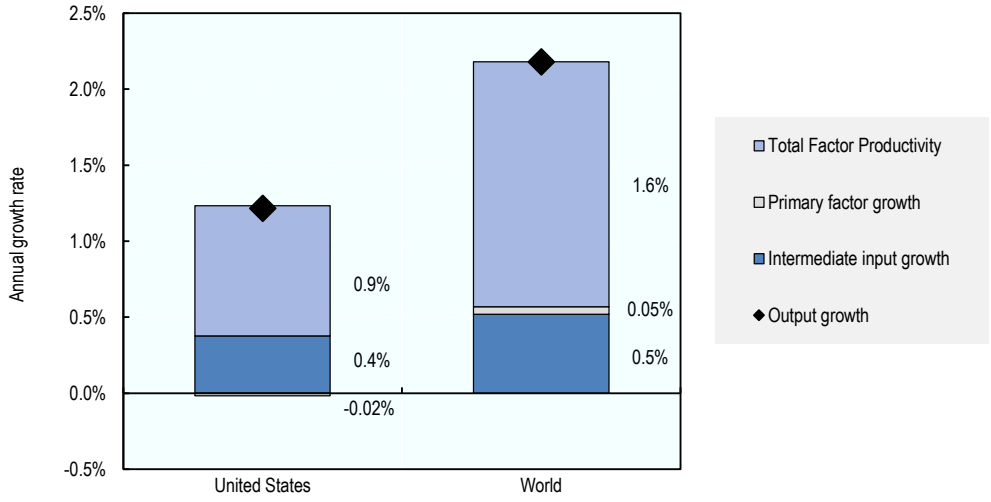
Figure 29.6. United States: Agro-food trade



Note: Numbers may not add up to 100 due to rounding.
Source: UN Comtrade Database.

Total factor productivity (TFP) growth and intermediate input growth have driven agricultural output growth of 1.2% per year on average over the recent decade (Figure 29.7). TFP growth averaged 0.9% per year between 2007 and 2016, driven by farm consolidation and the adoption of innovations in crop and livestock breeding, nutrient use and pest management, farm practices, and farm equipment and structures. However, TFP growth has declined relative to the rate of growth over the period 1991-2000. The productivity growth realised by US agriculture has been achieved with an overall reduction in environmental pressures from the sector. Nutrient surplus intensities at the national level have declined and are close to the average for OECD countries (Table 29.4). Agriculture's share in energy use is below the OECD average, as are GHG emissions. However, water stress in the United States is above the OECD average.

Figure 29.7. United States: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 29.4. United States: Productivity and environmental indicators

	United States		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	2.2%	0.9%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	34.4	27.0	33.2	28.9
Phosphorus balance, kg/ha	3.2	2.8	3.4	2.6
Agriculture share of total energy use (%)	0.9	1.3	1.7	2.0
Agriculture share of GHG emissions (%)	7.6	9.3	8.4	9.5
Share of irrigated land in AA (%)	5.3	5.6	-	-
Share of agriculture in water abstractions (%)	39.7	45.6	46.0	43.4
Water stress indicator	19.5	15.6	9.3	8.5

Note: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

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WTO (2021), *Tariff Profiles – United States*, https://www.wto.org/english/res_e/statis_e/tariff_profiles_list_e.htm. [11]

Notes

[1] Federal Agriculture Improvement and Reform Act of 1996 (P.L. 104-127).

[2] Farm Security and Rural Investment Act of 2002 (P.L. 107-171).

[3] Food, Conservation, and Energy Act of 2008 (P.L. 110-246).

[4] Agricultural Adjustment Act of 1938 (7 U.S.C. 1281)

[5] Federal Crop Insurance Reform and Department of Agriculture Reorganization Act of 1994. The Food, Conservation, and Energy Act of 2008 ("2008 Farm Bill") continued the 100% premium subsidy for CAT but increased CAT fees from USD 50 to USD 300/crop/county.

[6] Base acres are a farm's crop-specific historical acreage of wheat, feed grains, seed cotton, rice, oilseeds, pulse crops or peanuts eligible to participate in the ARC and PLC commodity programmes. Base acres are not linked to current plantings.

[7] Hemp was previously uninsurable because of legal restrictions on its cultivation.

[8] Simple average MFN applied tariff (WTO, 2021[11]).

[9] Families First Coronavirus Response Act (FFCRA) (Public Law 116-127), enacted on 18 March 2020 and the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) (Public Law 116-136), enacted on 27 March 2020

[10] The Commodity Credit Corporation (CCC) funds many of the US Department of Agriculture's (USDA) programmes for farmers.

[11] Section 32 is a permanent appropriation under the Agricultural Adjustment Act, as amended 24 August 1935 (P.L. 79- 320) that since 1935 has set aside the equivalent of 30% of annual customs receipts to support the US food and agriculture sector through activities to encourage consumption of US agricultural commodities. In recent years, this authority has primarily been used for purchase and distribution of commodities for use in school lunch and other nutrition programmes and for distribution to low-income households.

[12] Pandemic EBT is modelled on the Electronic Benefits Transfer programme that utilises electronic debit cards to provide SNAP benefits to eligible recipients.

30 Viet Nam

Support to agriculture

Support provided to Viet Nam's agricultural sector fluctuates at low and negative levels, largely driven by changes in market price support (MPS). In 2018-20, Viet Nam's producer support estimate (PSE) was -9.2%, implying an implicit overall taxation compared to the positive level of support in 2000-02. MPS varies across commodities. Producers of import-competing commodities, such as maize, sugar cane and beef, benefit from tariff protection, while producers of cashew nuts, pig and poultry meats, pepper, coffee, tea, and rubber are implicitly taxed. Rice producers also benefit from price support based on target prices designed to provide farmers with a profit of 30% above average production cost.[1] In some years, this system results in implicit taxation of rice producers when domestic prices are below international levels. On average during 2018-20, effective prices received by farmers were 9% lower than world prices, though this hides large differences between commodities.

Budgetary transfers to producers are relatively small and include payments based on variable input use – primarily expenditure to subsidise an irrigation fee exemption and direct payments to rice producers tied to maintaining land in rice production.

Support for general services for agriculture (GSSE) was equivalent to 2.5% of agricultural value-added in 2018-20, down from 2.9% in 2000-02. Expenditure to develop and maintain infrastructure, in particular irrigation, dominates support for general services. Total support to agriculture (TSE) varies between positive and negative values, as in some years budgetary transfers to producers and expenditure on general services do not compensate for overall negative MPS.

Recent policy changes

In 2020, the Ministry of Agriculture and Rural Development (MARD) approved its Plan to Implement the Paris Agreement on Climate Change for the period 2021-30. It sets out tasks for the sector to implement the government's 2016 action plan for the agreement. Key tasks for MARD include reducing greenhouse gas (GHG) emissions in the agriculture and rural development sector; and establishing measurement, reporting and verification systems (MRV) for the agricultural sector and the land use, land use change and forestry (LULUCF) sectors. The government also promulgated the National Climate Change Adaptation Plan for 2021-30, with a Vision to 2050, which aims to minimise vulnerability to and risk of climate change impacts by strengthening the adaptability of communities, economic sectors and ecosystems. For the agricultural sector, the plan identifies adaptation needs, objectives and tasks.

Since 2003, most farming households and organisations are exempt from paying agricultural land use tax or benefit from a land tax reduction. In June 2020, the government issued a Resolution extending the exemption until 31 December 2025.

In 2020, Viet Nam signed the Regional Comprehensive Economic Partnership (RCEP or ASEAN+5) and the United Kingdom-Viet Nam Free Trade Agreement (UKVFTA). RCEP combines and deepens existing bilateral and regional agreements, and will be the largest free trade agreement in the world once in force,

covering around 30% of both global population and GDP. UKVFTA was negotiated based on commitments from the original agreement with the European Union (EVFTA) with necessary adjustments to ensure compliance with the bilateral trade framework between Viet Nam and the United Kingdom. The Agreement came into effect on 31 December 2020. (EVFTA entered into force on 1 August 2020.)

Viet Nam allowed enterprises, individuals and household businesses affected by the COVID-19 pandemic to defer payment of value-added tax, corporate income tax, personal income tax, and land rental fees. Enterprises, organisations, households and individuals engaged in agricultural, forestry and fishery production, and food production and processing, are among those eligible to defer payments of tax and land rent.

Also in response to the COVID-19 pandemic, in order to stabilise the domestic market, on 11 March 2020 the government ordered private rice traders to maintain rice reserves equivalent to 5% of the volume shipped in the preceding six months. On 25 March 2020, the government suspended rice exports in order to ensure domestic food security during the COVID-19 outbreak and in the context of a severe drought in the Mekong River Delta. The decision was subsequently revised in favour of a monthly quota for rice exports and, on 3 April 2020, the government approved a plan to export 400 000 tonnes of rice in April and a further 400 000 tonnes in May.

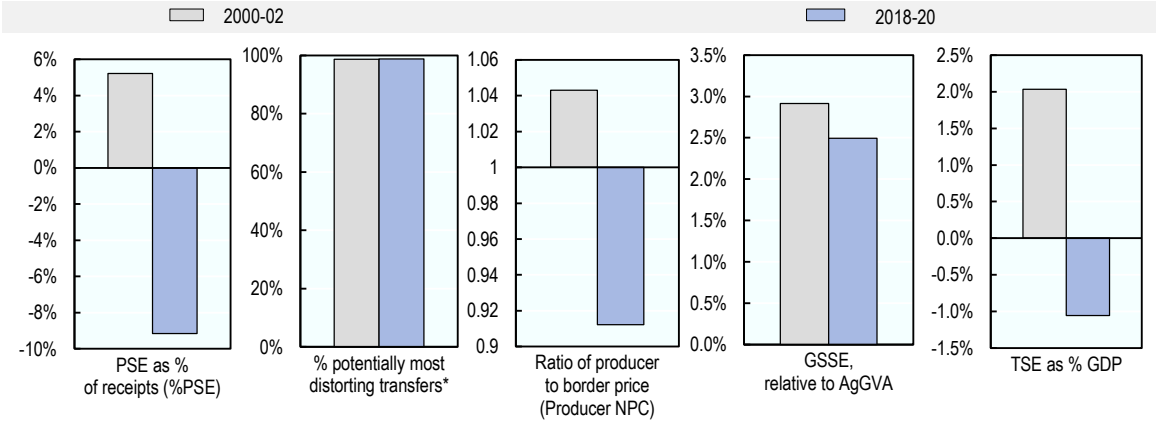
On 27 March 2020, Viet Nam announced a plan to stockpile 270 000 tonnes of rice, including 80 000 tonnes of paddy (unhusked) rice, to ensure domestic food availability during the COVID-19 pandemic. The Ministry of Finance was directed to buy 190 000 tonnes of rice and 80 000 tonnes of paddy rice from the domestic market.

Assessment and recommendations

- Viet Nam's deeper integration into the global economy, including through trade agreements such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and EVFTA, brings the agricultural sector opportunities to expand and diversify exports and markets. But these agreements also pose challenges to domestic producers, such as increased competition from imports as agro-food tariffs are reduced and the requirement to meet stringent food hygiene, safety and technical standards in export markets.
- Further efforts are needed to improve the sector's competitiveness and environmental sustainability. Most easy ways of increasing production – expanding agricultural land area and using higher rates of fertilisers – are fully exploited, and negative environmental impacts are increasing. While these are challenges for Viet Nam, they also open opportunities to adopt new technologies, create incentives for farm consolidation to increase the scale of production, and focus on improving quality.
- To improve the allocation of scarce land resources, farm consolidation could be encouraged, including various forms of co-operation between farmers, and restrictions on crop choice should be removed. This can help small-scale farming households connect to market opportunities and participate in value chains.
- To improve the competitiveness and quality of Viet Nam's rice exports, reforms could consider further easing restrictions on rice exporters, in particular deregulating the export floor price. The current system risks cutting off potentially profitable rice exports and creates uncertainty around export transactions if the minimum export price is likely to change.
- The low cost of water exacerbates overuse and increases the agricultural sector's vulnerability to drought. While re-introducing a fee for irrigation services is a positive step, a fee based on unit of water rather than on area or crop type, as previously applied, would encourage greater water use efficiency.

- Viet Nam has committed to reduce GHG emissions by 8% between 2021 and 2030 compared to business-as-usual (BAU) levels using domestic resources. The government has set the target of reducing GHG emissions in agriculture and rural areas by 20% every 10 years through crop and animal husbandry practices, including climate-smart agriculture practices.

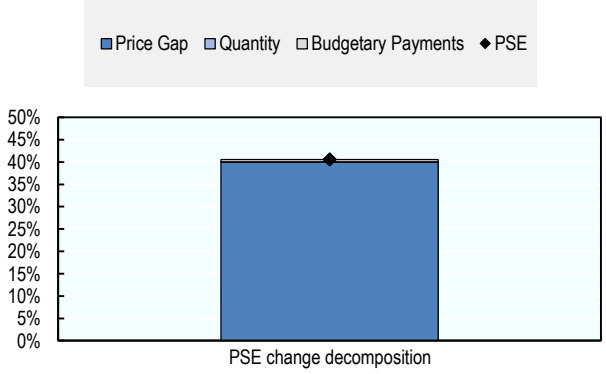
Figure 30.1. Viet Nam: Development of support to agriculture



Note: * Share of potentially most distorting transfers in cumulated gross producer transfers.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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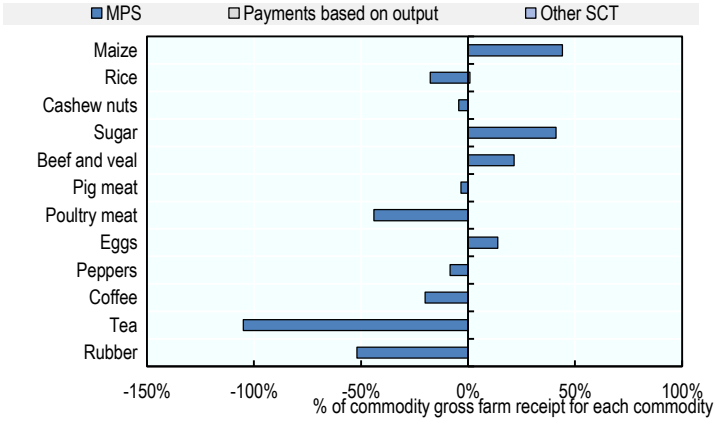
Figure 30.2. Viet Nam: Drivers of the change in PSE, 2019 to 2020



Note: The producer price change and the border price change are not calculated when the negative price gap occurs at the commodity level for the current or previous year.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

StatLink https://stat.link/gdl5n0

Figure 30.3. Viet Nam: Transfer to specific commodities (SCT), 2018-20



Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

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Table 30.1. Viet Nam: Estimates of support to agriculture

Million USD

	2000-02	2018-20	2018	2019	2020p
Total value of production (at farm gate)	**8 570**	**38 652**	**38 550**	**38 357**	**39 047**
***of which:** share of MPS commodities (%)*	82.3	76.3	75.3	70.9	82.8
Total value of consumption (at farm gate)	**7 443**	**36 394**	**34 802**	**36 248**	**38 131**
Producer Support Estimate (PSE)	**461**	**-3 586**	**-4 337**	**-4 027**	**-2 393**
Support based on commodity output	340	-4 097	-4 762	-4 572	-2 957
Market Price Support[1]	340	-4 097	-4 762	-4 572	-2 957
Positive Market Price Support	901	1 517	1 329	1 273	1 949
Negative Market Price Support	-562	-5 614	-6 091	-5 845	-4 905
Payments based on output	0	0	0	0	0
Payments based on input use	101	423	336	456	476
Based on variable input use	101	422	335	456	475
with input constraints	0	0	0	0	0
Based on fixed capital formation	0	0	0	0	0
with input constraints	0	0	0	0	0
Based on on-farm services	0	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	89	90	88	88
Based on Receipts / Income	0	2	2	2	2
Based on Area planted / Animal numbers	0	87	88	86	86
with input constraints	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	0	0
Payments based on non-current A/An/R/I, production not required	0	0	0	0	0
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	21	0	0	0	0
Based on long-term resource retirement	21	0	0	0	0
Based on a specific non-commodity output	0	0	0	0	0
Based on other non-commodity criteria	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**5.2**	**-9.2**	**-11.1**	**-10.4**	**-6.0**
Producer NPC (coeff.)	**1.04**	**0.91**	**0.90**	**0.90**	**0.94**
Producer NAC (coeff.)	**1.06**	**0.92**	**0.90**	**0.91**	**0.94**
General Services Support Estimate (GSSE)	**206**	**870**	**762**	**906**	**942**
Agricultural knowledge and innovation system	23	96	91	94	104
Inspection and control	4	3	3	3	3
Development and maintenance of infrastructure	173	723	620	762	787
Marketing and promotion	1	1	1	1	1
Cost of public stockholding	5	46	47	45	46
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**31.2**	**..**	**..**	**..**	**..**
Consumer Support Estimate (CSE)	**-549**	**340**	**1 294**	**77**	**-351**
Transfers to producers from consumers	-551	2 050	2 322	1 963	1 866
Other transfers from consumers	-20	-2 082	-1 326	-2 267	-2 652
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	22	371	298	381	435
Percentage CSE (%)	**-7.3**	**0.9**	**3.7**	**0.2**	**-0.9**
Consumer NPC (coeff.)	**1.08**	**1.00**	**0.97**	**1.01**	**1.02**
Consumer NAC (coeff.)	**1.08**	**0.99**	**0.96**	**1.00**	**1.01**
Total Support Estimate (TSE)	**667**	**-2 716**	**-3 575**	**-3 121**	**-1 451**
Transfers from consumers	571	31	-996	304	786
Transfers from taxpayers	117	-665	-1 253	-1 158	415
Budget revenues	-20	-2 082	-1 326	-2 267	-2 652
Percentage TSE (% of GDP)	**2.0**	**-1.1**	**-1.5**	**-1.2**	**-0.5**
Total Budgetary Support Estimate (TBSE)	**328**	**1 381**	**1 188**	**1 451**	**1 506**
Percentage TBSE (% of GDP)	**1.0**	**0.5**	**0.5**	**0.6**	**0.6**
GDP deflator (2000-02=100)	**100**	**399**	**396**	**403**	**..**
Exchange rate (national currency per USD)	**15 000.33**	**23 161.93**	**23 023.21**	**23 226.28**	**23 236.30**

.. Not available

Note: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.
A/An/R/I: Area planted/Animal numbers/Receipts/Income.
1. Market Price Support (MPS) is net of producer levies and excess feed cost. MPS commodities for Viet Nam are: rice, rubber, coffee, maize, cashew nuts, sugar, pepper, tea, beef and veal, pig meat, poultry and eggs.

Source: OECD (2021), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Description of policy developments

Overview of policy trends

A long series of reforms since the late-1980s have progressively liberalised Viet Nam's agricultural sector.[2] Agricultural reforms were embedded into the economy-wide programme of reforms (Doi Moi) initiated in 1986, which transformed Viet Nam from a centrally planned to a socialist-oriented market economy. Prior to these, agriculture's primary role was to support Viet Nam's industrialisation by providing food at low prices. Agricultural production was organised around co-operatives and state farms, with state-owned enterprises providing inputs and controlling output markets. Under the new policy framework, agriculture was elevated to primary importance. The focus of agricultural management moved from co-operatives to farm households, with farmland redistributed in the form of land use rights[3] and farm households given the ability to make their own production decisions provided they met certain quotas. Broader reforms opened the market to both greater domestic and international competition.

From the early 1990s, reforms introduced more market-oriented policies with the aim of expanding food production for export to generate foreign exchange earnings. A number of these reforms aimed to improve investment and technological innovation, including the establishment of a national extension service and credit facilities for farmers. Production quota obligations were removed and regulatory barriers to trade were gradually lifted. Viet Nam also entered into a large number of bilateral and regional trade agreements and partnerships to expand market opportunities.[4] The improved policy environment was supported by a rapid increase in budgetary expenditure, including on irrigation infrastructure. At the same time, a Price Stabilisation Fund was created to stabilise the prices of essential commodities including urea, paddy and rice, coffee, and sugarcane.

From 2000, the policy framework aimed to stimulate agricultural and rural modernisation and industrialisation by improving yields, quality and the value of production. Further international integration at the bilateral, regional and multilateral level locked in previous reforms and motivated further actions. The remaining few quantitative restrictions on agricultural imports and exports were removed.

Since 2008, two major resolutions guide agricultural policy development. Resolution No. 26/2008/NQ-TD (the Tam Nong resolution) emphasises agricultural and rural development based on the market economy with socialist orientation. Resolution No. 63/2009/NQ-CP seeks to ensure national food security by guaranteeing adequate food supplies, particularly for rice. These resolutions are implemented through a number of policy documents. This includes the Agricultural Restructuring Plan, which promotes the restructuring of the agricultural sector towards improving value-added and sustainable development; and the Agricultural Restructuring Plan 2017-2020, which aims to sustainably develop agriculture and rural areas; increase value-added, efficiency and competitiveness; and improve the life of farmers, contribute to poverty reduction, protect the environment and ecology, and ensure national security.[5]

Table 30.2. Viet Nam: Agricultural policy trends

Period	Framework	Changes in agricultural policies
1976-1986	Reunification: Socialist centrally planned system	Centrally planned economy, including the agricultural sector Agricultural production organised into co-operatives that also administered land Upstream and downstream sectors reorganised as state-owned enterprises
1986-1993	Renovation (Doi Moi): Launch of reforms to transition Viet Nam to a socialist-oriented market economy	Farm households replace co-operatives as focus of agricultural and rural development Role of co-operatives reduced: farmers allowed to make production decisions; co-operatives limited to trading and providing services (e.g. irrigation) Economy opened to trade Reduced government control over prices, although prices regulated for some products (including fertiliser, sugar and rice)
1993-2000	Expansion: Further reforms to	Land Law 1993; land use rights extended to 20 years (annual crops) and 50 years

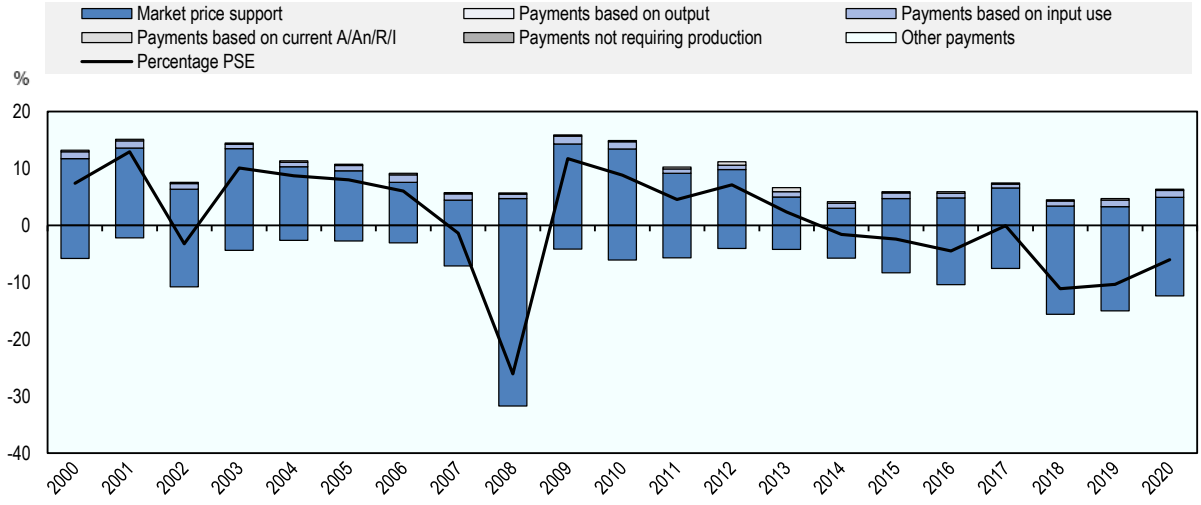
Period	Framework	Changes in agricultural policies
	expand food production and exports	(perennial crops) Land use tax replaces production quota and agricultural output tax Rural households allowed to borrow loans from commercial institutions Price Stabilisation Fund for essential commodities Restrictions on rice exports relaxed Increased budgetary expenditure for agriculture
2000-2008	Consolidation: Policies to promote agricultural and rural modernisation and industrialisation	Policies to encourage production of primary and processed commodities, quality improvement, domestic and international trade, and increase investments from various sources in physical and social infrastructure Regional and bilateral trade agreements WTO accession
2008-present	Reorientation: Shift in emphasis from extensive development of agriculture based on quantity to one focused on quality and efficiency improvements	Agricultural policy guided by two major resolutions: - Resolution No. 26/2008/NQ-TW on agriculture, farmers and rural areas (Tam Nong) - Resolution No. 63/2009/NQ-CP to ensure national food security Implemented by the Agricultural Restructuring Plan and the Agricultural Restructuring Plan 2017-2020

Source: OECD (2015[1]).

Over the past 20 years, the overall level of support provided to Viet Nam's agricultural sector fluctuated at low or negative levels, largely driven by changes in market price support (MPS). Total support to agriculture (TSE) varies between positive and negative values, as in some years budgetary transfers to producers and expenditure on general services do not compensate for overall negative MPS.

Figure 30.4. Viet Nam: Level and PSE composition by support categories, 2000 to 2020

As a percentage of gross farm receipts



Note: A/An/R/I:Area planted/Animal numbers/Receipts/Income.
Payments not requiring production include Payments based on non-current A/An/R/I (production not required) and Payment based on non-commodity criteria. Other payments include Payments based on non-current A/An/R/I (production required) and Miscellaneous payments.
Source: OECD (2021), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-pcse-data-en.

Main policy instruments

Domestic price support is the main form of support for Vietnamese producers, with border protection being the main tool used. Domestic price support varies across commodities. In particular, tariffs protect producers of import-competing commodities, such as beef and veal, and sugar cane. Producers of export commodities, such as natural rubber, coffee, cashew nuts and tea are implicitly taxed in that they receive prices lower than world prices for their outputs. As a result, total MPS is the sum of positive and negative support. Farm gate rice prices are supported by a subsidy to rice purchasing enterprises for the temporary storage of rice during harvest, and by target prices that vary between regions and crop season, with the objective of providing farmers a profit of 30% above production cost.

Payments to producers are relatively small. Expenditure associated with subsidising the irrigation fee exemption is the dominant form of budgetary support. An **area payment** has been provided since 2012 with the objective of keeping 3.8 million hectares in paddy rice production. Since 2016,[6] rice growers receive VND 1 million (USD 43)/ha/year for land under wet paddy cultivation, and VND 500 000 (USD 22)/ha/year for other rice land, except upland fields not under paddy land-use plans.[7] Rice growers also receive support when land is reclaimed for rice cultivation, amounting to VND 10 million (USD 430)/ha/year, except for upland fields, and VND 5 million (USD 215)/ha/year for wet-paddy land reclaimed from one-crop paddy land or other crop land.

Other support programmes based on input use include those that provide plant genetic and animal breeding material to farmers at subsidised rates. At the national level, these are often part of a package for farmers recovering from natural disasters or disease outbreaks. Since 2009, a number of policy packages were introduced to provide farmers subsidised credit to purchase inputs and assets for agricultural production (fertilisers, pesticides, machinery and equipment). Since 2003, most farming households and organisations are exempt from paying agricultural land use tax or benefit from a land tax reduction.

Expenditures on irrigation systems dominate **general services** for the agricultural sector. Expenditures on other forms of general services, such as extension services, research and development, inspection and control, and marketing and promotion are relatively limited.

All land is owned and administered by the state on behalf of the people. Farmers have **land user rights**, and benefit from a wide range of rights, including the right to rent, buy, sell and bequeath land, and to use land as collateral for mortgages with financial institutions. However, there are restrictions on land use including the duration of land use rights, land areas per household, the choice of crops, the process for converting paddy land from rice to another crop, and land transfers and exchanges.

Until 2016, the government maintained a large **degree of control over rice exports**. Exporters had to meet specific milling and storage requirements, the minimum export price had to be respected (to limit price declines), and certain administrative functions were given to the Viet Nam Food Association (VFA). However, in January 2017, in line with the Investment Law of 2014, Viet Nam's Ministry of Industry and Trade (MOIT) abolished Decision No. 6139/2013/QD-BCT, which capped the number of rice exporters at 150 and stipulated strict conditions for becoming a rice exporter. In 2018, the government further relaxed export conditions on rice.[8] To be eligible to export rice, companies must have at least one storage and one milling facility that meet national standards and regulations, which can be owned or leased. Traders must also maintain rice reserves equivalent to 5% of the volume shipped in the preceding six months.

Following Viet Nam's accession to the WTO in 2007, the simple **average Most Favoured Nation (MFN)-applied tariff** on agricultural imports decreased from around 25% in the mid-2000s to 17.2% in 2019, compared with a simple average bound tariff on agricultural products of 18.8% (WTO, 2021[2]). Applied tariffs are much lower on imports originating from countries or regions with which Viet Nam signed free trade agreements. For example, the average tariff is just 3.4% on agricultural imports from ASEAN members and 5.4% from the People's Republic of China (hereafter "China").

Since joining the World Trade Organisation (WTO) in 2007, Viet Nam progressed towards implementing the requirements of the **Sanitary and Phytosanitary Agreement**. However, the regulatory regime still suffers from limited enforcement capacity, poor co-ordination and a large number of overlapping regulations.

Viet Nam implements **trade liberalisation** through multilateral, regional and bilateral trade agreements. It is a member of the WTO, Association of Southeast Asian Nations (ASEAN) and Asia-Pacific Economic Cooperation (APEC), and supports trade liberalisation between ASEAN members and their major trading partners in the region, including China, Japan, India, Korea, Australia and New Zealand.

Viet Nam's 2011 **National Strategy on Climate Change** tasks the agricultural sector with reducing greenhouse gas (GHG) emissions by 20% every ten years, while increasing gross production by 20% and reducing the poverty rate by 20% (Decision 2139/QD-TTg). The Ministry of Agriculture and Rural Development (MARD) subsequently issued an action plan to adapt to and mitigate climate change in the agricultural sector, most recently in Decision No. 819/QD-BNN-KHCN. The action plan prioritises: research on selection and production of plant varieties and animal breeds to minimise GHG emissions and adapt to climate change; minimum tillage and techniques to reduce water use and fertilisers to minimise methane gas emissions in rice fields; and increasing production of bioenergy crops. MARD also approved a programme to reduce GHG emissions in the crop, livestock, fishery and forestry sectors, and in irrigation and rural industries by 2020, while enhancing economic growth and reducing poverty (Decision No. 3119/QD-BNN-KHCN). The programme aimed to: reduce GHG emissions in agriculture and rural areas by 20%; ensure that 3.2 million hectares of rice apply advanced methods, such as the System of Rice Intensification and Alternative Wetting and Drying (AWD); and promote more efficient use of agricultural inputs.

Viet Nam ratified the **Paris Agreement on Climate Change** in 2016. Viet Nam's Nationally Determined Contribution (NDC) commits to reduce GHG emissions by 8% between 2021 and 2030 compared to Business-as-Usual (BAU) levels using domestic resources, and up to 25% conditional on receiving international support. Decision 2053/QD-TTg (28 October 2016) outlines the Action Plan to Implement the Paris Agreement on Climate Change and includes activities for adaptation and mitigation in the agricultural sector.

Policies for the agricultural and rural development sector also affirm the commitment to reduce agricultural GHG emissions. In 2017, MARD issued Decision No. 932/QD-BNN-KH approving the **Green Growth Action Plan of the agriculture and rural development sector for the period 2016-2020**. This plan prioritises ten tasks and policy measures to reduce GHG by 20% in 2020, compared with the BAU scenario. Key activities include applying organic farming; efficient use of agricultural inputs; short duration, high quality rice varieties; water saving practices (alternate wetting and drying – AWD); climate smart agriculture (CSA) practices; integrated crop management practices to reduce GHG emissions from rice and crop production; and enhancing animal feed mixing and animal waste (biogas) and crop residues management to reduce CH4 and other GHG emissions. The 2018 laws on Crop Production and Animal Husbandry (OECD, 2019[3]) also identify a role for research and development to help the sector adapt to climate change and mitigate GHG emissions.

Domestic policy developments in 2020-21

On **agricultural and rural development**, in October 2020, the government approved the strategy to industrialise, modernise and sustainably develop livestock production in Viet Nam. The *Livestock Development Strategy for the Period 2021-2030, with a Vision for 2045* (Decision No. 1520/2020/QD-TTg) aims to achieve annual growth in the value of livestock production of 3-4% during the period 2026-2030, with specific targets for pork, poultry meat, beef, dairy and eggs production. The strategy also aims to establish disease-free livestock production areas, and includes targets for improving the productivity and quality of livestock breeds; improving quality and lowering prices for animal feed; raising capacity for

slaughtering and processing of livestock products; and developing supporting industries for livestock production. These targets are to be achieved through land allocation; preferential support, including access to finance and credit; extension; and investments and international co-operation in research and development.

In 2019, the government issued Resolution No. 53/NQCP on measures to encourage and facilitate businesses to invest in agriculture in an effective, safe and sustainable manner (OECD, 2020[4]). Based on this Resolution, in December 2020 MARD approved the Plan to promote investment in the agricultural and rural sector in the period of 2021-25 (Decision No. 5227/2020/QD-BNN-KH). The plan clarifies the tasks to promote business investment, which include:

- Research into and evaluation of market potentials, trends and investment partners, including in traditional trading partners, as well as countries that are members of the Comprehensive and Progressive Agreement for a Trans Pacific Partnership (CPTPP), the EU-Vietnam Free Trade Agreement (FTA), and the Regional Comprehensive Economic Partnership (RCEP).
- Digitising and building a database on investment promotion activities; establishing a list of projects calling for investment (including in the cropping and livestock industries, agriculture using high technology, and organic agriculture).
- Developing publications and material to promote investment; training and capacity building on investment promotion.
- Providing support to enterprises and investors (including support for consultancies, agricultural enterprise start-ups, and use of geographic indicators).
- Promoting domestic and international co-operation on investment promotion.

In March 2020, the government approved the *Master Programme on Sustainable Agricultural Development and Adaptation to Climate Change in the Mekong River Delta (MRD) to 2030, with a Vision to 2045* (Decision No. 324/2020/QD-TTg). The Master Programme establishes economic, social and environmental targets for the agricultural and rural sector in the MRD, and solutions to achieve those targets. These include reviewing and adjusting regional and provincial development plans in the direction of sustainable transformation and climate change adaptation; the application of science and technology; and capacity building for natural resource and environmental management.

The government approved the research and development programme for plant and livestock varieties serving agricultural restructuring for the period 2021-30 (Decision No. 703/2020/QD-TTg). The programme aims to improve research capacity and the production of agricultural plant and livestock varieties to support the modernisation of the agricultural sector, adaptation to climate change, and the restructuring of agricultural production to improve competitiveness, increase value-added and promote sustainable development. Specific tasks include enhancing the science and technology for developing seeds, developing capacity to produce seed, and improving research infrastructure for seed variety research and production. Total investment in the programme is VND 103 050 billion (USD 4.4 billion) over the period 2021-30, including private funding.

The government also approved the *Scheme for Developing Organic Agriculture in the Period 2020-2030* (Decision No. 885/2020/QD-TTg). The scheme sets out specific goals for increasing the share of **organic production** in agricultural production, including for key crops, in livestock and aquaculture production, and for improving the value per hectare of organic production by 2025 and 2030. By 2025, organic agriculture is to account for 1.5-2% of the total agricultural area (and 2.5-3% by 2030); over 1% of the cultivated area for major crops including rice, fruit and vegetables, tea, pepper, coffee, cashew nuts and coconut (2% by 2030); and 1-2% of domestically produced livestock products (2-3% by 2030). In addition, by 2025 the value per hectare of organic production is to be 1.3 to 1.5 times higher than non-organic production (1.5 to 1.8 times higher by 2030). Other goals include: diversifying how organic production is organised, including linkages between agricultural co-operatives and enterprises in the production and processing of organic

products to create large-scale production areas; the application of technology in organic agriculture; promoting processing, consumption and exports of organic products; developing certification bodies and a system of standards for organic production; research and development on organic agriculture; and human resources training.

On **irrigation**, in January 2020 the government approved Viet Nam's irrigation strategy to 2030, with a vision to 2045 (Decision No. 33/2020/QD-TTg), which establishes water supply targets for agricultural production and aquaculture, among other objectives, such as ensuring the supply of water for double-cropping paddy rice fields, and ensuring that 85% of the total area is under irrigation. By 2030, 30% of the total area should be cultivated with advanced methods, and 60% by 2050. Other targets in the irrigation strategy are improving drainage and environmental protection, and preventing and combating natural disasters, and responding to climate change, including by responding to drought, saltwater intrusion, floods, and riverbank and coastal erosion. Targets in the strategy will be achieved through a combination of investments in irrigation infrastructure, improved planning and management of irrigation laws, and technical solutions.

On **direct support to rice growers**, in 2019, the government issued a Decree that replaced the direct area-based payments to rice growers with increased funding for local support programmes that aim to protect land for rice cultivation (Decree No. 62/2019/ND-CP).[9] Under the Decree, at least 50% of funds available to support rice growers are to be used to support the adoption of new rice varieties, new technologies in rice production, and to promote value chain linkages for the production and sale of rice. Remaining funds are to be used for activities such as periodic soil analyses to guide restoration measures, making improvements to land quality, and investments in agricultural and rural infrastructure. Local authorities can determine the form of support provided based on local needs.

On **land tax**, most farming households and organisations are exempt from paying agricultural land use tax or benefit from a land tax reduction.[10] In June, the government issued a Resolution extending the exemption to 31 December 2025 (Resolution No. 107/2020/QH14). The exemption had been due to expire on 31 December 2020.

On **agricultural regulation**, in 2019 the government banned the use of glyphosate from 10 June 2020, removing glyphosate-based herbicides from the list of plant protection agrochemicals permitted for use in Viet Nam (OECD, 2020[4]). In September 2020, MARD issued a circular under which glyphosate-based herbicides may be sold and used until 30 June 2021 (Circular No. 10/2020/TT-BNNPTNT). Under the same circular, agrochemicals containing Chlorpyrifos-ethyl and Fipronil cannot be produced or imported, but may be sold and used until 12 February 2021.

In response to **natural disasters** in 2020, the government provided paddy, maize and vegetable seeds from national reserves to four provinces – Quang Tri, Quang Binh, Ha Tinh and Thanh Hoa – that were affected by landslides and flooding following tropical storms and cyclones in October (Decision No. 2144/2020/QD-TTg).

In response to African swine fever in 2019-2020, the government provided financial support to pig producers having pigs infected by African swine fever and destroyed. The support level was VND 25 000 (USD 1.07)/kg to VND 30 00 (USD 1.29)/kg for live pigs in 2019, and VND 30 000 (USD 1.29)/kg to VND 35 00 (USD 1.51)/kg for live pigs in 2020. For small and medium-sized livestock enterprises, the level of support was VND 8 000 (USD 0.34)/kg to VND 10 000 (USD 0.43)/kg in 2019, and VND 10 000 (USD 0.43)/kg to VND 12 000 (USD 0.52)/kg in 2020. Total support should not exceed 30% of total loss due to the disease.[11]

On **natural resource management**, in 2020 the government approved VND 530 billion (USD 22.8 million) in financial support to prevent and combat drought, water shortages and salinisation in eight provinces in the MRD, including the impacts on agriculture (Ben Tre, Long An, Tien Giang, Ca Mau, Kien Giang, Soc Trang, Tra Vinh and Bac Lieu) (Decision No. 504/2020/QD-TTg). The funding will be used to implement

urgent measures such as pumping water; dredging canals and ditches, and building temporary dams to prevent salinity to maintain fresh water; and digging ponds and wells for storing fresh water.

On **climate change**, in March 2020, MARD approved its *Plan to implement the Paris Agreement on Climate Change for the period of 2021-2030* (Decision No. 891/2020/QD-BNN-KHCN). The Decision sets out the tasks for the sector to implement the government's 2016 action plan to implement the Paris Agreement on Climate Change,[12] which set out compulsory, prioritised and encouraged tasks for MARD, where the three compulsory tasks are to:

- Implement GHG emission reduction in the agriculture and rural development sector in order to implement the NDC in accordance with national conditions on the basis of a periodic review of global efforts.
- Establish a Measurement, Reporting and Verification System (MRV) for sector-level GHG emission reduction activities in the land use, land use change and forestry (LULUCF) sectors.
- Establish a MRV System for sector-level GHG emission reduction activities in the agricultural sector.

Solutions to implement the tasks include human resources training and capacity building; reviewing and adjusting mechanisms, policies, and sectoral plans in accordance with the Paris Agreement on Climate Change; applying scientific and technological solutions; international co-operation; and mobilising financial resources, including in the form of public-private partnerships with domestic and foreign businesses.

Also on climate change, in July the government promulgated the *National Climate Change Adaptation Plan for 2021-2030, with a Vision to 2050* (Decision No. 1055/2020/QD-TTg), which aims to minimise vulnerability and the risk of climate change impacts by strengthening the adaptability of the community, economic sectors – including agriculture – and ecosystems. For the agricultural sector, the plan identifies adaptation needs, objectives and tasks. Identified adaptation needs in the agricultural sector include: improving the resilience of the agricultural sector through revising and completing laws and policies, and providing training and improving capacity; adjusting farming plans, arranging crop structures and scaling-up appropriate models for improving the effectiveness of agricultural land use and climate change adaptation; and improving the resistance of plants and livestock to disease and pests under climate change impacts. Funding to implement the plan will be sourced from the state budget, and from funding for implementing adaptation actions in the national target programmes and other programmes and projects.

On **food security**, in December 2020 the government issued a Decision on the Action Plan to implement the Politburo's Conclusion No. 81-KL/TW dated 29 July 2020 on "Ensuring national food security to 2030" (Decision No. 1975/2020/QD-TTg). The main tasks of the Plan are to: raise awareness about national food security; reorganise production, including by promoting mechanisation, linkages in the processing and sale of agricultural products, and large-scale production areas; improve people's ability and access to safe and nutritious food, including by upgrading and modernising transport and irrigation infrastructure and developing a food security information system; and improve institutions and policies to ensure national food security, including mechanisms and policies on land, investment, finance, credit and trade to provide adequate support to farmers, rice production and business enterprises.

Domestic policy responses to the COVID-19 pandemic

On **agricultural and agro-food supply chain policies implemented in response to the COVID-19 pandemic**, Viet Nam allowed enterprises, individuals and household businesses affected by the COVID-19 pandemic to defer payment of value added tax, corporate income tax, personal income tax, and land rental fees. Enterprises, organisations, households and individuals engaged in agricultural, forestry and fishery production, and food production and processing, are among the subjects that are eligible to defer payments of tax and land rent.[13]

At the national level, the government also issued a number of policies to support enterprises, households and individuals facing difficulties caused by the COVID-19 pandemic, which were amended and supplemented during 2020.[14] These policies provided support to household businesses, employers and employees, including enterprises engaged in agricultural production and/or food production or processing.

Trade policy developments in 2020-21

The European Union-Viet Nam Free Trade Agreement (EVFTA) entered into force on 1 August 2020 after the agreement was approved by the Vietnamese National Assembly on 8 June 2020. Under the terms of the agreement, the European Union will progressively phase out duties for most products over a period of seven years, while Viet Nam will reduce tariffs on EU goods over ten years. The European Union established duty-free tariff rate quotas (TRQs) for a variety of Vietnamese agricultural imports under the agreement: 30 000 tonnes of milled rice; 20 000 tonnes of husked rice and 30 000 tonnes of fragrant rice, as well as quotas for sweet corn, garlic, mushrooms, sugar and manioc starch. The tariff on broken rice will be phased out over five years, starting with a 50% cut. Viet Nam will progressively eliminate duties for EU products –beef and olive oil will be liberalised over three years; dairy, fruit and vegetables will be liberalised over five years; frozen pork meat, food preparations and wine will be liberalised over seven years; and chicken and beer will be liberalised after ten years. At the end of the implementation period, an average tariff of 1.1% will apply to agricultural goods originating in Viet Nam and 2.1% to processed agricultural products while the average tariff for EU agricultural exports will be 2.6%. Viet Nam will also recognise and protect 169 EU geographical indications (GIs), while 39 Vietnamese GIs will be recognised and protected in the European Union

On 15 November 2020, the Association of Southeast Asian Nations (ASEAN)[15] and the five states with which ASEAN has existing free trade agreements – Australia, China, Japan, Korean and New Zealand – signed the **Regional Comprehensive Economic Partnership (RCEP or ASEAN+5)**. RCEP combines and deepens a number of existing bilateral and regional agreements, and once in force, it will be the largest free trade agreement in the world covering around 30% of both the global population and its GDP. The RCEP Agreement will enter into force 60 days after six ASEAN Member States and three non-ASEAN Member States have ratified the Agreement. RCEP is expected to unlock more export markets for Vietnamese agricultural products.

On 29 December 2020, the **Viet Nam-United Kingdom Free Trade Agreement (UKVFTA)** was signed. The Agreement was negotiated based on the principle of inheriting commitments in EVFTA with the necessary adjustments to ensure compliance with the bilateral trade framework between Viet Nam and the United Kingdom. The Agreement came into effect on 31 December 2020.

In May 2020, the government of Viet Nam issued a decree revising Most Favoured Nation (MFN) tariff rates on a number of agricultural products (Decree 57/2020/ND-CP). The Decree entered into force on 10 July 2020. MFN tariff rates were reduced for dairy products, ethanol, almonds, apples, grapes, wheat, walnuts, frozen potatoes, raisins, and chilled pork. A temporary reduction for frozen pork until 31 December 2020 was also issued.

Trade policy responses to the COVID-19 pandemic

In response to the COVID-19 pandemic, on 11 March 2020, the government ordered private rice traders to maintain rice reserves equivalent to 5% of the volume shipped in the preceding six months, in order to stabilise the domestic market. On 25 March 2020, the government suspended rice exports in order to ensure domestic food security during the COVID-19 outbreak and in the context of a severe drought in the Mekong River Delta. The decision was subsequently reversed in favour of setting a monthly quota for rice exports, and on 3 April 2020, the government approved a plan to export 400 000 tonnes of rice in April, and a further 400 000 tonnes in May.

On 27 March 2020, Viet Nam also announced that it planned to stockpile 270 000 tonnes of rice, including 80 000 tonnes of paddy (unhusked) rice, to ensure domestic food availability during the COVID-19 pandemic. The Ministry of Finance was directed to buy 190 000 tonnes of rice and 80 000 tonnes of paddy rice.

Contextual information

Viet Nam is a mid-size country in terms of area, but its population of 96 million makes it the 15th most populous country in the world. Around two-thirds of the population live in rural areas. Since the mid-1980s, a long series of reforms have moved the economy, including the agricultural sector, in the direction of open markets for trade and investment, private sector decision-making, private land use rights, and a greater role for private firms. These reforms resulted in rapid, stable and inclusive economic growth, transforming Viet Nam from one of the world's poorest nations to a lower middle-income country, and contributing to significant reductions in poverty rates and improvements in other social outcomes, including in rural areas.

The agricultural sector in Viet Nam has undergone significant structural changes in recent decades, reflecting a shift away from staple foods to export commodities, in particular perennial crops such as rubber and cashew nuts, and to livestock production, in particular pig meat. Nevertheless, crops dominate with rice accounting for around 26% of the value of agricultural production. Agricultural production has more than tripled in volume terms since 1990. While the relative importance of agriculture in the economy has declined over time, agriculture remains an important sector, contributing 14% to Viet Nam's GDP and employing 37% of the labour force.

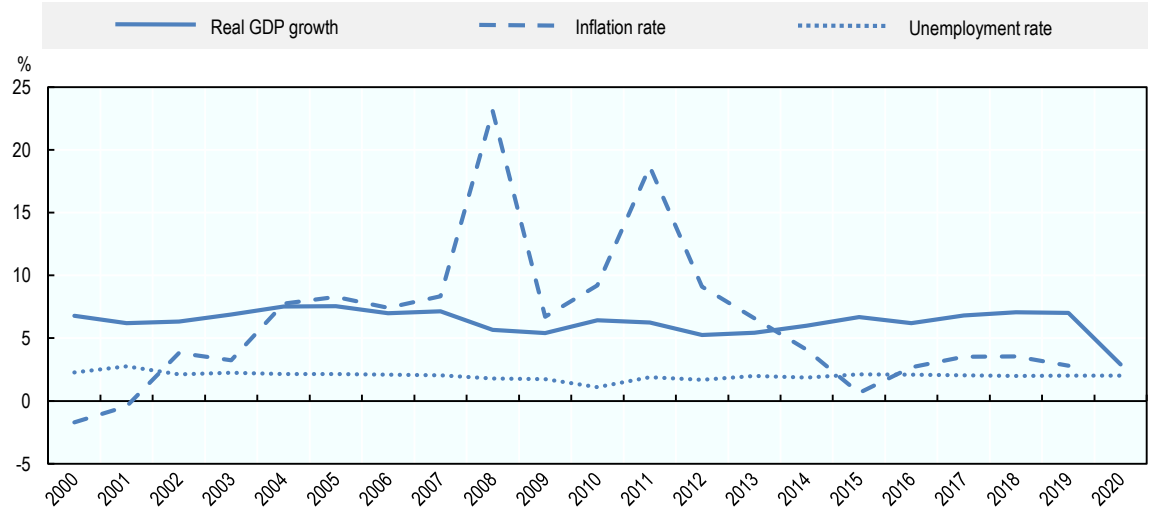
The agro-food sector is well integrated with international markets. Agro-food exports have increased eight-fold since the early 2000s, and Viet Nam is now one of the world's largest exporters of a wide range of agricultural commodities, including cashews, black pepper, coffee, cassava and rice. Two-thirds of Viet Nam's agro-food exports are delivered to foreign consumers without further processing. Agro-food imports have also increased significantly. The majority of agro-food imports form intermediate inputs into Viet Nam's processing sectors (Figure 30.6).

Table 30.3. Viet Nam: Contextual indicators

	Viet Nam		International comparison	
	2000*	2019*	2000*	2019*
Economic context			**Share in total of all countries**	
GDP (billion USD in PPPs)	159	808	0.4%	0.7%
Population (million)	80	96	1.9%	1.9%
Land area (thousand km^2)	310	310	0.4%	0.4%
Agricultural area (AA) (thousand ha)	8 780	12 169	0.3%	0.4%
			All countries[1]	
Population density (inhabitants/km^2)	258	311	53	63
GDP per capita (USD in PPPs)	1 987	8 374	9 265	21 975
Trade as % of GDP	49	100	12.3	14.6
Agriculture in the economy			**All countries[1]**	
Agriculture in GDP (%)	22.7	14.0	2.9	3.5
Agriculture share in employment (%)	65.3	37.4	-	-
Agro-food exports (% of total exports)	16.9	7.1	6.2	7.3
Agro-food imports (% of total imports)	6.1	8.4	5.5	6.7
Characteristics of the agricultural sector			**All countries[1]**	
Crop in total agricultural production (%)	79	71	-	-
Livestock in total agricultural production (%)	21	29	-	-
Share of arable land in AA (%)	71	57	32	34

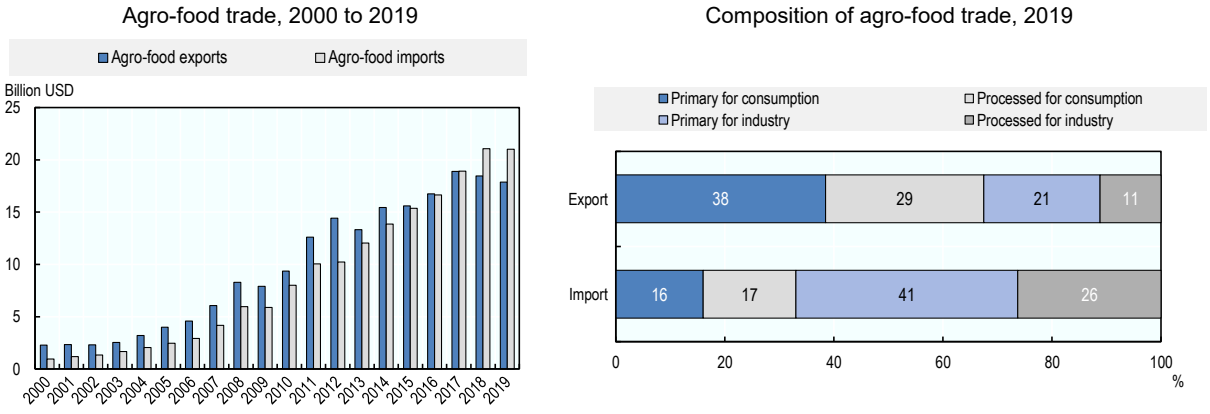
Notes: *or closest available year.
1. Average of all countries covered in this report. Agro-food trade includes natural rubber.
Sources: OECD statistical databases; UN Comtrade; World Bank, WDI and national data.

Figure 30.5. Viet Nam: Main economic indicators, 2000 to 2020



Sources: OECD statistical databases; World Bank, WDI; ILO estimates and projections; and Economist Intelligence Unit.

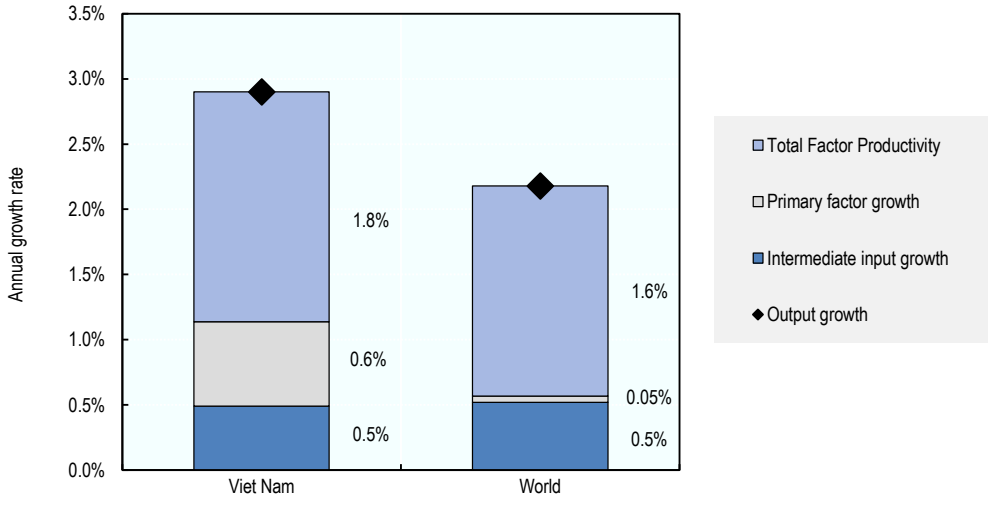
Figure 30.6. Viet Nam: Agro-food trade



Note: Numbers may not add up to 100 due to rounding. Agro-food trade includes natural rubber.
Source: UN Comtrade Database.

Agricultural production increased by 2.9% p.a. on average between 2007 and 2016, driven by total factor productivity growth of 1.8% p.a. and greater use of primary factors and intermediate inputs. However, agriculture places significant and growing pressure on natural resources (Figure 30.7). Excessive use of fertilisers, pesticides and other chemicals has contributed to a gradual degradation of water and land quality. Together with climate change, degradation of the natural resource base caused by excessive use of inputs poses a significant risk to agricultural production and the capacity of the sector to maintain current, strong rates of productivity and output growth. The sector accounts for almost a third of Viet Nam's greenhouse gas emissions.

Figure 30.7. Viet Nam: Composition of agricultural output growth, 2007-16



Note: Primary factors comprise labour, land, livestock and machinery.
Source: USDA Economic Research Service Agricultural Productivity database.

Table 30.4. Viet Nam: Productivity and environmental indicators

	Viet Nam		International comparison	
	1991-2000	2007-2016	1991-2000	2007-2016
			World	
TFP annual growth rate (%)	2.2%	1.8%	1.6%	1.6%
			OECD average	
Environmental indicators	**2000***	**2019***	**2000***	**2019***
Nitrogen balance, kg/ha	174.3	154.3	33.2	28.9
Phosphorus balance, kg/ha	29.9	35.7	3.4	2.6
Agriculture share of total energy use (%)	1.7	2.1	1.7	2.0
Agriculture share of GHG emissions (%)	47.9	31.6	8.4	9.5
Share of irrigated land in AA (%)	..	..	-	-
Share of agriculture in water abstractions (%)	94.3	94.8	46.0	43.4
Water stress indicator	..	..	9.3	8.5

Notes: * or closest available year.
Sources: USDA Economic Research Service, Agricultural Productivity database; OECD statistical databases; FAO database and national data.

References

OECD (2020), "Viet Nam", in *Agricultural Policy Monitoring and Evaluation 2020*, OECD Publishing, Paris, https://dx.doi.org/10.1787/789c718e-en. [4]

OECD (2019), "Viet Nam", in *Agricultural Policy Monitoring and Evaluation 2019*, OECD Publishing, Paris, https://dx.doi.org/10.1787/8ecdbfd5-en. [3]

OECD (2015), *Agricultural Policies in Viet Nam 2015*, OECD Food and Agricultural Reviews, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264235151-en. [1]

WTO (2021), *Tariff Profiles – Viet Nam*, https://www.wto.org/english/res_e/statis_e/daily_update_e/tariff_profiles/VN_e.pdf (accessed on 7 February 2021). [2]

Notes

[1] Separate target paddy prices (production cost plus 30% profit) are established for each region and for each season based on production survey data (OECD, 2015[1]).

[2] A detailed review of Viet Nam's agricultural policies since Reunification in 1976 can be found in OECD (2015[1]).

[3] Private ownership of land is not permitted. Instead, enterprises, households and individuals own land use rights, including the right to rent, buy, sell and bequeath land, and to use land as collateral with financial institutions for mortgages (Land Law of 1993).

[4] In 1995 Viet Nam became a member of the Association of Southeast Asian Nations (ASEAN) and its associated ASEAN Free Trade Area (AFTA). Viet Nam was formally admitted as a member of the Asia Pacific Economic Community (APEC) in November 1998. In December 2001, the US-Viet Nam Bilateral Trade Agreement came into effect. In 2007, Viet Nam obtained WTO membership.

[5] Decision No. 899/2013/QD-TTg approving the plan of restructuring the agricultural sector, and Decision No. 1819/2017/QD-TTg approving the agricultural restructuring plan 2017-2020.

[6] Direct payments to protect and develop land for rice production were increased in 2016 in line with Decree No. 35/2015/ND-CP on the management and use of land for rice cultivation.

[7] Wet-paddy farming land is defined as land currently under wet-paddy cultivation or having the conditions for growing two or more wet-paddy crops a year; other paddy farming land is defined as land for growing only one wet-paddy crop a year and land for growing upland rice. Approximately 95% of current paddy land meets the wet-paddy land definition (OECD, 2015[1]).

[8] Decree No. 107/2018/ND-CP on rice export business.

[9] The same Decree also revised the registration procedure that applies when paddy land is converted from rice to another crop, see OECD (2020[4]).

[10] Resolution No. 55/2010/QH12 of the National Assembly on agricultural land use tax exemption and reduction, amended and supplemented by Resolution No. 28/2016/QH14 of the National Assembly.

[11] Decision No. 793/QD-TTg dated 27 June 2019 of the Prime Minister on Mechanisms, policies, beneficiaries, level of funding in the prevention and control of African swine fever; Decision No. 2254/2020/QD-TTg dated 30 December of the Prime Minister on Mechanisms, policies, beneficiaries, level of funding in the prevention and control of African swine fever.

[12] Decision No. 2053/QD-TTg dated 28 October 2016 of the Prime Minister on promulgating the Plan to implement the Agreement.

[13] Decree 41/2020/ND-CP extending tax and land rent payment deadlines.

[14] Resolution 42/2020/ND-Ttg dated 9 April 2020 on measures to support people coping with difficulty during the COVID-19 pandemic. Decision No. 15/2020/QD-TTg dated 24 April 2020 on the implementation of policies to support people facing difficulties due to the COVID-19 pandemic. Resolution No. 154/NQ-CP dated 19 October 2020 amending and supplementing Resolution No. 42/NQ-CP dated 9 April 2020 on measures to support people facing difficulties due to the COVID-19 pandemic. Decision No. 32/2020/QD-TTg dated 19 October 2020 amending and supplementing a number of articles of Decision No. 15/2020/QD-TTg dated 24 April 2020 of the Prime Minister on policies to support people have been facing difficulties due to the COVID-19 pandemic.

[15] ASEAN comprises Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam.

Annex A. Sources and Definitions of Contextual Indicators

Table: Contextual indicators

Gross Domestic Product – GDP (USD billion in PPP): OECD National Accounts Statistics (database), Gross domestic product, USD, current prices, current PPPs. World Bank, World Development Indicators (WDI database) for Emerging Economies not available in the OECD database.

Population (million): OECD National Accounts Statistics (database), Population and employment by main activity. Calculation based on Eurostat database for the European Union. United Nations, World Population Prospects: 2020 Revision, Population, for Emerging Economies not available in the OECD database.

Land area (thousands km^2): FAOSTAT Land Use (database), Land area (1 000 ha) recalculated to thousands km^2. Land area excludes water areas.

Agricultural area (AA) (thousand ha): FAOSTAT Land Use (database), Agricultural area (1 000 ha).

Population density (inhabitants/km^2): OECD Regional and Cities (database), Regional demography, Population density and regional area. United Nations, World Population Prospects: 2020 Revision, Population density, for economies not available in OECD database. Calculation based on the Eurostat population and area databases for the European Union.

GDP per capita (USD in PPP): OECD National Accounts Statistics (database), Gross domestic product (expenditure approach), per head, USD, current prices, current PPPs. World Bank, World Development Indicators (WDI database) for Emerging Economies not available in OECD database.

Trade as % of GDP: Calculation based on UN COMTRADE (database) for trade data, customs data, and GDP (local currency) indicator. Average trade calculated as (exports+imports)/2. The European Union aggregate does not account for intra-EU trade.

Agriculture share in GDP (%): OECD National Accounts Statistics (database), "National Accounts at a Glance", Gross value added, Agriculture, forestry and fishing, percentage of total activity. Eurostat database for the European Union. World Bank, World Development Indicators (WDI database) for Emerging Economies not available in OECD database.

Agriculture share in employment (%): Calculation based on OECD Labour Force Statistics (database), Employment by activities and status (ALFS), as a share of employment in agriculture, hunting, forestry and fishing in all activities (ISIC rev.3, A-B and A-X; ISIC rev.4, A and A-U). Calculation based on Eurostat, share of employed persons, aged 15 years and over, in agriculture, hunting, forestry and fishing in total NACE activities (Statistical classification of economic activities in the European Community), for the EU Member States. World Bank, World Development Indicators (WDI database), Employment in agriculture, hunting, forestry and fishing as a share of total employment; and national data for Emerging Economies not available in OECD database.

Agro-food exports in total exports (%): Calculation based on UN COMTRADE (database). Agro-food definition does not include fish and fish products. Agro-food codes in H0: 01, 02, 04 to 24 (excluding 1504,

1603, 1604 and 1605), 3301, 3501 to 3505, 4101 to 4103, 4301, 5001 to 5003, 5101 to 5103, 5201 to 5203, 5301, 5302, 290543/44, 380910, 382360.

Agro-food imports in total imports (%): Calculation based on UN COMTRADE (database). Agro-food definition does not include fish and fish products.

Crop in total agricultural production (%): National data, share of value of total crop production (including horticulture) in total agricultural production.

Livestock in total agricultural production (%): National data, share of value of total livestock production in total agricultural production.

Share of arable land in AA (%): Calculation based on FAOSTAT Land Use (database), arable land as a share of agricultural area.

Table: Productivity and environmental indicators

TFP annual growth (%): Agricultural Total Factor Productivity indexes of the USDA Economic Research Service use primarily FAO data supplemented by national data. Agricultural TFP indexes are estimates by country and for groups of countries aggregated by geographic region and income class. The European Union single area is recalculated from individual countries data and weights. The presented growth rates are sensitive to the choice of the time period. Reported values have changed relative to previous releases following the International Agricultural Productivity database update that includes revisions of historical estimates to reflect newly available data and modifications to the estimation procedures.
The full documentation of the revisions is available at: https://www.ers.usda.gov/data-products/international-agricultural-productivity/update-and-revision-history/.
USDA, Economic Research Service (2019), International Agricultural Productivity database, https://www.ers.usda.gov/data-products/international-agricultural-productivity/ (accessed December 2019).

Nitrogen balance (Kg/ha): Balance (surplus or deficit) expressed as kg nitrogen per hectare of total agricultural land calculated at the national level. OECD aggregate for nitrogen balance is calculated as the ratio between the total surplus and the total agricultural land area in the OECD area. European Union as a single area is calculated as the Gross Nitrogen Balance in the EU area over the utilised agricultural area of the EU.
OECD (2020), Agri-environmental indicators (database), http://www.oecd.org/tad/sustainable-agriculture/agri-environmentalindicators.htm.

Phosphorus balance (Kg/ha): Balance (surplus or deficit) expressed as kg phosphorus per hectare of total agricultural land calculated at the national level. OECD aggregate for phosphorus balance is calculated as the ratio between the total surplus and the total agricultural land area in the OECD area. European Union as a single area is calculated as the Gross Phosphorous Balance in the EU area over the utilised agricultural area of the EU.
OECD (2020), Agri-environmental indicators (database), http://www.oecd.org/tad/sustainable-agriculture/agri-environmentalindicators.htm.

Agriculture share of total energy use (%): Share of agricultural consumption in total final consumption (TFC).
International Energy Agency (2020), IEA World Energy Statistics and Balances (database), https://doi.org/10.1787/data-00512-en, and OECD Agri-environmental indicators (database), http://www.oecd.org/tad/sustainable-agriculture/agri-environmentalindicators.htm,

Agriculture share in total GHG emissions (%): Greenhouse gas emissions by source, excluding land use, land-use change and forestry (LULUCF). European Union as a single area is calculated from

UNFCCC data as Agriculture greenhouse gas emissions in the EU area over the total GHG emissions in EU area.
UNFCCC Greenhouse Gas Inventory Database (2020), https://unfccc.int, and OECD Agri-environmental indicators (database), http://www.oecd.org/tad/sustainable-agriculture/agri-environmentalindicators.htm

Share of irrigated area in Agricultural Area (AA) (%): Share of irrigated area in total agricultural area.
OECD (2020), Agri-environmental indicators (database), http://www.oecd.org/tad/sustainable-agriculture/agri-environmentalindicators.htm and FAOSTAT database for Emerging Economies not available in OECD database.

Share of agriculture in water abstractions (%): Share of agriculture in total freshwater abstractions. European Union as a single area is calculated as the total abstractions for agriculture in the EU area over the total freshwater abstractions in the EU area.
OECD (2020), Agri-environmental indicators (database), http://www.oecd.org/tad/sustainable-agriculture/agri-environmentalindicators.htm.

Water stress indicator: The indicator refers to the intensity of use of fresh water resources. It is expressed as gross abstraction of freshwater as percentage of total available renewable freshwater resources. European Union is treated as a single area.
OECD (2020), "Water: Freshwater abstractions", OECD Environment Statistics (database), http://dx.doi.org/10.1787/data-00602-en.

Figure: Main macro-economic indicators, 2000 to 2020

Real GDP growth (%): OECD Country Statistical Profiles, real GDP growth. OECD Economic Outlook: Statistics and Projections (database) as a benchmark for the latest year. World Bank, World Development Indicators (WDI database) and Economist Intelligence Unit (2021), Country Reports (generated and downloaded 2 February 2021) for Emerging Economies not available in OECD database.

Inflation rate (%): OECD National Accounts Statistics (database), Prices and Purchasing Power Parities, Annual average rate of change in Harmonized Indices of Consumer Prices (HICPs). World Bank, World Development Indicators (WDI database), Economist Intelligence Unit (2021), Country Reports (generated and downloaded 2 February 2021) and national data for Emerging Economies not available in OECD National Accounts Statistics.

Unemployment rate (%): OECD Economic Outlook: Statistics and Projections (database), Labour market statistics. Eurostat database for the European Union. International Labour Organization (ILO), Unemployment rate by sex and age (estimates and projections) for Emerging Economies not available in OECD database.

Figure: Agro-food trade

Agro-food exports (USD billion), 2000 to 2018: UN COMTRADE (database). Agro-food definition does not include fish and fish products.

Agro-food imports (USD billion), 2000 to 2018: UN COMTRADE (database). Agro-food definition does not include fish and fish products.

Composition of agro-food trade, 2018: UN COMTRADE (database). Agro-food definition in HS classification (see above) combined with the Classification by Broad Economic Categories (BEC) to generate breakdowns into type of commodities (Primary or Industrial commodities) and type of destination (Consumption or Industry).

Figure: Composition of agricultural output growth, 2007-16

TFP annual growth (%): Agricultural Total Factor Productivity indexes of the USDA Economic Research Service use primarily FAO data supplemented by national data. Input growth is the weighted-average growth in quality-adjusted land, labour, machinery power, livestock capital, synthetic NPK fertilisers, and animal feed, where weights are input (factor) cost shares. Special breakdown created to dissociate primary factors (land, labour, machinery and livestock) from intermediate input (feed and fertilizer) growth. Output growth corresponds to gross agricultural output for each country.

Agricultural TFP indexes are estimates by country and for groups of countries aggregated by geographic region and income class. The European Union single area is recalculated from individual countries data and weights. The presented growth rates are sensitive to the choice of the time period.

Reported values have changed relative to previous releases following the International Agricultural Productivity database update that includes revisions of historical estimates to reflect newly available data and modifications to the estimation procedures. The full documentation of the revisions is available at: https://www.ers.usda.gov/data-products/international-agricultural-productivity/update-and-revision-history/.

USDA, Economic Research Service (2019), International Agricultural Productivity database, https://www.ers.usda.gov/data-products/international-agricultural-productivity/ (accessed December 2019).

Indicators used to calculate selected ratio and percentage indicators

GDP (local currency): OECD National Accounts Statistics (database), Gross domestic product, local currency, current prices. OECD Economic Outlook: Statistics and Projections (database) as a benchmark for the latest year. Calculation based on Eurostat database for the European Union. World Bank, World Development Indicators (WDI database) and Economist Intelligence Unit (2021), Country Reports (generated and downloaded 2 February 2021) for Emerging Economies not available in the OECD database.

Agriculture Gross Value Added (local currency) (AgGVA): Calculation based on Agriculture share in GDP (%) and GDP (local currency) indicators.

Deflator: OECD Economic Outlook: Statistics and Projections (database), Gross domestic product, market prices, deflator. Eurostat database for the European Union. World Bank, World Development Indicators (WDI database) for Emerging Economies not available in the OECD database.

Exchange rate: OECD National Accounts Statistics (database), Prices and Purchasing Power Parities, Nominal Exchange Rate. Eurostat database for the European Union and EU Member States. World Bank, World Development Indicators (WDI database) and national data for Emerging Economies not available in the OECD database.

Currencies

ARS	Argentinian peso
AUD	Australian dollar
BRL	Brazilian real
CAD	Canadian dollar
CLP	Chilean peso
COP	Colombian peso
CHF	Swiss frank
CNY	Chinese yuan renminbi
CRC	Costa Rican colon
EUR	Euro
GBP	British pound
IDR	Indonesian roupiah
INR	Indian rupee
ILS	Israeli shekel
ISK	Icelandic krona
JPY	Japanese yen
KRW	Korean won
KZT	Kazakh tenge
MXN	Mexican peso
NOK	Norwegian krone
NZD	New Zealand dollar
PHP	Philippines peso
RUR	Russian rouble
TRY	New Turkish lira
UAH	Ukrainian hryvnia
USD	United States dollar
VND	Vietnamese dong
ZAR	South African rand

Agricultural Policy Monitoring and Evaluation 2021

ADDRESSING THE CHALLENGES FACING FOOD SYSTEMS

This annual report monitors and evaluates agricultural policies in 54 countries, including the 38 OECD countries, the five non-OECD EU Member States, and 11 emerging economies. The report includes country specific analysis based on up-to-date estimates of support to agriculture that are compiled using a comprehensive system of measurement and classification – the Producer and Consumer Support Estimates (PSE and CSE) and related indicators. This year's report focuses on policy responses to the COVID-19 pandemic and analyses the implications of agricultural support policies for the performance of food systems.

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