Agricultural Policy Monitoring and Evaluation 2017

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BETTER POLICIES FOR BETTER LIVES

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Foreword

This report Agricultural Policy Monitoring and Evaluation 2017 *is the 30th in the series of OECD reports that monitor and evaluate agricultural policies across countries, and the fifth report to include both OECD countries and a set of emerging economies. The present report includes countries from all six continents, including the 35 OECD countries and the six non-OECD EU member states, as well as eleven emerging economies: Brazil, People's Republic of China, Colombia, Costa Rica, Indonesia, Kazakhstan, the Philippines, Russian Federation, South Africa, Ukraine and Viet Nam.*

The OECD uses a comprehensive system for measuring and classifying support to agriculture – the Producer and Consumer Support Estimates (PSEs and CSEs) and related indicators. They provide insight into the increasingly complex nature of agricultural policy and serve as a basis for OECD's agricultural policy monitoring and evaluation.

*The "Executive Summary" synthesises the key findings of the report. Chapter 1 provides an overview of developments in agricultural policies and analyses the development of the level and structure of support to agriculture across countries included in the report. Chapter 2 consists of short Country Snapshots which briefly summarise the developments in agricultural policies and support to farms in each individual country covered by this report (the European Union which has a Common Agricultural Policy is presented as a single Country Snapshot). Comprehensive Country Chapters and the Statistical Annex containing detailed background tables with indicators of agricultural support are available only in electronic form (*http://dx.doi.org/10.1787/agr_pol-2017-en*).*

The Executive Summary and Chapter 1 are published under the responsibility of the OECD Committee for Agriculture. The remainder of the report is published under the responsibility of the Secretary-General of the OECD.

Table of contents

Acknowledgements 9

Reader's guide Definition of OECD indicators of agricultural support 11

Executive summary 25

Chapter 1. **Developments in agricultural policy and support** 29
- Key economic and market developments 30
- Thirty years of monitoring and evaluating agricultural policies 32
- Developments in agricultural support 32
- Developments in approaches to support and policies 54
- Assessing support and reforms 65
- Notes 69
- References 70

Chapter 2. **Country snapshots** 73
- 2.1. Australia 74
- 2.2. Brazil 78
- 2.3. Canada 82
- 2.4. Chile 86
- 2.5. China 90
- 2.6. Colombia 94
- 2.7. Costa Rica 98
- 2.8. European Union 102
- 2.9. Iceland 106
- 2.10. Indonesia 110
- 2.11. Israel 114
- 2.12. Japan 118
- 2.13. Kazakhstan 122
- 2.14. Korea 126
- 2.15. Mexico 130
- 2.16. New Zealand 134
- 2.17. Norway 138
- 2.18. Philippines 142
- 2.19. Russian Federation 146
- 2.20. South Africa 150
- 2.21. Switzerland 154
- 2.22. Turkey 158
- 2.23. Ukraine 162
- 2.24. United States 166
- 2.25. Viet Nam 170

Boxes

1. Definitions of categories in the PSE classification 13
2. Definitions of categories in the GSSE classification 15
1.1. 30 years of OECD Monitoring of Agricultural Policies: Where do we come from? . . 33
1.2. Recent developments in countries' agricultural policies 35
1.3. Countries' importance in global agriculture and their role in supporting the sector has changed 39
1.4. What drove changes in the monetary value of support in 2016? 42
1.5. Greening of the EU CAP 50
1.6. Distribution of trade impacts of agricultural support policies 55
1.7. Non-tariff measures and regulatory requirements: Between tackling market failures and avoiding unnecessary trade costs 58

Tables

1.1. Key economic indicators 30
2.1. Australia: Estimates of support to agriculture 77
2.2. Brazil: Estimates of support to agriculture 81
2.3. Canada: Estimates of support to agriculture 85
2.4. Chile: Estimates of support to agriculture 89
2.5. China: Estimates of support to agriculture 93
2.6. Colombia: Estimates of support to agriculture 97
2.7. Costa Rica: Estimates of support to agriculture 101
2.8. European Union: Estimates of support to agriculture 105
2.9. Iceland: Estimates of support to agriculture 109
2.10. Indonesia: Estimates of support to agriculture 113
2.11. Israel: Estimates of support to agriculture 117
2.12. Japan: Estimates of support to agriculture 121
2.13. Kazakhstan: Estimates of support to agriculture 125
2.14. Korea: Estimates of support to agriculture 129
2.15. Mexico: Estimates of support to agriculture 133
2.16. New Zealand: Estimates of support to agriculture 137
2.17. Norway: Estimates of support to agriculture 141
2.18. Philippines: Estimates of support to agriculture 145
2.19. Russia: Estimates of support to agriculture 149
2.20. South Africa: Estimates of support to agriculture 153
2.21. Switzerland: Estimates of support to agriculture 157
2.22. Turkey: Estimates of support to agriculture 161
2.23. Ukraine: Estimates of support to agriculture 165
2.24. United States: Estimates of support to agriculture 169
2.25. Viet Nam: Estimates of support to agriculture 173

Figures

1.1. Commodity world price indices, 2007 to 2016 31
1.2. Countries covered by the 1988 and 2017 Monitoring and Evaluation reports . . 33
1.3. Total Support Estimate by country, 1995-97 and 2014-16 38
1.4. Country shares in total agricultural value added and in total TSE, 1995-97 and 2014-16 39

1.5. Composition of the Total Support Estimate by country, 2014-16 40
1.6. Evolution of the Producer Support Estimate, 1995 to 2016 41
1.7. Producer Support Estimate by country, 1995-97 and 2014-16 41
1.8. Contribution of MPS and budgetary payments to the change in the Producer Support Estimate, 2015 to 2016 43
1.9. Contribution of price gaps and output quantities to the change in PSE, 2015 to 2016. 44
1.10. Composition of the Producer Support Estimate by country, 2014-16 45
1.11. Composition of payments based on area, animal numbers, receipts and income by country, 1995-97 and 2014-16 47
1.12. Producer Nominal Protection Coefficient, by country, 1995-97 and 2014-16. . . 48
1.13. Support conditional on the adoption of specific production practices, 1995-97 and 2014-16 50
1.14. General Services Support Estimate: Share in TSE and composition. 52
1.15. Consumer Support Estimate by country, 1995-97 and 2014-16 54
1.16. Trade-impact indices as a percentage of gross farm receipts, 1995-97 and 2014-16, and percentage PSE 2014-16 56
1.17. Absolute and relative single commodity support, all countries 57
1.18. Single commodity transfers, all countries, 2000-02 and 2014-16 60
1.19. Single commodity transfers to cotton, all countries, 2000-16 62
1.20. Single commodity transfers to milk, all countries, 2000-16 62
1.21. Single commodity transfers to maize, all countries, 2000-16 64
1.22. Single commodity transfers to wheat, all countries, 2000-16 64
1.23. Single commodity transfers to beef and veal, all countries, 2000-16. 65

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Reader's guide
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.

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 also available by commodity.

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 in Box 2.

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.

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): Is the commodity SCT expressed 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 GSSE (%GSSE): Share of expenditures on general services in the Total Support Estimate (TSE).

Box 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 phyto-sanitary 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.

Box 1. **Definitions of categories in the PSE classification** *(cont.)*

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.

Decomposition indicators

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.

Decomposition of price gap elements

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.

Per cent change in the 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.

Definition of GSSE categories

More detailed information on the indicators, their use and limitations is available in the *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 [*www.oecd.org/tad/agricultural-policies/psemanual.htm*].

Box 2. **Definitions of categories in the GSSE classification**

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).

Box 2. **Definitions of categories in the GSSE classification** *(cont.)*

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.

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

Sources and definitions of contextual indicators

Table 2.X.1. Contextual indicators

Gross Domestic Product – GDP (USD billion in PPP): OECD National Accounts, Gross domestic product, USD, current PPPs, current prices. Latest year benchmarked from Economic Outlook projections. For EU member countries, data come from EUROSTAT. UN World Development Indicators (WDI) data for emerging economies not available in OECD database.

Population (million): OECD.stat, Labour Force Statistics (LFS), Annual Labour Force Statistics (ALFS), ALFS Summary Tables, Population, OECD.stat, Demography and Population, Population statistics, Historical population data and projections (1950-2050) for latest years not available in LFS database. UN *World population prospects, 2015 Revision* for emerging economies not available in OECD database.

Land area (thousands km^2): FAO, Land use database, Land area (000 ha) recalculated to thousands km^2. Land area excludes water areas.

Agricultural area (AA) (thousand ha): FAO, Land use database, Agricultural area.

Population density (inhabitants/km^2): OECD.stat, Regions and cities, Regional demography, Population density and regional area. UN *World population prospects, 2015 Revision*, Population density by major area, region and country, 1950-2015 (persons per square km) for countries not available in OECD database. For EU members calculated from EUROSTAT population and area.

GDP per capita (USD in PPP): OECD. Stat, National accounts, Main aggregates, Gross domestic product (output approach), per head, USD, current prices, current PPPs. EU countries, EUROSTAT, GDP and main components – Current prices. WDI data for emerging economies not available in OECD database.

Trade as % of GDP: Trade data from UN COMTRADE Database. Customs data; Average trade: (exports+imports)/2. EU does not account for intra-EU trade.

Agriculture share in GDP (%): OECD.stat, Country statistical profiles; Value added in agriculture, hunting, forestry and fishing as % total value added. EU countries: EUROSTAT, Gross value added - Agriculture and fishing - % of all branches (NACE). UN World Development Indicators (WDI) for countries not available in OECD database.

Agriculture share in employment (%): OECD.stat, Employment by activities and status (ALFS), share of Agriculture, hunting, forestry (ISIC rev.3, A),, Employment in Agriculture, hunting and forestry (ISIC rev4, A) ('000) (ISIC rev.4), Annual civil labour force. EUROSTAT for the EU corresponds to the share of employed persons aged 15 years and over, in agriculture, hunting and forestry in total NACE activities. UN World Development Indicators (WDI), employment in agriculture % of total employment for countries not available in OECD database.

Agro-food exports in total exports (%): UN COMTRADE Database. Agro-food definition does not include fish and fish products. Agro-food codes in H0: 01, 02, 04 to 24, 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 (%): UN COMTRADE Database. Agro-food definition does not include fish and fish products.

Crop in total agricultural production (%): Share of value of total crop production (including horticulture) in total agricultural production. National data.

Livestock in total agricultural production (%): Share of value of total livestock production in total agricultural production. National data.

Share of arable land in AA (%): FAO, Land use database, arable land in percentage of agricultural area.

Table 2.X.2. Productivity and environmental indicators

TFP annual growth (%): USDA Economic Research Service, *International Agricultural Productivity Database*, July 2016. It presents agricultural Total Factor Productivity indexes, using 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 was recalculated from individual countries data and weights.

Nitrogen balance (Kg/ha): Balance (surplus or deficit) expressed as kg nitrogen per hectare of total agricultural land. 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 was calculated as the Gross Nitrogen Balance in the EU area over the Utilised agricultural area of the EU.

OECD (2017), "Environmental Performance of Agriculture 2017)", *OECD Agriculture Statistics* (database).

Phosphorus balance (Kg/ha): Balance (surplus or deficit) expressed as kg phosphorus per hectare of total agricultural land. 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 was calculated as the Gross Phosphorous Balance in the EU area over the Utilised agricultural area of the EU.

OECD (2017), "Environmental Performance of Agriculture 2017", *OECD Agriculture Statistics* (database).

Agriculture share of total energy use (%): Share of agricultural consumption over total final consumption (TFC).

IEA (2016), "World energy balances", *IEA World Energy Statistics and Balances* (database). *http://dx.doi.org/10.1787/data-00512-en*.

Agriculture share of GHG emissions (%): OECD (2016), "Greenhouse gas emissions by source, excluding land use, land-use change and forestry (LULUCF)". European Union as a single area was calculated from UNFCCC data for Greenhouse gas emissions in the EU area over the total GHG emissions in EU area.

OECD (2017), "Environmental Performance of Agriculture 2017", *OECD Agriculture Statistics* (database).

UNFCCC (2016), website of the UNFCCC Greenhouse Gas Inventory Database, *http://ghg.unfccc.int*.

Share of irrigated area in Agricultural Area (AA) (%): Share of irrigated area in total agricultural area. European Union was treated as a single area; estimates for EU calculated from FAO data, "agricultural area actually irrigated in the EU over agricultural area of the EU". OECD (2017), "Environmental Performance of Agriculture 2017", *OECD Agriculture Statistics* (database). FAO data 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 was calculated as the total abstractions for

agriculture in the EU area over the total freshwater abstractions in the EU area. OECD (2017), "Environmental Performance of Agriculture 2017", *OECD Agriculture Statistics* (database).

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 was treated as a single area. OECD (2017), "Water: Freshwater abstractions", *OECD Environment Statistics* (database). *http://dx.doi.org/10.1787/data-00602-en*.

Figure 2.X.1 Main macro-economic indicators.

Real GDP growth (%): OECD.stat, Country statistical profiles, real GDP growth. EU countries: Eurostat, GDP volumes, percentage change over previous period. WDI data for emerging economies not available in OECD database.

Inflation rate (%): OECD Analytical DataBase (ADB), Annual average rate of change in Harmonized Indices of Consumer Prices (HICPs), EUROSTAT for the European Union, WDI for emerging economies not available in ADB.

Unemployment rate (%): OECD Analytical DataBase (ADB), labour force statistics. ILO estimates and projections, Unemployment rate by sex and age for emerging countries. EUROSTAT for the European Union.

Figure 2.X.2. Agro-food trade

Agro-food exports (USD billion): UN COMTRADE Database. Agro-food definition does not include fish and fish products.

Agro-food imports (USD billion): UN COMTRADE Database. Agro-food definition does not include fish and fish products.

Figure 2.X.3. Composition of agricultural output growth

TFP annual growth (%): USDA Economic Research Service, *International Agricultural Productivity Database*, July 2016. It presents agricultural Total Factor Productivity indexes, using 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 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 was recalculated from individual countries data and weights.

Figure 2.X.4. Composition of agro-food trade

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).

Currencies

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
IDR	Indonesian roupiah
ILS	Israeli shekel
ISK	Icelandic krona
JPY	Japanese yen
KRW	Korean wong
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

List of acronyms and abbreviations

AAFC	Agriculture and Agri-Food Canada
ACC	Agricultural Credit Cooperatives (Turkey)
ADR	Rural Development Agency (Colombia)
AGF	Direct Government Purchases (Brazil)
AIS	Agriculture Innovation System
AMS	Aggregate Measurement of Support
ANCs	Areas of Natural Constraints (European Union)
ANT	National Land Agency (Colombia)
AoA	Agreement on Agriculture
APEC	Asia-Pacific Economic Co-operation
APP	Advance Payments Program (Canada)
ARC	Agriculture Risk Coverage (United States)
ART	Renovation of Territory Agency (Colombia)
ASEAN	Association of South East Asian Nations
AVES	Ad-valorem equivalents
BPS	Basic Payment Scheme (European Union)
BRM	Business Risk Management (Canada)
BULOG	Indonesian National Logistic Agency
CAP	Common Agricultural Policy (of the European Union)
CARICOM	Caribbean Community
CASP	Common Agricultural Support Programme (South Africa)
CEPA	Comprehensive Economic Partnership Agreement
CFIA	The Canadian Food Inspection Agency
CGCS	Cotton Ginning Cost Share programme (United States)
CIIL	Crown Irrigation Investments Limited (New Zealand)
CIS	Commonwealth of Independent States
CNDP	Complementary National Direct Payments

List of acronyms and abbreviations

CNR	National Irrigation Commission (Chile)
COMESA	Common Market for Eastern and Southern Africa
CONAB	National Food Supply Agency (Brazil)
CPI	Consumer Price Index
CRDP	Comprehensive Rural Development Programme (South Africa)
CRP	Conservation Reserve Program (United States)
CSP	Conservation Stewardship program (United States)
DAFF	Department of Agriculture, Forestry and Fisheries (South Africa)
DCFTA	Deep and Comprehensive Free Trade Area (Ukraine, EU)
DIRA	Dairy Industry Restructuring Act of 2001 (New Zealand)
DP	Direct Payments
DPDP	Dairy Product Donation Program (United States)
DRDLR	Department of Rural Development and Land Reform (South Africa)
EAEU	Eurasian Economic Union (Kazakhstan, Russia)
EAFRD	European Agricultural Fund for Rural Development
EAGF	European Agricultural Guarantee Fund
EEA	European Economic Area
EFAs	Ecological Focus Areas (European Union)
EEC	European Economic Community
EFP	Environmental Farm Plans (Canada)
EFTA	European Free Trade Association
EPA	Economic Partnership Agreement
ETS	Emissions trading scheme (New Zealand)
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FARC	Revolutionary Armed Forces of Colombia
FCC	State agency Food Contract Corporation (Kazakhstan)
FDA	Food and Drugs Administration (United States)
FDI	Foreign Direct Investment
FEPs	Commodity Price Stabilisation Funds (Colombia)
FINAGRO	Financing Fund for the Agricultural Sector (Colombia)
FMD	Foot and Mouth Disease
FMD	Farm Management Deposit (Australia)
FPT	Joint Federal, Provincial and Territorial agreements (Canada)
FSA	USDA Farm Service Agency (United States)
FTA	Free Trade Agreement
FY	Financial (fiscal) year
GAEC	Good Agricultural and Environmental Conditions (EU)
GAO	Gross Agricultural Output
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GF2	Growing Forward 2 (Canada – new multilateral agricultural policy framework)
GHG	Greenhouse Gases
GIA	Government Industry Agreements on Biosecurity Readiness and Response (New Zealand)
GM(O)	Genetically modified (organism)
GSP	Generalised System of Preferences
IAF	Irrigation Acceleration Fund (New Zealand)
ICMS	Circulation tax (Brazil)
ICT	Information and Communication Technology
IFSS	Integrated Food Security Strategy (South Africa)
IHS	Import Health Standards (New Zealand)
IMF	International Monetary Fund
INDAP	National Institute for Agricultural Development (Chile)
IPARD	Instrument for Pre-Accession Assistance for Rural Development (Turkey)
LDC	Least Developed Countries
LEADER	Links Between Actions for the Development of the Rural Economy (EU)

List of acronyms and abbreviations

LFA	Less Favoured Areas
LRAD	Land Redistribution and Agricultural Development (South Africa)
MAFISA	Micro-Agricultural Financial Institutions of South Africa
MADR	Ministry of Agriculture (Colombia)
MAG	Ministry of Agriculture and Livestock (Costa Rica)
MARD	Ministry of Agriculture and Rural Development
MAPA	Ministry of Agriculture, Livestock and Food Supply (Brazil)
MAPIP	Māori Agribusiness: Pathway to Increased Productivity (New Zealand)
MAV	Minimum access volume
MDA	Secretariat for Family Agriculture and Agrarian Development (Brazil)
MERCOSUR	Southern Common Market
MEP	Minimum Export Price (Viet Nam)
MFN	Most Favoured Nation
MMA	Minimum market access
MOU	Memorandum of Understanding
MoFAL	Ministry of Food, Agriculture and Livestock (Turkey)
MPP	Margin Protection Programme (for dairy producers) (United States)
MY	Marketing year
NAFTA	North American Free Trade Agreement
NAMC	National Agricultural Marketing Council (South Africa)
NDRC	National Development and Reform Commission (China)
NIA	National Irrigation Administration (Philippines)
NFA	National Food Authority (Philippines)
NFRS	National Farmer Registration System (Turkey)
NLP	National Land Care programme (South Africa)
NPF	Next Agricultural Policy Framework (Canada)
NRCS	USDA Natural Resources Conservation Service (United States)
NTMs	Non-tariff measures
ODEPA	Office of Studies and Agrarian Policies of the Ministry of Agriculture (Chile)
OECD	Organisation for Economic Co-operation and Development
OPEC	Organisation of Petroleum Export Countries
PAA	Government purchases from small-scale agriculture (Brazil)
PCF	Pan-Canadian Framework on Clean Growth and Climate Change
PEM	Policy Evaluation Model
PEP	Product Reward Prize programme (Brazil)
PEPRO	Rural Equity Prize programme (Brazil)
PGPAF	Minimum price programme for family farms (Brazil)
PGP	Primary Growth Partnership (New Zealand)
PLC	Price Loss Coverage (United States)
PPP	Purchasing Power Parity
PRAN	National Agriculture Revitalisation Programme (Colombia)
PROAGRO	General Agriculture Insurance Programme (Brazil)
PROCAMPO	Programme providing payments based on historical areas (Mexico)
Productive PROAGRO	Programme providing payments based on historical areas, replacing PROCAMPO (Mexico)
PROGAN	Programme providing payments based on livestock numbers (Mexico)
QR	Quantitative restrictions
RASKIN	Targeted rice for poor programme (Indonesia)
R&D	Research and Development
RDCs	Rural Research and Development Corporations (Australia)
RDP	Rural Development Plan (Programme)
REID	Rural Enterprise and Industrial Development programme (South Africa)
REP	Regional Environmental Programmes (Norway)
RID	Rural Infrastructure Development programme (South Africa)
RMA	Resource Management Act 1991 (New Zealand)
RMA	USDA Risk Management Agency (United States)

List of acronyms and abbreviations

SACU	South African Customs Union
SADC	Southern African Development Community
SAFP	Andean Price Band System (Colombia)
SAGARPA	The Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (Mexico)
SAPARD	Special Accession Programme for Agriculture and Rural Development (EU)
SAPS	Single Area Payment Scheme
SCO	Supplementary Coverage Option (United States)
SDG	The new United Nations' Sustainable Development Goals
SENARA	National Irrigation and Drainage Service institution (Costa Rica)
SENASA	National Animal Health Service (Costa Rica)
SFF	Sustainable Farming Fund (New Zealand)
SGA	State Grain Administration (China)
SMP	Skimmed milk powder
SMR	Statutory Management Requirements (EU)
SINOGRAIN	China Grain Reserves Corporation
SNAP	Supplemental Nutrition Assistance Program (United States)
SNCR	National System of Rural Credit (Brazil)
SOE	State owned enterprise (Viet Nam)
SPS	Single Payment Scheme (EU)
SPS	Sanitary and Phytosanitary
SSG	Special Safeguard
STAX	Stacked Income Protection Plan (United States)
STE	State Trading Enterprise
TBT	Technical Barriers to Trade
TCZB	Ziraat Bank (Turkey)
TDCA	Trade, Development and Co-operation Agreement
TFP	Total Factor Productivity
TFTA	Tripartite Free Trade Africa agreement
TNA	Transitional National Aid (European Union)
TPP	Trans-Pacific Partnership Agreement
TRQ	Tariff Rate Quota
TTIP	Transatlantic Trade and Investment Partnership (EU, US)
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
URAA	Uruguay Round Agreement on Agriculture
USA	United States of America
USDA	United States Department of Agriculture
VAT	Value Added Tax
VCS	Voluntary Coupled Support (European Union)
VFA	Viet Nam Food Association
WTO	World Trade Organization
ZARC	Agricultural Climate Risk Zoning (Brazil)

Executive summary

The present report is the 30th in the series of OECD reports that monitor and evaluate agricultural policies across countries. It includes the 35 OECD countries as well as the six non-OECD EU member states and eleven emerging and developing economies; overall the 52 countries covered by this report account for about two-thirds of global agricultural value added. While agricultural sectors differ across the countries covered in terms of their size, nature and importance to their overall economies, all face a number of common challenges and opportunities related to meeting future market demand. Policy packages need to be both effective and efficient to enable the sector to develop its full potential and achieve key public objectives. Countries share a number of goals for the sector: ensuring food and nutrition security; enabling producers to improve their living standards by operating in an open and transparent global trading system; promoting sustainable productivity growth and resource use; mitigation of and adaptation to climate change; building resilience to different risks; the provision of public goods and ecosystem services; and contributing to inclusive growth and development. They also have identified the need for an integrated approach to agriculture and food policies that is coherent with economy-wide policies.

General services for agriculture are key to achieving these goals. Investments in people (education and skills training) and in physical infrastructure (including digital technologies), in a well-functioning innovation, knowledge and information system, and in biosecurity inspections and controls adapted to the sector's needs, contribute to an enabling environment that allows agricultural and food production to be responsive, sustainable and resilient to external shocks. Only a small share of total support provided to the sector is available for these and other general services across the countries examined – an average of USD 90 billion (EUR 77 billion) per year in 2014-16. In contrast, more than five and a half times as much, or USD 519 billion (EUR 442 billion) per year, was provided to support individual agricultural producers during that same period. As a result, in 2014-16 16% of producer receipts came from policies – only slightly lower than the corresponding level two decades ago when it stood at 21%.

The need to better align the policy levers used with the underlying objectives of government intervention in the sector is also highlighted by the continued strong use of market price support in many countries. Almost 60% of all farm support is provided by maintaining prices on domestic markets higher than those on international markets. Other highly production and trade distorting forms of support to producers, such as payments based on output quantities or on the use of variable inputs, play a much smaller role overall, but remain important in certain markets. The distortions created by these policies can have significant negative impacts on markets. In general, such policies are at best blunt instruments likely to be ineffective in helping the sector exploit the opportunities and overcome the challenges it is facing.

Direct payments to farmers are increasingly used either to support farm incomes or, at a lower scale, to compensate or encourage farmers to produce non-market goods or services. However, farm income support should be well targeted to those farm households most in need. Payments provided to farmers to produce non-market goods or services (such as those related to the environment) can be effective if governments are well-informed purchasers.

Risk management tools are important in a world that is expected to become more volatile as a result of market, climate and other shocks. Policies developed in this area should distinguish normal business risks from risks amenable to market solutions, such as insurance systems and futures markets, and catastrophic risks requiring public engagement.

Recommendations

- Countries should review their agricultural policy package to ensure an integrated approach to agricultural and food policies coherent with economy-wide policies.
- Countries should put greater efforts into supporting key general services for the agricultural sector where they can demonstrate net benefits for their societies from doing so. Among others, well-functioning agricultural innovation systems broadly defined, appropriate science-based biosecurity efforts and investments in adequate physical infrastructure are required to prepare their agricultural sectors to respond to future challenges and opportunities. Redirecting producer support to general services can also provide a pathway to transition the sector away from production and trade distorting forms of support.
- Market price support should be reduced and eventually eliminated in order to ensure a well-functioning domestic market and international trading system, and to enhance food security of the poorest.
- Output payments and input subsidies, particularly those without input constraints, should also be reduced. They generally represent an inefficient use of government budgets and fail to achieve desired policy outcomes in the most effective manner. In addition, they can contribute to unsustainable resource use. Therefore, their replacement with policies better targeted and tailored to the intended outcomes should be considered.
- Countries should streamline their risk management policies by defining the limits between normal business risks, marketable risks and catastrophic risks, in a transparent and operational manner. Within a holistic approach towards risk management systems, government support should focus on managing catastrophic risks for which private solutions cannot be developed and care should be taken that public support does not crowd out private solutions based on market tools. Governments should also play a proactive role in providing information on climate and market risks for farmers and the private sector to facilitate the development of risk management strategies and tools.
- To improve the efficiency of direct payments, countries should seek to target the market failures that may lead to persistent low incomes in agriculture, and to understand how these differ from those of non-agricultural households. A better understanding of the financial situation of farm households is critical to define specific policy objectives and related policy instruments.
- Governments also need to define clearly the non-market goods and services sought when designing payments aimed at improvements in environmental performance, animal welfare, or other societal concerns. Tailoring the payments requires information on both

the nature and scale of the problem and the marginal costs of reducing it. Such information may not always be readily available or accessible economically. However, both appropriate proxies (often already applied for objectives related to natural resources) and better data availability that comes with modern information technology will help to overcome such shortcomings.

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Chapter 1

Developments in agricultural policy and support

The key economic and market developments which provide the framework for the implementation of agricultural policies are analysed in the first part of this chapter. Then the developments in the estimated support (using the OECD Producer Support Estimate methodology) are evaluated in terms of its level, composition and changes over time in OECD countries and the emerging economies included in this report. Within this part, highlights of the main recent changes and new initiatives in agricultural policies in 2016-17 in OECD countries and key emerging economies covered in this report are also presented. The chapter also focuses on changes in the single commodity focus of support as support targeting individual agricultural commodities still represents the largest component of support to farmers. The chapter ends with assessment of support and policy reforms and related recommendations.

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.

Key economic and market developments

Conditions in agricultural markets are heavily influenced by macro-economic variables such as global GDP growth (which supports demand for agricultural commodities) and the price of crude oil (which determines the price of several inputs into agriculture, and influences demand for cereals, sugar crops, and vegetable oils through the market for biofuels) (OECD/FAO, 2017).

Global GDP growth remained low in 2016 at 2.9%, down from 3.1% in 2015 and the slowest growth rate since 2009 (Table 1.1). Growth in the OECD economies slowed to 1.7% in 2016, and was mainly driven by private consumption and, to a lesser extent, government consumption and investment.[1] In the United States, GDP growth was weak at 1.5% compared with 2.6% in 2015, as the fall in oil prices led to a sharp decline in the energy sector, an appreciation of the dollar hurt exports and manufacturing investment, and inventories were drawn down. Growth in the Euro area and Japan continued to improve in 2016 but remained modest. Modest GDP growth in the Euro area (1.7%) reflected weakness in both exports and domestic demand, while the recovery in Japan (0.8%) was led by consumer spending,

Table 1.1. **Key economic indicators**

OECD area, unless otherwise noted

	Average 2004-13	2014	2015	2016
	Per cent			
Real GDP growth[1]				
World[2]	3.9	3.3	3.1	2.9
OECD[2]	1.6	1.9	2.1	1.7
United States	1.6	2.4	2.6	1.5
Euro area	0.8	1.2	1.5	1.7
Japan	0.8	0.0	0.6	0.8
Non-OECD[2]	6.6	4.6	3.8	4.0
Brazil	4.0	0.1	-3.9	-3.4
China	10.3	7.3	6.9	6.7
Colombia	4.8	4.4	3.1	2.1
Indonesia	5.7	5.0	4.8	5.0
Russia	4.1	0.7	-3.7	-0.8
South Africa	3.3	1.6	1.3	0.4
Output gap[3]	-0.5	-2.1	-1.5	-1.4
Unemployment rate[4]	7.1	7.4	6.8	6.3
Inflation[5]	2.0	1.6	0.7	1.0
World real trade growth	5.3	3.9	2.6	1.9

1. Year-on-year increase; last three columns show the increase over a year earlier.
2. Moving nominal GDP weights, using purchasing power parities.
3. Per cent of potential GDP.
4. Per cent of labour force.
5. Private consumption deflator. Year-on-year increase; last 3 columns show the increase over a year earlier.

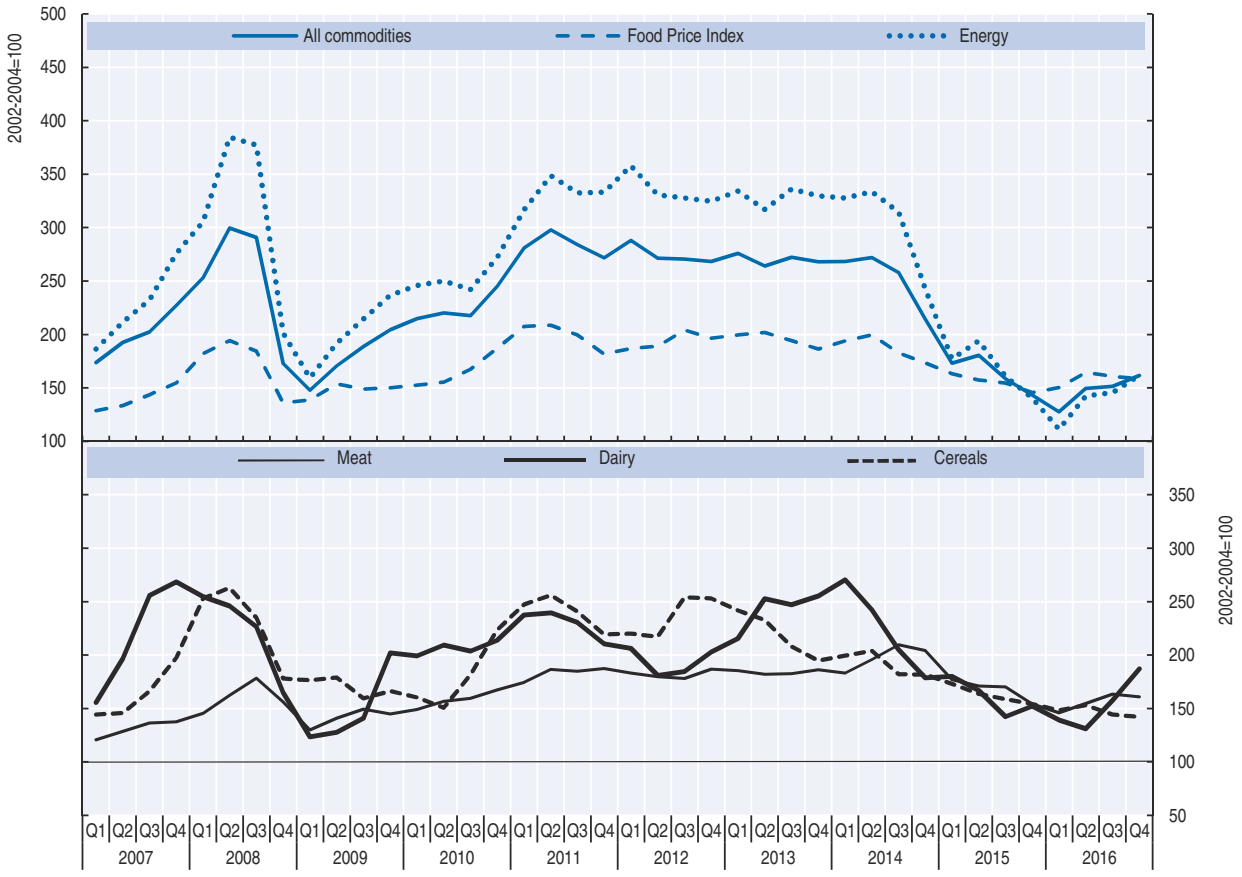
Source: OECD (2016a), *OECD Economic Outlook*, Vol. 2016/2, OECD Publishing, Paris. Last updated November 2016, *http://dx.doi.org/10.1787/eco_outlook-v2016-2-en*.

StatLink http://dx.doi.org/10.1787/888933508735

supported by wage growth (OECD, 2016a). There are signs that growth has stabilised in non-OECD economies, helped by signs that Brazil and the Russian Federation are emerging from recession. Growth in the People's Republic of China (hereafter, "China") continued to gradually decline from a high level.

Global trade growth remained exceptionally weak at 1.9% in 2016, below global GDP growth for the second consecutive year (Table 1.1). Import volume growth in the emerging and developing economies was particularly weak. This slowdown has occurred independently of the continuing trend of declining imports into China – domestic sourcing of both intermediate and final goods is growing in China, as domestic Chinese producers become more sophisticated and able to supply a wider array of higher quality products. While demand factors play a role, weak trade also reflects structural factors and a lack of progress – together with some backtracking – on the opening of global markets to trade in goods and services.[2] Moreover, cyclical factors, including the deep recessions in some commodity producing economies and the widespread weakness of fixed investment have compounded structural problems (OECD, 2016a).

Figure 1.1. **Commodity world price indices, 2007 to 2016**



Notes: The top part of the graph relates to the left scale, while the bottom part of the graph should read from the right scale. Base year is 2002-04.

Source: IMF (2016), Commodity Market Review, Washington, DC: The International Monetary Fund for all commodities, food and energy indices, *www.imf.org/external/np/res/commod/index.aspx*; FAO (2016), FAO Food Price Index dataset, Rome: for meat, dairy and cereal indices. Base year is 2002-04, *www.fao.org/worldfoodsituation/foodpricesindex/en/*.

StatLink http://dx.doi.org/10.1787/888933506417

World prices for primary non-agricultural commodities rose in 2016 (Figure 1.1). Energy prices increased 68% between January 2016 and January 2017. Crude oil prices picked up at the end of 2016 after a steep drop that began in mid-2014. This followed an agreement by both OPEC and non-OPEC producers to reduce output by nearly 1.8 million barrels a day in the first half of 2017. However, the average annual price was 16% below 2015 levels. Demand for biofuels was sustained by obligatory blending and by higher demand for fuel due to low energy prices. Fertiliser prices rose 2% in the fourth quarter, up for the first time in eight straight quarters. However, the only product to experience a price increase was urea, on strong demand and a sharp drop in Chinese exports. Other products (phosphates and potash) continued their extended price declines (World Bank, 2017).

Food prices rose by almost 14% between January 2016 and January 2017. Prices of all dairy products surged during the second half of 2016, in particular for fat-based products, following sharp declines from 2013-14 highs, which stemmed from a contraction in demand and excess supply. Global demand strengthened in 2016, while production in major exporters – Argentina, Australia, and New Zealand – shrank due to adverse weather conditions. Prices of all dairy products were 33% higher in January 2017 than in January 2016, however, the average price in 2016 was lower than in 2015.

Meat prices also rose in 2016, but remained below the peak reached in the second half of 2014. Production of poultry and bovine meat expanded while pig meat and sheep meat production declined. Relatively low feed costs and growing livestock inventories contributed to decreasing prices. International sugar prices remained at a relatively high level sustained by tight market conditions.

In contrast, cereals prices continued to decline as world production reached a historical high in 2016, especially for wheat and maize following bumper crops in key exporting countries. Cereals prices are 39% below their 2011 peaks (OECD/FAO, 2017).

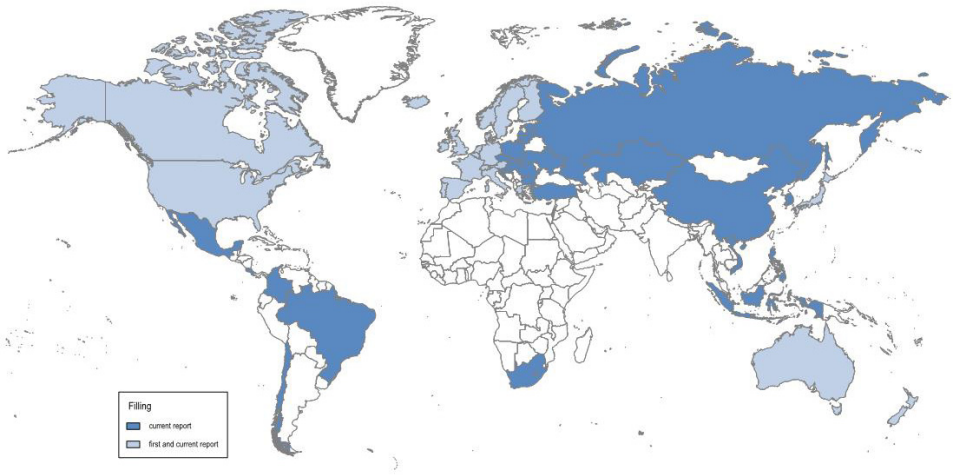
Thirty years of monitoring and evaluating agricultural policies

The present report is the 30th in the series of OECD reports that monitor and evaluate agricultural policies across countries. The OECD indicators were developed in response to a request by OECD Ministers in 1987 to monitor and evaluate developments in agricultural policy, to establish a common base for policy dialogue among countries, and to provide economic data to assess the effectiveness and efficiency of policies (Box 1.1). Over time, the methodology for calculating these indicators has changed and the coverage has expanded significantly – the first report published in 1988 covered 23 OECD countries, whereas this report includes the 35 OECD countries as well as the six non-OECD EU member states and eleven emerging and developing economies. In much of this report, the European Union is presented as one economic region.

Developments in agricultural support

This section provides a quantitative assessment of developments in policy support to agriculture in 2016, and compares policy support in recent years (2014-16) with support provided to the agricultural sector in the mid-1990s (1995-97). This assessment is based on a set of OECD indicators. These indicators express the diversity of support measures applied in different countries in a few simple numbers that are comparable across countries and over time, where different indicators focus on different dimensions of countries' support policies. The Reader's Guide provides definitions of the indicators used in the report.

Figure 1.2. **Countries covered by the 1988 and 2017 Monitoring and Evaluation reports**



Sources: OECD (1988), *Agricultural Policies, Markets and Trade: Monitoring and Outlook*; OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

Box 1.1. **30 years of OECD Monitoring of Agricultural Policies: Where do we come from?**

Mandated by the 1982 OECD Council at Ministerial Level, the first effort to monitor and assess agricultural policies and their effects on international trade resulted in a report by the OECD Committee for Agriculture and the OECD Trade Committee, *National Policies and Agricultural Trade* (OECD, 1987), submitted to the Council of Ministers in 1987. Ministers had asked for an analysis of approaches and methods to gradually reduce agricultural protection for integrating agriculture within the multilateral trading system; for an examination of relevant national policies with significant impact on agricultural trade; and for an analysis of appropriate methods for improving the functioning of world agricultural markets.

This mandate required an original approach both at the national and international level, involving detailed country studies and the analysis of all relevant policies impacting on agricultural trade. Based on earlier work by Tim Josling and the FAO (FAO, 1973, 1975), the OECD Secretariat developed a consistent methodology, yielding the concepts of *Producer Subsidy Equivalents* and *Consumer Subsidy Equivalents*. In this first effort, a total of seven jurisdictions were covered, including Australia, Austria, Canada, the EEC (12), Japan, New Zealand and the United States. OECD (1987) called for a number of reforms and market improvements:

- Reforms of domestic agricultural policies, in order to reduce support through output-related measures, including quantitative restrictions to production and measures to withdraw productive resources from agricultural production, in order to let markets increasingly determine agricultural production. Such reforms should be gradual and balanced in order to minimize related economic and social costs.
- Consideration of alternative policies which should be more targeted and less distortive for agricultural trade, without reducing incomes to small farmers.
- Strengthening international rules and disciplines on distortive and aggressive practices to boost exports and to limit imports. To improve the understanding of the interactions between support policies and markets, levels of assistance and trade distortions arising should be duly monitored and analysed. Reforms in domestic support policies and strengthened international trade rules should be mutually supportive and complementary.

Based on OECD (1987), the 1987 OECD Council at Ministerial Level highlighted the prevailing and serious imbalances in agricultural markets, and identified national support policies as their main cause. In line with OECD (1987), Ministers called for a progressive and concerted reduction of support implemented in a balanced

Box 1.1. **30 years of OECD Monitoring of Agricultural Policies: Where do we come from?** *(cont.)*

manner, and defined key principles and actions to base such reforms on. Furthermore, Ministers called for continued work by the Secretariat to monitor and analyse progress made in this regard. Responding to this call, the Committee for Agriculture provided, in 1988, a comparative and consistent analysis of agricultural policies, markets and trade in OECD member countries. The *Monitoring and Outlook* report (OECD, 1988) which looked at policy and market developments up until early 1988 in light of the principles for reform outlined by the 1987 Ministerial Council, provided levels of assistance by country and commodity for the years 1979-86, and extended the country coverage relative to OECD (1987) by additionally including Finland, Iceland, Norway, Sweden and Switzerland. As such, it became the first OECD report within a series of annual publications.[1]

Based on the detailed data collected, OECD (1988) provided a range of findings and recommendations, including:

- The level of assistance in the OECD area had increased over the period analysed. In addition, market price support had remained the dominant form of agricultural assistance.
- Access to the markets for key agricultural commodities had not improved, and competitive export subsidies had hardly declined. Few countries allowed for a full transmission of changes in world prices onto their domestic markets.
- Despite the Ministers' call to reduce agricultural support and to increasingly allow market signals to determine production decisions, the extent and timing of market adjustments and reforms had remained substantially heterogeneous across countries.
- More market oriented policies would reduce the separation between domestic and international markets, allowing farmers to respond to economic and market signals and reducing distortions in the allocation of resources. A continuation of existing policies would transfer the burden of adjustment to other sectors and other countries.
- Progressive and concerted reduction of agricultural support continued to be needed. This would not only help to improve the functioning of agricultural sectors and markets, but also the cost-effectiveness of policies aiming to create employment in the economies through more efficient use of resources.
- In some cases, structural adjustment would need to be facilitated by comprehensive rural development policies. Such adjustment should be considered as part of the overall economic development.
- A reluctance to rely on price reductions and favouring administrative devices to regulate supply in the pursuit of market balance, as observed for many OECD countries, would maintain high costs borne by consumers. While such administrative devices could reduce budgetary costs of disposing of excess supplies, they hence would not ensure sufficient efficiency in agricultural sectors. Moreover, such constraints would limit required structural changes.
- Rather than price and production management, direct income support should represent the main tool for supporting farm incomes where required. Direct payments could be targeted to, among others, low-income farmers, disadvantaged regions, or regions hurt by structural adjustments. So far, little progress towards such payments could be identified.
- Overall, little progress had been made to implement the principles on agricultural trade policies agreed by Ministers. Trade distorting measures have largely remained in place. This lack of reform should be addressed by moving forward the Uruguay Round, which aimed to reduce distortions in international markets and to bring measures affecting market access and export competition under strengthened and more operationally effective GATT rules and disciplines. Individual adjustment costs would be greatly reduced if the reform process were undertaken on a multilateral basis.

1. At a later stage, this report was split into the two flagship publications of the Committee for Agriculture, the *Agricultural Policy Monitoring and Evaluation* and *Agricultural Outlook* reports, produced and published separately.

Source: OECD (1987), *National Policies and Agricultural Trade*; OECD (1988), *Agricultural Policies, Markets and Trade: Monitoring and Outlook*.

In most countries, policy developments were marginal in 2016, and took the form of adjustments to, or the continuation of, policy settings and programmes within current agricultural policy frameworks. Recent developments in countries' agricultural policies are summarised in Box 1.2, while specific details on policy developments in the countries analysed in this report can be found in the extended country chapters that are available online.

Box 1.2. **Recent developments in countries' agricultural policies**

Reforms to policies and support measures occurred in a number of countries. **China** reformed its maize purchasing and storage system by ending the minimum price support policy; allowing market supply and demand to determine prices; and progressively introducing direct payments to farmers. **Colombia** set tariffs for fertiliser and pesticide imports to zero and removed tariffs for beans, lentils, garlic and palm oil. There is a proposal to remove tariffs on used agricultural machinery and equipment for a period of two years, with the option to renew. **Iceland** has new agreements on horticultural production, beef and dairy production, sheep production. The key changes relate to the dairy and sheep sectors: 1) the gradual abolition of the milk quota system and reduction in support entitlements to dairy production, subject to the revision process until 2019; 2) a reduction in support entitlements to sheep production and an increase in support related to quality control. In addition, there is more emphasis on support which is not linked to specific agricultural sectors. **Israel** reached an agreement to partially convert farm support programmes for beef producers from indirect support, by means of tariff quotas and tariffs, to a system of direct payments, to be gradually implemented over the period 2016-20. **Japan** announced the "Policy Package for Enhancing Competitiveness of Japan's Agriculture", including policies to reduce costs of farming inputs and to reform the structure of distribution and processing. **Kazakhstan** eliminated a number of subsidies in 2017, specifically: area payments for priority crops; the cotton quality expertise subsidy; subsidies for planting and maintaining orchards, berry plantations and vineyards, purchases of incubated eggs, sales of pedigree calves, credit guarantees and insurance payments; and concessional investment credits. The **Philippines** is committed to discontinuing quantitative restrictions on rice imports in mid-2017 and to replace them by a tariff-only system, according to the country's agreement with the WTO. **Viet Nam** abolished regulations that stipulated strict conditions for becoming a rice exporter.

New support measures were introduced in a number of countries. **China's** single payment scheme, the Agricultural Support and Protection subsidy, which was implemented on a pilot basis in 2015 in selected provinces, was extended to the whole country. **Brazil** increased regional minimum guaranteed prices, largely related to high inflation. **Korea** announced a supplemented plan to balance supply and demand of rice by 2019. Policy measures aim to reduce the area of rice paddies and encourage crop diversification and the use of high quality seeds instead of high yield seeds. There are also measures to expand rice consumption, including strengthening investments in research and development for rice food processing industries and an increase in the release of public rice stocks for use as feed. **Mexico** announced increases in support to producers in the context of input price rises. Refunds to farmers on the special tax for diesel are to restart in 2017, while per hectare payments (PROAGRO) will cover additional farmer beneficiaries. **Norway** increased target prices; support for the Investments and Development programme; and payments for grazing animals. From 2017, the **Philippines** abolished the Irrigation Service Fee paid by farmers to cover operational and maintenance costs of the irrigations systems. **Turkey** announced reforms to its "basin-based support programme". Deficiency payments will be paid based on current area of production instead of output of eligible crops. By differentiating crop-specific payment rates across regions, the government aims to change crop production patterns to follow ecological conditions, as well as to increase the production of imported crops, while decreasing excess supply in some other crops. **Colombia** reduced budgetary allocations to the agricultural sector by 40%, due to the increasing fiscal constraints faced by the government. Several programmes have reduced outlays, others were dismantled altogether, however 13 new programmes were created. Over half of the new programmes target general services to the sector, while the remainder provide a range of different

Box 1.2. **Recent developments in countries' agricultural policies** *(cont.)*

input subsidies to farmers. Budgetary support measures were also reduced in **Ukraine**, notably VAT accumulation by farmers, and expenditures for agricultural schools and research and development.

Several countries made changes to their ***risk management policies***. **Australia** implemented the Managing Farm Risk programme, which targets the information barriers and transactions costs associated with taking on complex financial products by offering farmers a one-off rebate for costs incurred in obtaining independent and professional advice when applying for new insurance policies. **Brazil** increased funding for crop insurance subsidies in response to a foreseen increase in adoption, and also improved the information base in order to implement the insurance scheme more efficiently. **Japan** announced a new revenue insurance scheme. **Turkey** extended the coverage of support to agricultural insurance to more crop and livestock products from 2017.

Canada and **Norway** are ***reviewing their agricultural policy frameworks.*** Canada is reviewing Growing Forward 2, which expires in 2018, in preparation for the Next Agricultural Policy Framework (NPF). The six priority areas for the NPF are: 1) markets and trade; 2) science, research and innovation; 3) risk management; 4) environmental sustainability and climate change; 5) value-added agriculture and agri-food processing; and 6) public trust. Norway is planning to reform agricultural policies and a new White Paper is being discussed in the Parliament. Key elements of the White Paper include a reduction and simplification of support programmes, although the overall system of market regulation will continue.

There have been ***institutional reforms*** in several countries. In **Colombia**, three new agencies were created to implement the functions related to rural development and land issues: the National Land Agency (*Agencia Nacional de Tierras*, ANT); the Rural Development Agency (*Agencia de Desarrollo Rural*, ADR); and the Renovation of Territory Agency (*Agencia de Renovación de Territorio*, ART). **Costa Rica** undertook reforms to improve co-ordination across public institutions, including to better link extension services with the main research and development agency under the Ministry of Agriculture and Livestock, and to improve the co-ordination between the National Phytosanitary Service (SFE) and the Ministry of Trade (COMEX) and customs. Costa Rica also simplified import processes, particularly for the registration of agricultural inputs such as agrochemicals. **South Africa** made changes to policies related to land redistribution and also passed a bill that allows the compulsory purchase of land in the public interest.

On ***trade***, **Canada** and the **European Union** signed the Comprehensive Economic and Trade Agreement, which provides for improved agricultural market access through tariff elimination for most agricultural exports, and through the establishment of tariff rate quotas for others. **Canada** and **Ukraine** signed the Canada-Ukraine Free Trade Agreement to eliminate tariffs on the vast majority of bilateral trade, including agriculture. The **European Union-Ukraine** Deep and Comprehensive Free Trade Area became fully implemented in early 2016. **Kazakhstan** and the **Russian Federation,** as parties to the Treaty on the Eurasian Economic Union (EAEU), ratified the EAEU-Viet Nam Free Trade Agreement. The **Russian Federation** extended its ban on agro-food imports from the European Union, the United States, Canada, Australia, Norway and several other countries until 31 December 2017. The **United States** withdrew from the Trans-Pacific Partnership (TPP) agreement to create a regional trading bloc with 11 other countries.

Changes were also made to programmes that target ***agri-environmental and climate outcomes***. **Chile** made changes in the way irrigation programmes are provided to farmers by the National Irrigation Commission (CNR). The new programmes provide specific support to small-scale farmers and indigenous people, by designing specific instruments to help them to adapt to climate change effects. As part of a promotion plan for environmentally friendly agriculture, **Korea** plans to increase the share of pesticide-free (including organic) cultivation areas, and reduce the input of chemical fertilisers and pesticides in crop production more generally. **Mexico** signed an inter-ministerial agreement for the preservation of forest area and limiting expansion of agricultural area frontiers.

Box 1.2. **Recent developments in countries' agricultural policies** *(cont.)*

Several countries undertook measures in response to ***exceptional circumstances*** or ***natural disasters***. A range of exceptional measures were taken in the **European Union** in response to market conditions in the dairy, fruit and vegetables, and pig sectors. **New Zealand** provided relief funding to help with non-insurable assets (tracks, on-farm bridges, water infrastructure and others) in response to the November 2016 earthquake (North part of South Island). **South Africa** reallocated the expenditure of some programmes to finance water provisioning, the provisioning of feed for livestock and its transport to alleviate the consequences of severe consecutive droughts in 2014 and 2015.

On ***labelling*** and ***promotion***, **Korea** implemented a new five-year (2016-2020) promotion plan to expand the market for environmentally friendly agricultural products. **Switzerland** implemented an Ordinance on "Swissness" (HasLV), which defines the regulations which have to be fulfilled in order to use the Label "Swiss" and the use of the label of the Swiss cross. It will better inform the consumers on the origin of the products. **The Russian Federation** created a new sub-programme on export enhancement as part of its current State Programme for the Development of Agriculture 2013-20.

The burden of agricultural support on countries' economies has generally declined, but public support is still important for the agricultural sectors of some countries

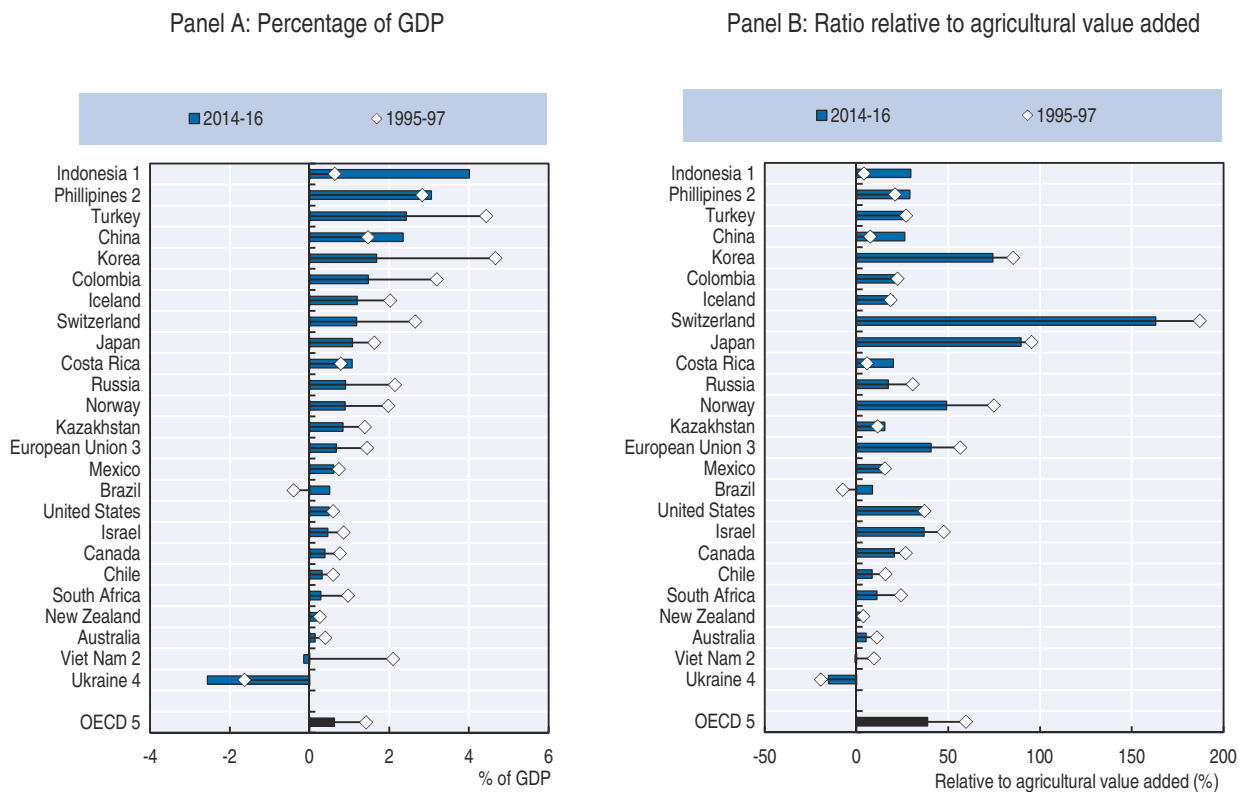
The Total Support Estimate (TSE) is the OECD's broadest indicator of agricultural support. The TSE combines transfers to agricultural producers individually (measured by the Producer Support Estimate, the PSE); policy expenditures that have primary agriculture as the main beneficiary, but do not go to individual producers (measured by the General Services Support Estimate, the GSSE); and budgetary support to consumers of agricultural commodities (the Consumer Support Estimate, the CSE, measured at the farm gate level and net of the market price support element).

The overall burden of agricultural support on countries' economies has declined since the mid-1990s in most countries covered in this report, as measured by total support as percentage of GDP (%TSE, Panel A of Figure 1.3). The %TSE has decreased since the mid-1990s in most countries, in line with the declining importance of the agricultural sector in countries' economies. In OECD countries, total support to agriculture declined from 1.4% of OECD aggregate GDP in 1995-97 to 0.6% in 2014-16. Significant reductions have occurred in countries where the relative cost to the economy of agricultural support was highest, including Korea, Turkey, Switzerland and Iceland. Nevertheless, the %TSE is high in these countries – between 1.2% and 1.7% of GDP – despite the fact that agriculture continues to be an important part of the economy only in Turkey.

There are contrasting developments in the %TSE of the emerging and developing countries covered in this report. The %TSE has declined significantly in Colombia, Kazakhstan, the Russian Federation and South Africa. In the mid-1990s, Brazil and Ukraine taxed their agricultural sectors on average. Brazil now provides positive support to the sector of around 0.5% of GDP in 2014-16, while Ukraine is again taxing the sector after providing positive support in the late 1990s and 2000s. In Indonesia, China, Costa Rica and the Philippines, total support has increased as a percentage of GDP, most significantly in Indonesia where the %TSE increased from 0.6% in 1995-97 to over 4% in 2014-16.

But public policy support continues to be important for the agricultural sectors of some countries. Total support relative to the size of countries' agricultural sectors varies widely across the OECD countries, from 163% of agricultural value added[3] in Switzerland, 89% in Japan and 74% in Korea, to less than 10% of agricultural value added in Australia, Chile

Figure 1.3. **Total Support Estimate by country, 1995-97 and 2014-16**



Notes: Countries are ranked according to the %TSE in 2014-16.

1. For Indonesia, 2014-16 is replaced by 2013-15.
2. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.
3. EU15 for 1995-97 and EU28 from 2014.
4. For Ukraine, GDP in 2014-16 is replaced by 2014-15.
5. The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for both periods and in the EU for 2014-16. Latvia is included in the OECD and in the EU only for 2014-16.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*; World Development Indicators (2016).

StatLink http://dx.doi.org/10.1787/888933506436

and New Zealand in 2014-16. In Israel, the European Union and the United States, TSE relative to agricultural value added was close to the OECD average of 39%. In the emerging and developing countries, total support relative to the size of the agricultural sector ranges from almost 9% of agricultural value added in Brazil to 29% in the Philippines. These developments have also contributed to changes over time in countries' relative importance in total support provided to the agricultural sector (explored further in Box 1.3).

In almost all countries, policy transfers to individual producers dominate total support. Figure 1.5 decomposes the TSE into its main components – the Producer Support Estimate (PSE), the General Services Support Estimate (GSSE) and the Consumer Support Estimate (CSE). For the OECD countries on average, the PSE accounted for around 74% of total support provided to the agricultural sector in 2014-16, with support for general services accounting for almost 13% of total support. As exceptions to this, support to general services accounts for over 75% of total support in New Zealand, and over 50% of total support in Australia and Chile. In these countries, %TSE is around 0.3% of GDP. In the United States, around 47% of total support is provided to consumers.

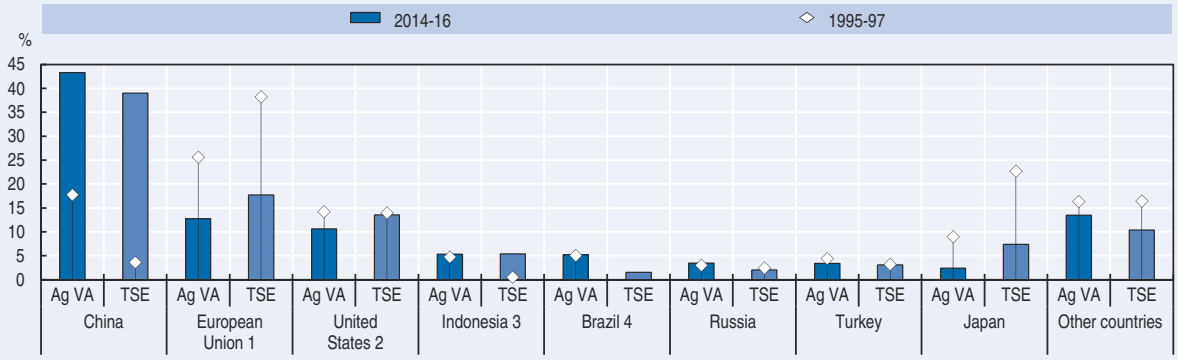
Box 1.3. **Countries' importance in global agriculture and their role in supporting the sector has changed**

The countries covered by this report account for the majority of global agricultural value added. But the relative importance of countries has changed significantly over time, as shown in Figure 1.4. In 1995-97, the European Union, China, the United States and Japan were the largest agricultural producers, accounting for around 66% of total agricultural value added of the countries included in this report. In 2014-16, their combined share accounted for 58%. However, while the shares of the European Union, the United States and Japan have declined since the mid-1990s, China's share in total agricultural value added has more than doubled, from around 18% in 1995-97 to over 43% in 2014-16. Other emerging countries have also increased their shares in total agricultural value added, including Indonesia and the Russian Federation. The shares of OECD countries have declined, although the majority of these countries have experienced an increase in agricultural value added over the period 1995-97 to 2014-16.

The relative importance of countries in total support to agriculture has also changed since the mid-1990s, as shown by their share in total TSE in 1995-97 and 2014-16. The importance of OECD countries in total TSE has fallen. In the mid-1990s, the European Union, the United States and Japan accounted for almost three-quarters of the total TSE. However, the European Union's share has declined from 38% to less than 18% of the total TSE, while Japan's share has declined from 23% to 7%. The United States' share has stayed relatively constant at around 13%. The most significant factor is the increase in China's share of total TSE since the mid-1990s, from just under 4% to 39% (a relatively larger increase than its share in agricultural value added). Indonesia's share in total TSE's has increased by a similar magnitude to more than 5% in 2014-16, although it remains at a much lower level.

Excluding China, the United States' share in total TSE instead increases significantly, from less than 15% in 1995-97 to over 22% in 2014-16. In contrast, the shares of the European Union and Japan in total TSE still decline between 1995-97 and 2014-16, but to a lesser extent – in the European Union, from just under 40% in 1995-97 to 29% in 2014-16, and from less than 24% in 1995-97 to 12% in 2014-16 in Japan. Indonesia's share in total TSE also increases, from 0.5% to 9% in 2014-16.

Figure 1.4. **Country shares in total agricultural value added and in total TSE, 1995-97 and 2014-16**



Notes: Because of data availability, countries are ranked according to their shares in total agricultural value added in 2013-15. TSE corresponds to 2014-16.

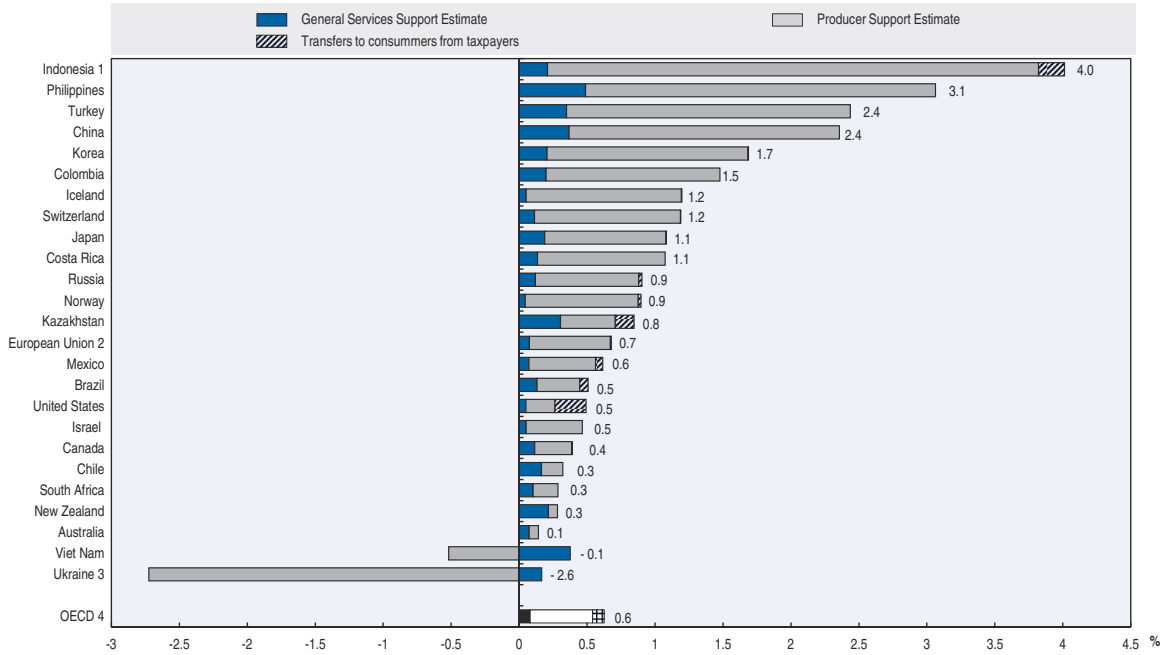
1. EU15 for 1995-97 and EU28 from 2014.
2. For the United States, 2016 Ag value added is replaced by 2015.
3. For Indonesia, 2014-16 is replaced by 2013-15.
4. For Brazil, 1995-97 is not available as TSE was negative in this period.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*; World Development Indicators (2016).

StatLink http://dx.doi.org/10.1787/888933506455

Figure 1.5. **Composition of the Total Support Estimate by country, 2014-16**

Percentage of GDP



1. For Indonesia, 2014-16 is replaced by 2013-15.
2. EU28.
3. For Ukraine, GDP in 2014-16 is replaced by 2014-15.
4. The OECD total does not include the non-OECD EU Member States.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink *http://dx.doi.org/10.1787/888933506474*

Support to producers in the OECD area and emerging economies is converging

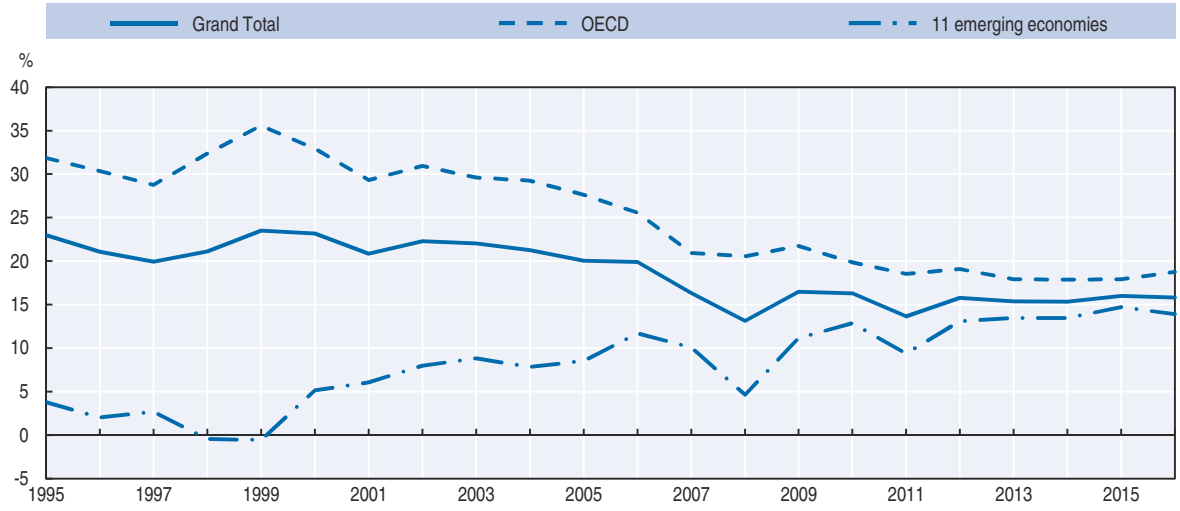
On average, the level of support provided to producers in the countries covered by this report has followed a declining trend over time, although changes in the average %PSE have been marginal in recent years (Figure 1.6). In 2016, around 16% of gross farm receipts were due to policies that support farmers. The monetary value of this support was USD 508 billion (EUR 460 billion) in 2016, down from USD 517 billion (EUR 467 billion) in 2015. The moderate year-on-year change is mainly due to market developments, including movements in world prices for agricultural commodities and exchange rates, rather than changes in policy.

The trend in the average %PSE masks differences between the OECD countries and the emerging and developing economies (Figure 1.6). The average level of producer support in the OECD countries has followed a declining trend, from over 30% of gross farm receipts in 1995-97 to around 18% in 2014-16. In the mid-1990s the emerging and developing economies on average provided very low levels of support to agricultural producers. Since then, the level of producer support in the emerging and developing economies has increased to around 14% of gross farm receipts in 2014-16, with lower levels of support in 2008 and 2011 reflecting periods of higher world commodity prices. In large part, the %PSE in the emerging and developing economies is driven by producer support in China and Indonesia, although the level of producer support has also increased in Costa Rica, the Philippines and Brazil.

These broad trends are also evident when looking at countries individually (Figure 1.7). In most countries, producer support has declined since the mid-1990s, although the extent varies across countries. Levels of producer support have more than halved in Australia, Chile

Figure 1.6. **Evolution of the Producer Support Estimate, 1995 to 2016**

Percentage of gross farm receipts

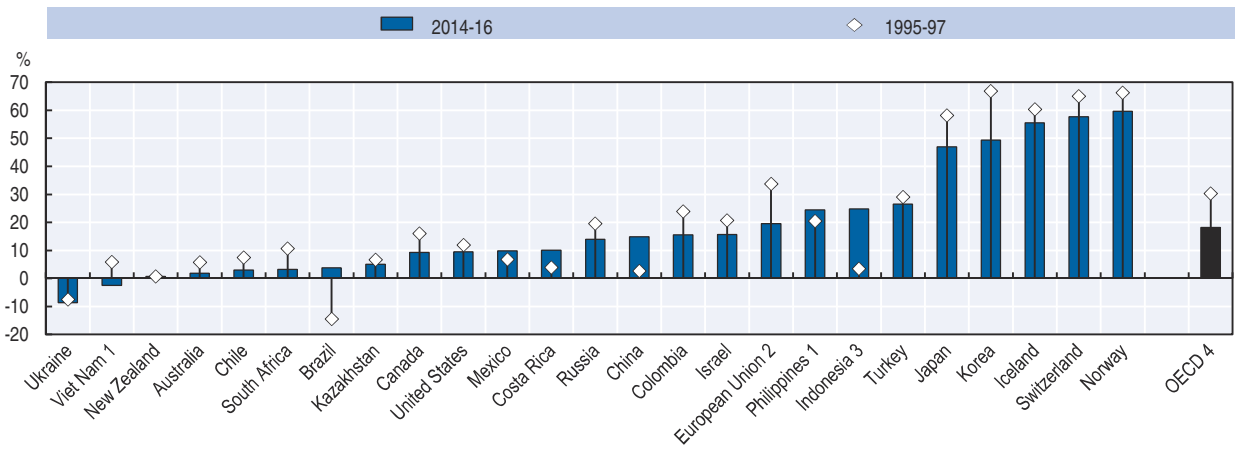


Notes: % PSE: Producer Support Estimate in percentage of gross farm receipts.
The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for all years and in the EU from 2004. Latvia is included in the OECD and in the EU only from 2004. The emerging economies are Brazil, China, Colombia, Costa Rica, Indonesia, Kazakhstan, the Philippines, Russia, South Africa, Ukraine and Viet Nam. Viet Nam and the Philippines are included from 2000 onwards. 2016 data for Indonesia not available and proxies are used instead.
Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink http://dx.doi.org/10.1787/888933506493

Figure 1.7. **Producer Support Estimate by country, 1995-97 and 2014-16**

Percentage of gross farm receipts



Notes: Countries are ranked according to the 2014-16 levels.
1. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.
2. EU15 for 1995-97 and EU28 from 2014.
3. For Indonesia, 2014-16 is replaced by 2013-15.
4. The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for both periods and in the EU for 2014-16. Latvia is included in the OECD and in the EU only for 2014-16.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink http://dx.doi.org/10.1787/888933506512

and South Africa, while producer support in Canada and the European Union fell by over 40%. However, producer support has increased since the mid-1990s in some emerging and developing countries, including China, Costa Rica, Indonesia and the Philippines – to levels exceeding the OECD average in 2014-16 in Indonesia and the Philippines – and also in Mexico. Producer support has also increased in Brazil, but from negative levels in the mid-1990s.

Nevertheless, **levels of producer support continue to vary widely across countries** (Figure 1.7). New Zealand, Australia, South Africa, Chile and Brazil provide very low levels of support to producers, with %PSEs below or around 5% in 2014-16. In contrast, Norway, Switzerland, Iceland, Korea and Japan support their producers at levels close to or above 50% of gross farm receipts, despite reductions in support since the mid-1990s. Of the emerging and developing economies, only the Philippines provides support at higher levels than the OECD average (PSE of 24% in 2014-16 compared with the OECD average of 18%). Developments in producer support between 2015 and 2016 are discussed in the extended country chapters that are available online.

Producer support means that in some countries, gross farm receipts are significantly higher than they would be if generated at world market prices and without any budgetary support. As measured by the Nominal Assistance Coefficient (NAC), in 2014-16 the gross farm receipts of OECD farmers were around 1.2 times higher on average than they would have been without support. In Norway, gross farm receipts were 2.5 times higher in 2014-16 than they would be without public support policies. In Iceland and Switzerland, gross farm receipts were more than 2 times higher. In Japan and Korea, gross farm receipts were almost 2 times higher in 2014-16 than they would be without public support policies. In New Zealand, Australia, South Africa, Chile and Brazil, gross farm receipts were less than 1.04 times higher than they would be without public support policies.

Box 1.4 shows that in the majority of countries, the observed change in countries' PSE was largely driven by the change in MPS – more specifically, by a widening or narrowing of the gap between domestic and border prices. Exceptions were Australia, where higher budgetary payments drove the increase in the monetary value of support, while lower budgetary payments drove a decline in the value of monetary support in Chile. In Colombia, lower budgetary payments more than offset an increase in MPS, resulting in an overall decline in the monetary value of support.

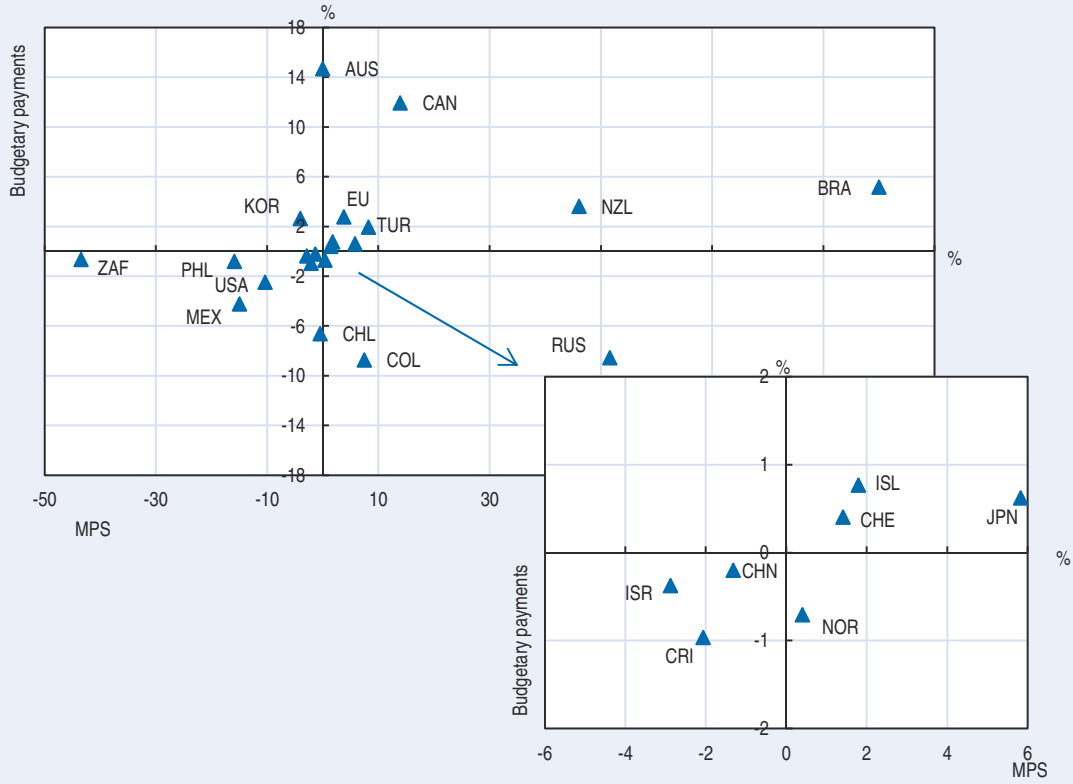
Box 1.4. **What drove changes in the monetary value of support in 2016?**

Figure 1.8 shows the contributions of market price support (MPS, horizontal axis) and budgetary payments (BP, vertical axis) to the annual change in the monetary value of support to farmers (PSE, expressed in local currencies) between 2015 and 2016. Country points farther from the vertical axis indicate a higher contribution of changes in MPS to the change in PSE. Points farther from the horizontal axis indicate a higher contribution of budgetary payments. As an example, the point for Colombia indicates that changes in MPS increased the monetary value of Colombia's PSE by over 7% between 2015 and 2016, while changes in budgetary payments decreased the monetary value of Colombia's PSE by almost 9%, resulting in an overall decrease in Colombia's PSE of 1.3% in Colombian Pesos.

Changes in the monetary value of support to farmers in 2016 were driven both by changes in MPS and by changes in budgetary payments, although in almost all countries, changes in MPS were more important. In Mexico, the United States, and Ukraine, lower MPS and budgetary payments drove a decline in the monetary value of support, although changes in MPS were dominant. In South Africa and the Philippines, lower MPS drove a decline in the monetary value of support.

Box 1.4. **What drove changes in the monetary value of support in 2016?** *(cont.)*

Figure 1.8. **Contribution of MPS and budgetary payments to the change in the Producer Support Estimate, 2015 to 2016**



Note: Data for Indonesia are not available. Kazakhstan, Ukraine and Viet Nam not shown due to negative MPS data.
Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink http://dx.doi.org/10.1787/888933506531

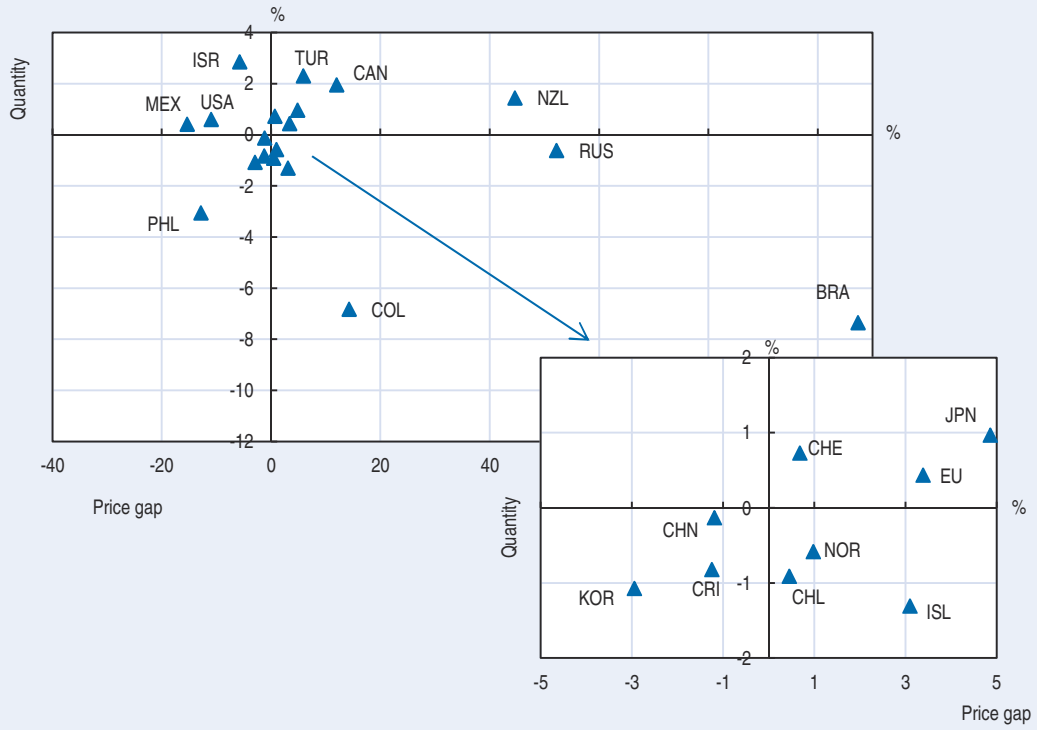
Higher MPS drove increases in the monetary value of support in New Zealand,[1] Japan, Turkey and Brazil (with higher budgetary payments also contributing, but to a lesser extent). In Brazil, higher MPS increased the monetary value of support by 100%. In the Russian Federation, higher MPS more than offset a decline in budgetary payments. Higher MPS and budgetary payments were equally important in driving increases in the monetary value of support in both Canada and the European Union, albeit at different magnitudes.

Figure 1.9 further disaggregates the change in MPS into its two components: the gap between domestic and border prices (horizontal axis) and the quantities of production which receive support (vertical axis). In general, changes in MPS were driven by changes in price gaps, with changes in production quantities playing a more minor role. Larger price gaps drove higher MPS in Canada, the European Union and New Zealand. In Canada, for example, lower border prices for eggs and poultry drove a significant increase in the price gap, increasing MPS. Larger price gaps also drove higher MPS in Brazil, the Russian Federation and Colombia, more than offsetting the effects of lower production.

Narrower price gaps drove lower MPS in Mexico, the Philippines, the United States and South Africa. In the United States, the reduction in MPS was driven by lower producer prices for beef and milk, and higher border price for sugar. In Mexico and the Philippines the change in MPS varied by commodity. Higher border prices for sugar contributed to a narrower price gap on average in both countries. In Mexico, a higher border price for milk was also important in reducing the price gap.

Box 1.4. **What drove changes in the monetary value of support in 2016?** *(cont.)*

Figure 1.9. **Contribution of price gaps and output quantities to the change in PSE, 2015 to 2016**



Note: Data for Indonesia are not available. Kazakhstan, Ukraine and Viet Nam not shown due to negative MPS data.
Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

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In addition, almost all national currencies lost value against the US dollar in 2016. Given price changes on world markets are expressed in US dollars, a stronger devaluation against the USD results in higher border prices, reducing a positive price gap. In contrast, the Japanese Yen appreciated against the US dollar, contributing to a larger average price gap.

1. In New Zealand, price support is measured only for poultry and eggs and is due to non-tariff protection applied on SPS grounds.

In most countries, the majority of support continues to be provided through measures with the highest distortive potential

The way in which countries provide support to farmers is arguably as important as the overall level of that support. Governments have a large portfolio of measures at their disposal: they can raise domestic prices by limiting imports through tariffs or other border measures; they can provide subsidies to reduce farmers' input costs; or they can provide payments to farmers on the basis of farm output, area, animal numbers, or as a top-up to farmers' income. Payments may be conditional on specific production practices, for example, to achieve environmental protection objectives.

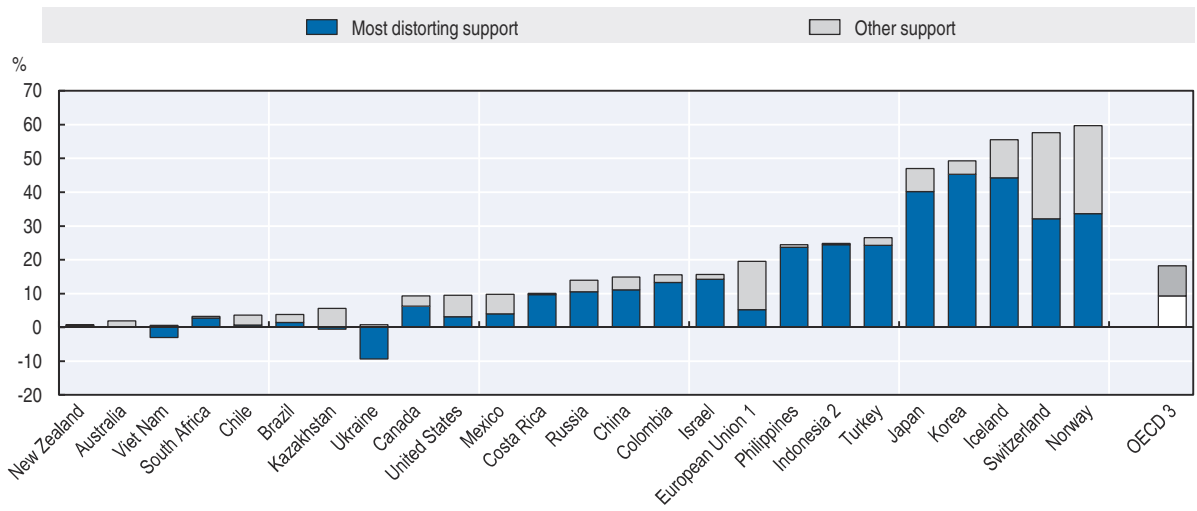
These distinctions are important. The measures listed above will affect agricultural production, incomes and trade differently. For example, MPS can have significant negative

impacts on world markets and distort price signals faced by farmers, reducing incentives to improve efficiency in agricultural production. The trade impacts of agricultural support policies are discussed further in Box 1.6 in the following section. Some measures may target specific policy objectives or beneficiaries more effectively than others. For example, payments per hectare, per animal or based on farm incomes can be targeted to specific locations or groups of farms, and tailored to specific policy objectives. These considerations highlight the need for a more detailed analysis of the measures through which producer support is provided.

Most countries provide the majority of producer support through measures that have been found to be potentially most distorting for production and trade (Figure 1.10). OECD analysis has shown that MPS, payments based on output, and payments based on unconstrained variable input use have a significantly higher potential to distort agricultural production and trade than payments based on other criteria (OECD, 2001). Depending on the exact policy design, this type of support tends to have negative impacts on the environment as it gives additional incentives to expand and intensify land use. On average for the countries covered in this report, this corresponds to more than two-thirds of the support provided to farmers in 2014-16. On the other hand, a larger share of producer support is provided through less-distorting forms of support in Australia, Brazil, Chile, Mexico, the European Union, and the United States.

Figure 1.10. **Composition of the Producer Support Estimate by country, 2014-16**

Percentage of gross farm receipts



1. EU28.
2. For Indonesia, 2014-16 is replaced by 2013-15.
3. The OECD total does not include the non-OECD EU member states.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink http://dx.doi.org/10.1787/888933506569

In many OECD countries – as well as in most emerging economies – MPS makes up the largest part of support to producers (PSE), including in some countries with very low levels of support. MPS allows policy makers to support producers without burdening the public budget, as support to farmers is paid by consumers of protected products. Moreover,

importing countries often generate some of their public revenues from import tariffs on agricultural commodities. But market price support does not allow policy makers to discriminate between beneficiaries or target non-farm income objectives. Moreover, the income transfer efficiency of border protection is low, limiting its effectiveness as a measure for raising farm incomes (OECD, 2003).

MPS also makes up the largest share of support that is linked to individual commodities, measured by the producer Single Commodity Transfers (SCT) indicator. Significant differences in SCTs across commodities – due, in large part, to MPS – can impede adjustment in the agricultural sector and efficient resource use. Trends in support tied to individual commodities vary across commodities and, for most commodities, reflect changes in MPS. These trends are discussed in more detail in the following section on ***developments in approaches to support and policies***.

For the OECD as a whole, MPS was around 45% of the PSE in 2014-16. MPS is at least 80% of the PSE in Israel, Japan and Turkey, and more than 90% of the PSE in Korea. MPS also represents a significant component of support in Costa Rica, Indonesia and the Philippines, where it accounts for more than 90% of the PSE. In contrast, MPS is negative in Viet Nam and Ukraine, as producers of some commodities receive prices below those on world markets.

Regarding the other measures that are potentially most distorting for agricultural production and trade, payments based on output are important in Iceland (25% of the PSE in 2014-16) and between 4% and 7% of the PSE in in Brazil, Switzerland, Japan, Norway, the Russian Federation and Turkey. Support for variable inputs without constraints is important in Mexico (19% of the PSE in 2014-16), the Russian Federation (8%), Indonesia (7%) and the European Union (6%), where it is mostly used by member states.

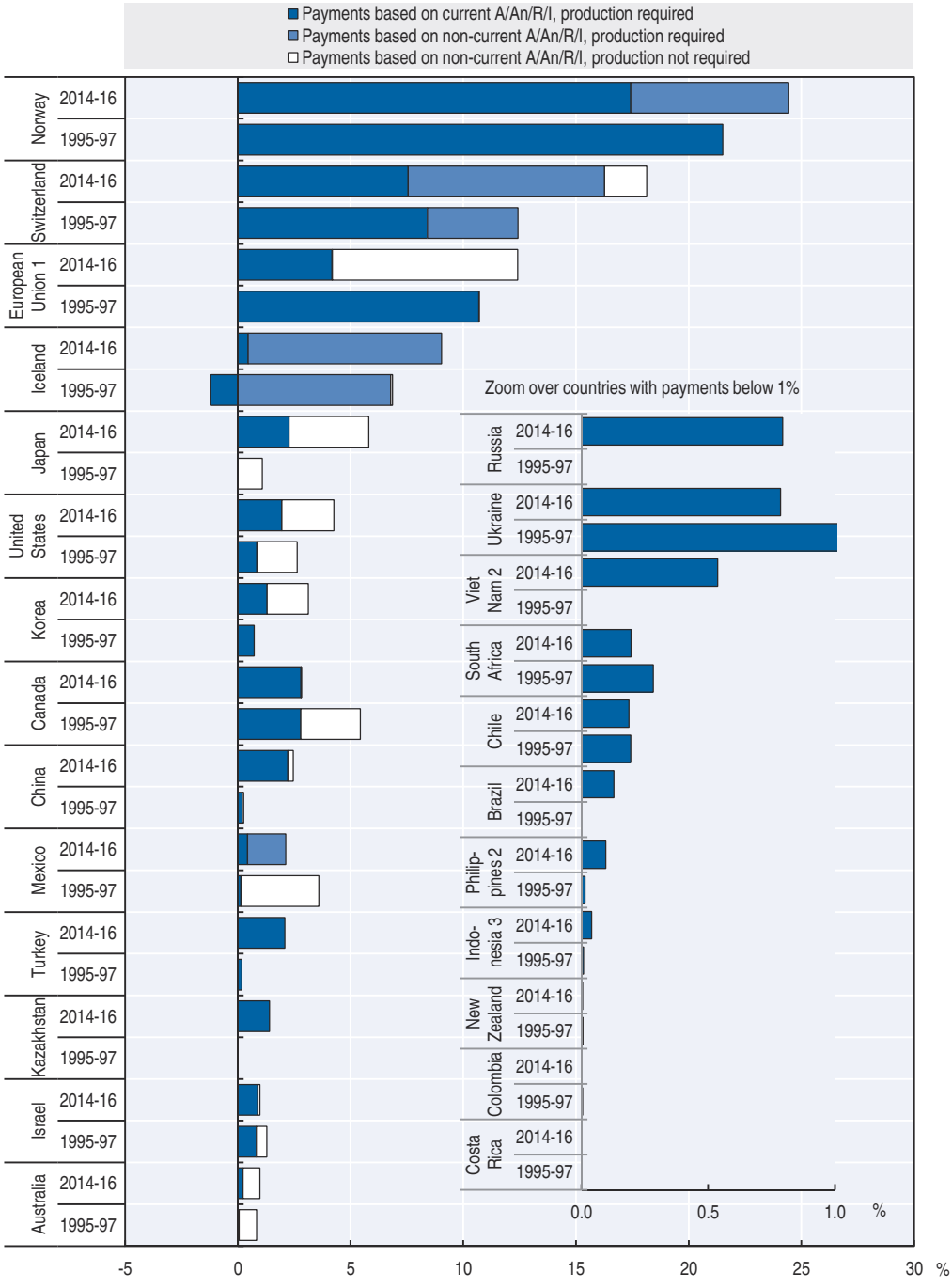
Less distorting forms of support include two broad categories of (tax-financed) payments. First, payments based on other inputs or on variable inputs with constraints are important in a number of countries. Such payments account for more than 70% of producer support in Chile, and more than 60% in Brazil, and also a significant share of producer support in Australia (44%) and Mexico (38%).

Second, payments based on area, animal numbers, farm receipts or farm income are major instruments in the European Union (64% of the PSE in 2014-16), the United States (45% of the PSE), Norway (41%), Australia (52%) and Switzerland (31%), among other countries. The share of these payments in gross farm receipts is increasing in most countries (Figure 1.11). However, they are predominantly a measure used by OECD countries. In China and Kazakhstan, they represented 2.5% and 1.4% of gross farm receipts in 2014-16, and less than 1% in other emerging economies.

There is also a trend towards payments which are less coupled with production decisions (Figure 1.11). Increasingly, payments are provided on the basis of historical criteria, partly without the need for recipient farmers to produce. In Norway, the European Union, Iceland and Switzerland, such payments accounted for between 7% and 11% of the gross farm receipts in 2014-16. In the European Union, payments based on current area, animal numbers, farm receipts or incomes have been cut by almost two-thirds in favour of direct payments based on non-current criteria without production requirements. Similar programmes also exist in Australia, Japan, Korea and the United States, among others.

Figure 1.11. **Composition of payments based on area, animal numbers, receipts and income by country, 1995-97 and 2014-16**

Percentage of gross farm receipts



Notes: The countries are ranked according to the 2014-16 levels.

1. EU15 for 1995-97 and EU28 from 2014.
2. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.
3. For Indonesia, 2014-16 is replaced by 2013-15.

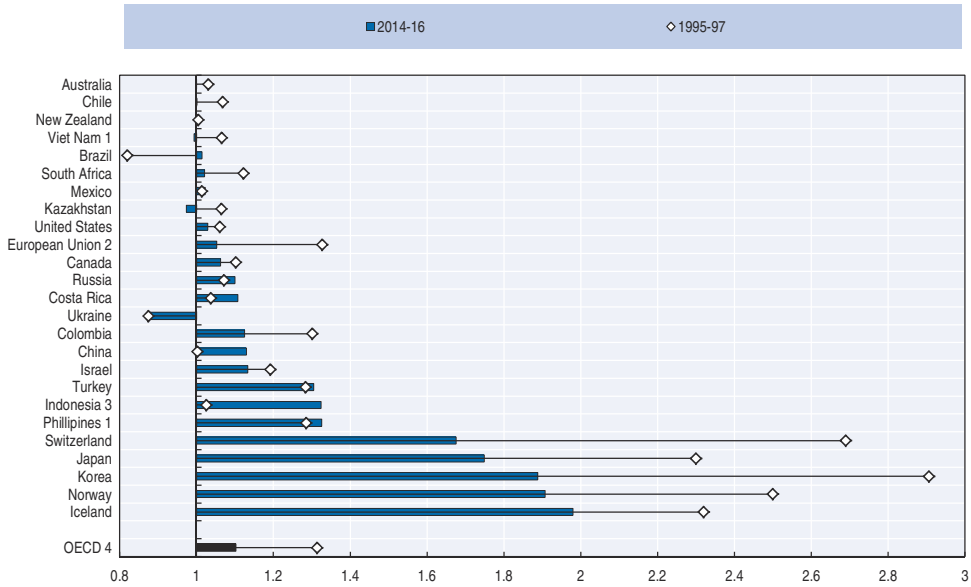
Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink http://dx.doi.org/10.1787/888933506588

The level of price distortions is generally falling, although there are large gaps between domestic and world prices in some countries

Prices received by producers are more closely aligned with those prevailing on world markets, as countries provide a larger share of support through less distorting measures. The Nominal Protection Coefficient (NPC) in Figure 1.12 compares prices received by producers with world market prices. In a number of countries, that gap between domestic and world market prices has narrowed considerably, meaning that market signals are becoming more important for producers' decisions. For the OECD countries, effective producer prices were, on average, 10% higher than world market prices in 2014-16, compared with around 30% higher in the mid-1990s. Countries that have made substantial progress in aligning prices include Colombia, the European Union, Israel and South Africa.

Figure 1.12. **Producer Nominal Protection Coefficient, by country, 1995-97 and 2014-16**



Notes: Countries are ranked according to the distance of 2014-16 NPC levels to a neutral NPC of 1.

1. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.
2. EU15 for 1995-97 and EU28 from 2014.
3. For Indonesia, 2014-16 is replaced by 2013-15.
4. The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for both periods and in the EU for 2014-16. Latvia is included in the OECD and in the EU only for 2014-16.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink *http://dx.doi.org/10.1787/888933506607*

As with other indicators of producer support, there are significant differences between countries. Effective prices received by producers are closely aligned with international levels only in Australia, Brazil, Chile and New Zealand. Effective producer prices are less than 3% above world market prices in Mexico, South Africa and the United States. In almost all other countries, effective prices received by producers are, on average, higher than world prices. Effective producer prices are more than 30% higher than world prices in Indonesia, the Philippines and Turkey. Effective producer prices in Iceland, Japan, Korea, Norway and Switzerland are 70% to 100% higher than world prices, suggesting that producer support

continues to play an important role in guiding producers' decisions. Nevertheless, gaps between domestic and world price have narrowed in those countries.

A number of emerging and developing economies have increased their price support, widening the gap between domestic and world market prices. Effective producer prices in China and Indonesia were close to world price levels in mid-1990s. In 2014-16 effective producer prices were, on average, 23% higher than world market prices in China, and 32% higher in Indonesia. Costa Rica, the Philippines and the Russian Federation also increased their price support between 1995-97 and 2014-16. In Brazil, prices received by farmers have increased since 1995-97, bringing them into alignment with world prices. There are exceptions, most notably Ukraine, where effective producer prices were 12% lower than their international benchmarks in 2014-16.

The NPC in Figure 1.12 compares prices received by countries' producers *on average* with those prevailing on world markets. In many countries, the commodity mix includes commodities where effective producer prices are closely aligned with world market prices and commodities where effective producer prices are higher (or lower) than world market prices. The implications of different rates of support are explored further in the following section.

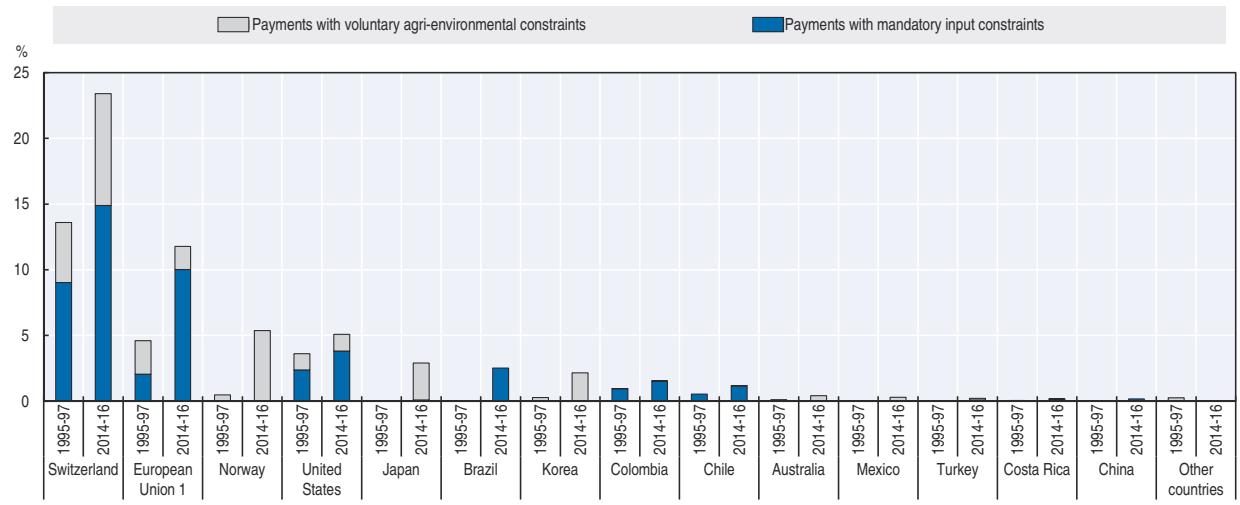
Payments are increasingly tied to specific production practice, reflecting the importance of non-farm income objectives

In some countries, payments are increasingly used to encourage producers to adopt specific production practices that may improve the environmental performance of farming or animal welfare. Input subsidies may be subject to mandatory constraints on their use, or receipt of payments may be conditional on the adoption of specific production practices. Payments may also be linked to agri-environmental constraints or to programmes to which farmers can opt-in on a voluntary basis. The number of countries using these approaches and the levels of these payments has increased in recent decades, reflecting the growing importance of non-farm income objectives that reflect societal concerns and the expectation that agriculture will provide various public goods, such as the maintenance of agricultural landscapes and biodiversity.

Payments linked to mandatory production practices have become more important in Chile, the European Union (Box 1.5), Switzerland and the United States (Figure 1.13). In these countries, up to half of the total support to farmers is provided in the form of direct payments that are subject to "cross-compliance" with environmental conditions. Some support to fixed capital formation is also tied to investments in facilities for environmental and animal welfare friendly production. This form of support has become more important for farmers as well, including in countries with high levels of support overall. Almost 15% of gross farm receipts derive from such conditional payments in Switzerland, and 10% in the European Union. Brazil has made all its credit and insurance programmes subject to complying with an elaborate zoning scheme which determines planting times based on weather, soil and crop cycle related criteria; today these programmes make up over two-thirds of Brazil's support to farmers. Payments linked to voluntary agri-environmental constraints and programmes are increasingly used in Japan, Korea, Norway and Switzerland. Other countries also use these types of payments to promote environmental objectives, including Australia, the European Union and the United States.

Figure 1.13. **Support conditional on the adoption of specific production practices, 1995-97 and 2014-16**

Percentage of gross farm receipts



Notes: Countries are ranked according to 2014-16 levels.

1. EU15 for 1995-97 and EU28 from 2014.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). *http://dx.doi.org/10.1787/agr-pcse-data-en.*

StatLink *http://dx.doi.org/10.1787/888933506626*

Box 1.5. **Greening of the EU CAP**

Over time, the EU Common Agricultural Policy (CAP) has developed a range of support measures that address environmental issues in agriculture. Since 2005, most direct payments – the Basic Payment Scheme (BPS), Single Area Payment Scheme (SAPS) and other direct payments under pillar 1 – and some Rural Development Programme (RDP) payments (pillar 2) are conditional on meeting Statutory Management Requirements (SMR) and standards for Good Agricultural and Environmental Conditions (GAEC), also known as cross-compliance.[1] Also, some RDP payments are provided as compensation to farmers who meet more stringent conditions that go beyond the SMR and GAEC standards. These include the agri-environmental payments and organic farming payments. Payments under the Natura 2000 and Water Framework directive are also associated with compulsory environmental requirements. As discussed in the previous section, the share of producer support subject to mandatory constraints (cross-compliance) or provided as compensation for meeting additional costs of voluntary environmental constraints has grown.

The CAP 2014-20 introduced a new *Greening* payment that makes 30% of the direct payments budget envelope conditional on adhering to specific farming practices on top of what is required by the existing cross compliance conditions. To receive the Greening payments, farmers must comply with requirements for managing a share of their arable land as Ecological Focus Areas (EFA); Crop diversification; and member states must maintain the ratio of permanent grassland to total area (see EC Regulation 1307/2013). Member states may designate environmentally sensitive permanent grassland areas where stricter conditions apply. In addition, under CAP 2014-20, at least 30% of RDP expenditure should go to environment and climate related measures in agriculture and forestry. These include agri-environmental measures, which were broadened to include climate; organic farming payments (similar to the measures under CAP 2007-13); and the Natura 2000 and Water Framework directive.

Recent analysis by the OECD suggests that the environmental components in CAP 2014-20 may have a positive, if limited, impact on environmental outcomes (taking into account outcomes achieved by existing environmental measures). The analysis notes the positive outcomes and identifies a number of limitations and trade-offs which need to be assessed and addressed.

Box 1.5. **Greening of the EU CAP** *(cont.)*

- The EFA condition under Greening is expected to have a positive impact by increasing land set aside. However, this could increase intensive practices (within permitted limits) on remaining productive land. Furthermore, the specific conditions to qualify for the payment require a change in farming practices only in few areas, compared to existing cross-compliance requirements. Most EU farmers have already met the crop diversification requirement.
- The agri-environmental and climate measures are a direct continuation of the former agri-environmental payments. They are likely to yield environmental benefits at a local level to the extent that they improve targeting and the local relevance of member states' expenditure, in particular if member states choose to decentralise implementation to a regional level.
- Some pillar 1 support measures may be inconsistent with the agri-environmental objectives of CAP 2014-20. For example, agri-environmental policies use a voluntary approach to enhance the environmental performance of the farming sector. However, through its pillar 1 support measures the CAP also provides incentives to produce. These may, in turn, increase pressure on natural resources.

The analysis also makes a number of recommendations to further enhance the environmental benefits of the environmental components in CAP 2014-20.

- The specific conditions for the *Greening* payment aim to encourage certain practices that are deemed to be environmentally beneficial. An alternative design would directly target environmental outcomes at the farm level. While measuring environmental outcomes at the farm level is difficult and should not be underestimated, improved access to technology may offer a viable solution in the future.
- Environmental effects of greening measures will depend on the specific implementation in each member state. The positive effects of greening conditions would be enhanced by monitoring the correct implementation of greening requirements and providing advisory services to farmers to adapt choices to the local environmental conditions.
- A comprehensive review of all measures affecting environmental performance of the farming sector in the European Union, together with an assessment of local environmental conditions, would help ensure policy coherence of pillar 1 support measures and voluntary agri-environmental support measures under pillar 2.

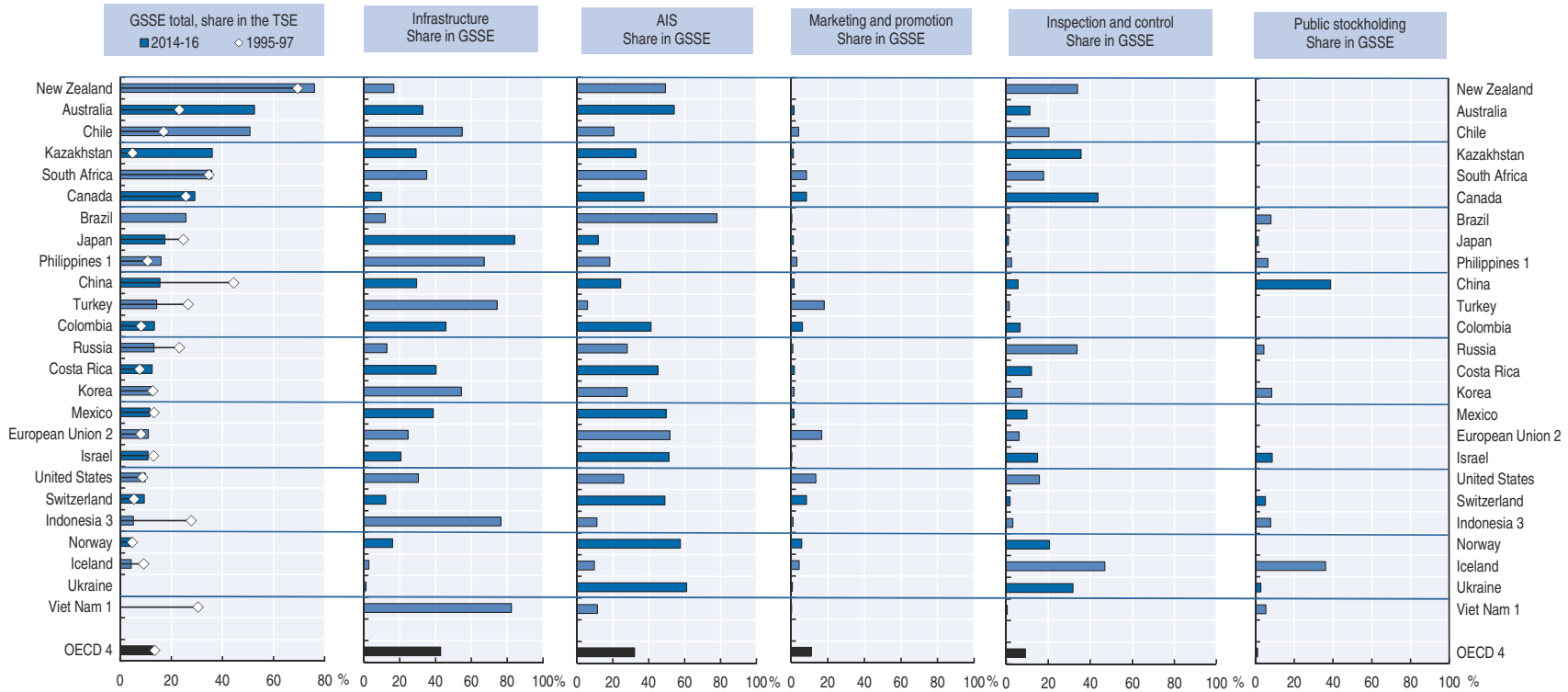
1. Cross compliance – pillar 2 background – *https://marswiki.jrc.ec.europa.eu/wikicap/index.php/Cross_Compliance*.
Source: OECD (forthcoming), *Evaluation of the EU Common Agricultural Policy CAP 2014-20*.

Support to general services varies significantly across countries in both importance and priorities

Beyond support provided to individual producers, the agricultural sector is also supported through public financing of general services to the sector, measured by the General Services Support Estimate (GSSE). As described previously, on average the GSSE accounts for a much smaller share of total support to agriculture than the PSE, averaging 12% of the TSE in 2014-16 for all countries covered in this report. While this is 4 percentage points lower than in the mid-1990s, the relative decline is almost entirely due to the huge increase in China's PSE.

The relative importance of general services in total support varies across countries. As shown in the first panel of Figure 1.14, Australia, Chile and New Zealand provide most of their support to agriculture through financing sector-wide services, while South Africa provides 36% of total support and Brazil 26%. General services account for a much smaller share of total support in most other countries. In some countries, the share of general services in total

Figure 1.14. **General Services Support Estimate: Share in TSE and composition**



Notes: Countries are ranked according to 2014-16 levels. The residual "miscellaneous" category is not shown. AIS = Agricultural Innovation System.

1. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.
2. EU15 for 1995-97 and EU28 from 2014.
3. For Indonesia, 2014-16 is replaced by 2013-15.
4. The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for both periods and in the EU for 2014-16. Latvia is included in the OECD and in the EU only for 2014-16.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink *http://dx.doi.org/10.1787/888933506645*

support has declined significantly, including in China – from almost 60% in the mid-1990s to 11% in 2014-16 – and Indonesia – from 28% in the mid-1990s to 5% in 2014-16.

Countries also emphasise different elements of general services to the agricultural sector. Investments in agricultural infrastructure are prioritised in a number of countries. More than 75% of expenditure on general services is on infrastructure in Indonesia, Japan, Turkey and Viet Nam, and more than half of general services expenditure in Chile, Korea and the Philippines – often to improve irrigation coverage and quality. The agriculture innovation system (AIS) is prioritised in Australia, Brazil, the European Union, Israel, Mexico, Norway, Switzerland and Ukraine, and plays a key role in many other countries as well. For the OECD countries on average, infrastructure and the AIS accounted for more than three-quarters of all expenditures on general services. Expenditures on inspection and control systems accounted for between 30% and 50% of general services expenditure in Canada, Iceland, Kazakhstan, New Zealand and Ukraine.

Consumers continue to bear most of the costs of producer support in many countries

Producer support also affects consumers of agricultural commodities, namely food processors, livestock producers and final consumers. In many countries, domestic prices are higher than world market prices, increasing costs for consumers. In some countries, other policies may provide compensation for some or all of these additional costs, for example, through budgetary subsidies to food processors or through domestic food assistance programmes. The Consumer Support Estimate (%CSE) expresses the monetary value of the transfers to consumers as a percent of consumption expenditures (measured at the farm gate). When domestic prices are higher than those on the world market, they contribute negatively to the %CSE, indicating an implicit tax imposed on consumers.

Consumers in almost all countries are harmed by agricultural policies, although to different degrees (Figure 1.15). In 2014-16, the tax on consumers – a negative %CSE – ranges from less than one percent in Brazil, Chile and Mexico, to more than 40% in Iceland, Korea, Norway and Switzerland. In all cases, this negative CSE is due to market price support, implying transfers from the consumer to domestic producers and, for importing countries, to taxpayers.

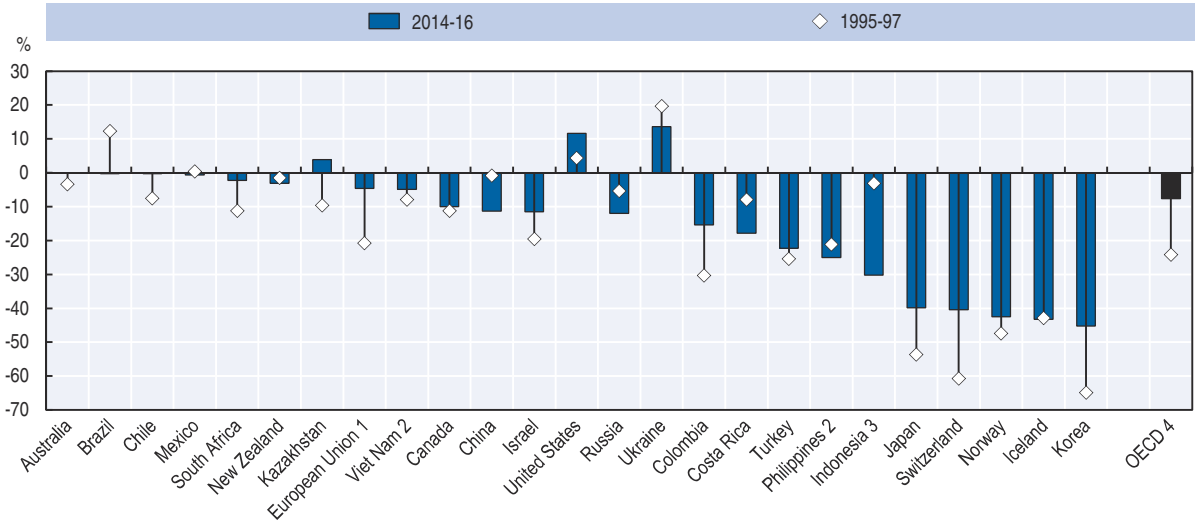
In some countries, increasing use of market price support has increased the implicit taxation of consumers. In China, Costa Rica, Indonesia, the Philippines and the Russian Federation, the %CSE has become more negative in 2014-16 relative to its value in the mid-1990s. This implies an important redistribution, which burdens poor consumers relatively more than rich ones, as the share of food expenditures tends to fall with rising incomes. It also hurts the food processing industry by making it less competitive on international markets. In addition, particularly in developing and emerging economies, small agricultural producers may be net buyers of agricultural products, meaning that support may be ineffective in helping those most in need. At the same time, such support often represents significant distortions to markets and economies.

A minority of countries provide positive net-support to their consumers, specifically Ukraine (%CSE of 14% in 2014-16), the United States (12%) and, to a lesser extent, Kazakhstan (4%). However, they do so in very different ways. In Ukraine, domestic market prices are, on average, well below prices on world markets, which benefits consumers at the expense of agricultural producers. In contrast, the United States has significant domestic food assistance programmes for specific groups of the population, more than offsetting the

somewhat higher domestic prices. The %CSE has almost tripled since the mid-1990s, as a result of declining market price support and the expansion of the nutrition programmes, making it the highest consumer support among the countries covered in this report, whether in value terms, relative to consumer expenditures or as a share of the Total Support Estimate.

Figure 1.15. **Consumer Support Estimate by country, 1995-97 and 2014-16**

Percentage of consumption expenditure at the farm gate



Notes: Countries are ranked according to absolute values of the 2014-16 levels. A negative percentage CSE is an implicit tax on consumption.

1. EU15 for 1995-97 and EU28 from 2014.
2. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.
3. For Indonesia, 2014-16 is replaced by 2013-15.
4. The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for both periods and in the EU for 2014-16. Latvia is included in the OECD and in the EU only for 2014-16.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink *http://dx.doi.org/10.1787/888933506664*

Developments in approaches to support and policies

The development of the PSE and the monitoring publication (Box 1.1) has, over time, helped provide transparency and comparability about the way OECD governments provided support to their agriculture sectors, and in particular, to provide a better means to understand the impacts of these policies on world agro-food trade. Importantly, the development of the indicators and the framework used helped to improve the information available to negotiators in formulating the Uruguay round of the General Agreement on Tariffs and Trade (GATT) that led to the Agreement on Agriculture (AoA).

Since the first monitoring report, much has changed for some countries in the way they support their agricultural sectors, but there has also been a degree of inertia in others, and for some, rising levels of support. Part of this is because multilateral pressure for reform has lessened with the implementation of the commitments under the AoA being completed in 2000. With a new and yet unfinished round of negotiations having commenced in Doha in 2001, using the PSE to explore changes in support and the policies that underpin these can provide useful information to policy makers reflecting on new approaches to agricultural trade reform. Furthermore, in 2016 the OECD Agriculture Ministerial, saw Ministers and

Representatives from 47 countries, including all OECD member countries, and the European Union recognise the need for policy efforts to realign international and domestic policies with emerging needs. Given this context, for this years' report, policy developments since the latest round began (2000), related to one relevant aspect – single commodity support – are explored in detail to complement the description of the current nature and level of support provided to agriculture by the countries covered in this report.

Attention is given to single commodity support due to the distortive nature of this type of support – both within an economy in terms of the production mix and in terms of its impact on international trade. A focus is placed on the composition of single commodity support and the transitions that a number of countries have undertaken in reducing their reliance on measures considered most trade distorting (those related to market price support, along with output and input subsidies – Box 1.6). To explore the transition pathways and changes in the approaches to support more transparently, single commodity support is explored is real absolute dollar terms rather than relative to the total gross farm receipts for those commodities across all countries examined.

Box 1.6. **Distribution of trade impacts of agricultural support policies**

The PSE provides information on transfers from consumers and taxpayers to agricultural producers, but it does not provide an indication of the impact these transfers have on countries' trade and therefore on international markets. The Policy Evaluation Model (PEM) can be used to fill this gap: the model provides a means to estimate the trade-impact of various policies by simulating alternative policy mixes resulting in the same trade outcomes. The trade-impact ratio of policy support compares the transfers provided through a given policy measure to the monetary value of market price support (MPS) that would generate the same trade effect. A trade-impact ratio greater (smaller) than 1 suggests that a measure has a stronger (weaker) trade effect than MPS. Previous analyses have shown that the trade impact of support for variable inputs where no limits are placed on their use is greater than that of MPS (a trade-impact ratio greater than 1) while the trade impact of other measures tends to be smaller, ranging from a few percent of the trade impact of MPS in the case of non-current area payments to close to the trade impact of MPS in the case of output payments.

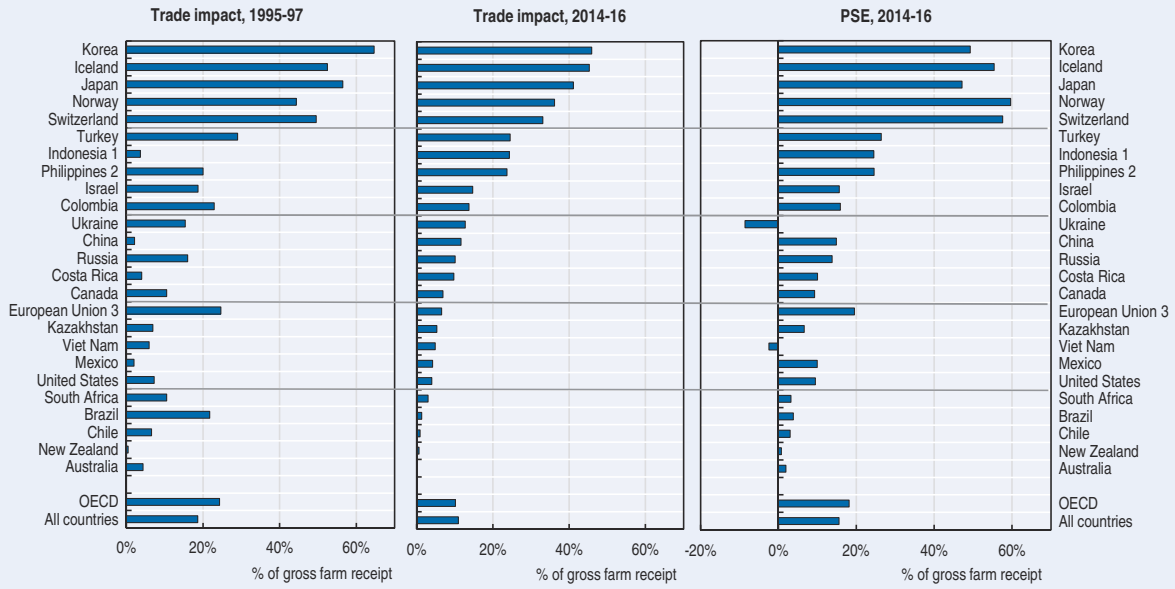
This box uses the trade-impact ratios for individual forms of support, provided by PEM, to calculate the trade-impact indices. These indices represent the level of MPS that would generate the same trade effect as a country's entire policy package. This allows comparing the trade impact of the policy packages across countries and time. The method used in this box thereby updates and extends previous PEM applications, including Martini (2011). It does so by extrapolating PEM results, available only for a limited set of jurisdictions and commodities, to all countries and products covered by this report based on the level and type of support provided in existing policy mixes.[1]

Figure 1.16 presents the resulting trade-impact indices relative to countries' gross farm receipts. This provides a relative indicator of the trade-impact potential of countries' support package which can be compared to the level of transfers to agricultural producers as measured by the %PSE.[2, 3]

As Figure 1.16 shows, the relative trade impact of countries' policy packages is broadly similar to the distribution of the %PSE. Across all countries with the exception of Ukraine and Viet Nam which provided negative support, the trade impact shown is below the %PSE, although differences strongly depend on the country policy mix. Due to the different trade-impact ratios of different policy measures, countries with a higher share of input subsidies, MPS and output payments, such as Korea, Iceland and Japan, range above those with larger shares of other forms of support such as Switzerland and Norway, despite their similar %PSE levels.

Box 1.6. **Distribution of trade impacts of agricultural support policies** *(cont.)*

Figure 1.16. **Trade-impact indices as a percentage of gross farm receipts, 1995-97 and 2014-16, and percentage PSE 2014-16**



1. For Indonesia, 2014-16 is replaced by 2013-15.
2. For the Philippines and for Viet Nam, 1995-97 is replaced by 2000-02.
3. EU15 for 1995-97 and EU28 from 2014.

StatLink http://dx.doi.org/10.1787/888933506683

Countries' contributions to total trade impact of producer support covered in this report depend on the relative trade impact of their policies as well as on their share of their overall agricultural production. As a consequence, large agricultural producers, such as China, the European Union and the United States, have a much greater weight in the global system than smaller producers.

The above results show that in order to reduce trade distortions on agricultural markets, both a reduction in support levels and a restructuring of support in favour of measures with lower trade impacts remain important, even if the trade impact of all policies covered in this report has almost halved over the past two decades. During this period, both the reduction and restructuring of support have contributed to substantially less distorted markets, a development that goes well beyond the reduction in support levels overall.

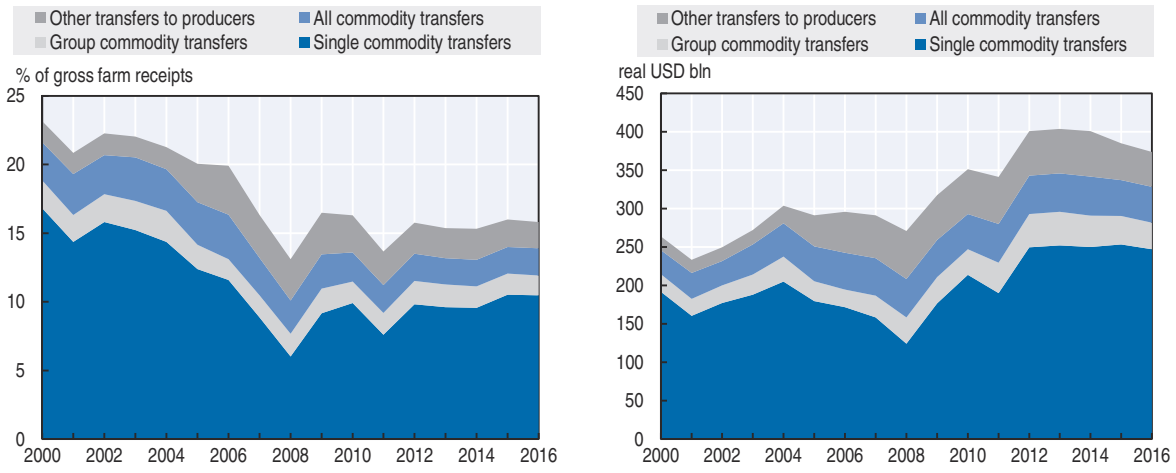
1. Ratios representing the trade impacts of policy instruments relative to MPS obtained from PEM are calculated for two periods (1995-97 and 2013-15) and averaged across countries. For instance, in the three years 1995-97 data on area payments applied in Canada, Switzerland and the EU were found to have a trade effect of between 11.8% and 23.7% across countries and years. This results in an average of 19.3% for that period, similar to that of the 2013-15 period at 17.0%. The resulting ratios are then applied to the support data for all countries in the PSE database associated with this report, reported for 1995-97 and 2014-16, respectively.
2. These percentages are thus calculated in a manner similar to the %PSE, but the interpretation here is related to the policy impact rather than the measurement of transfers. Alternatively, one could use the market revenues to scale the trade-impact MPS-equivalent support volumes. This has been done in earlier reports using the PEM results, including Martini (2011) who expressed the trade impact index as an ad valorem ratio of [(market revenues at world prices + trade-impact MPS-equivalent support)/(market revenues at world prices)]. While this approach gives an indicator comparable to the nominal protection coefficient NPC and the nominal assistance coefficient NAC, the approach taken here provides an indicator directly comparable to the %PSE.
3. For assessing the trade impact of policy packages, the MPS is counted by its absolute values, i.e. a negative MPS as applied in a small number of countries is considered as trade distorting as a positive MPS of the same magnitude. Note also that policies not covered by PEM, such as support for on-farm services, are assigned an (arbitrary) trade impact index of zero. As a consequence, trade-impact indices are likely to be underestimated. However, as most of these policies are unlikely to have a strong trade impact, and as they represent only a minor share of countries' PSE, the degree of underestimation is probably quite small.

Changes in the single commodity focus of support

Support targeting individual agricultural commodities – or single commodity transfers (SCT) – represents the largest component of support to farmers (PSE). In 2016, on average close to 62% of the PSE has been made up of support targeted to individual commodities. While this share has fallen since 2000, when it stood at 73%, the fall has been uneven. Between 2000 and 2008 (the height of the food price spike), SCT fell from 73% to 46% of total PSE support, but subsequently rose to 62% in 2016. The falls and subsequent rise relate primarily to the rise and fall in international prices, suggesting that in aggregate, the policies directed at isolating domestic markets from international prices for individual commodities have not changed significantly over the period. Specifically, market price support represents the largest share of SCT (on average, close to 90% of SCT between 2000 and 2016 – Figure 1.17) with its value usually dependent on world prices. The persistence of the policy mix is supported by the slowdown in the fall of applied agro-food tariffs of the period since the food price spikes.

Figure 1.17. **Absolute and relative single commodity support, all countries**

Percentage of gross farm receipts and real USD



Note: Absolute dollar values are expressed in real 2000 USD using the United States GDP deflator.

Source: OECD (2017), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

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A contributing element in some of the estimates of market price support is that created by non-tariff measures, or more specifically, when these create trade barriers. Within the PSE database, the impact of non-tariff barriers in principle is included alongside those of more formal trade barriers such as tariffs. However, where formal trade barriers are not in place, the effect of non-tariff measures is generally not captured (with the exception of New Zealand). A number of non-tariff measures form an important part of the regulatory landscape that helps to underpin trade in goods and services, through facilitating confidence in markets and ensuring human, plant and animal safety. However, such measures can be applied in a manner that make them barriers – such as quantitative restrictions or when they are either incorrectly applied (for example, where sanitary and phyto-sanitary rules are applied where there is no scientific basis for doing so) or if they impose unnecessary compliance costs (Box 1.7). Estimates of the price effects of non-tariff measures are significant, and for agriculture and food sectors are often in excess of applied tariffs. If these represent barriers, they will confer market price support to producers, some of which may not be captured within the PSE if these are used in isolation.

Box 1.7. **Non-tariff measures and regulatory requirements: Between tackling market failures and avoiding unnecessary trade costs**

Border and regulatory measures outside those explicitly captured in the PSE can have significant implications for both domestic markets and for trade. In particular, non-tariff measures (NTMs) can influence domestic prices in a similar manner to tariffs, and have the potential to confer market price support to producers. This box provides a brief overview of NTMs, the measurement of their effects on markets and trade, and options for reducing potentially unnecessary trade costs arising from them.

NTMs comprise all policy measures other than tariffs and tariff-rate quotas that have a more or less direct incidence on international trade as they affect the price of traded products, the quantity traded, or both. Most importantly, domestic regulations may prescribe specific requirements for products to be sold on a given market. Generally, such measures aim to overcome or reduce the impacts of perceived market imperfections, such as those related to negative externalities, risks for human, animal or plant health, or information asymmetries (van Tongeren et al., 2009). Such regulations help to pursue important societal objectives and may therefore be welfare enhancing. However, they also tend to increase production costs and may affect, positively or negatively, the development of new technologies or production methods. In the context of agro-food trade, sanitary and phyto-sanitary (SPS) measures are of greatest relevance, but technical barriers to trade (TBT) are also important.

SPS and other non-tariff measures can become non-tariff barriers if they are explicitly introduced as a masked way to reduce or stop imports from certain exporting countries, or if they impose unnecessary costs and compliance burdens. Regulations may have adverse effects on imports particularly if they differ from those applied in the exporting country, as foreign suppliers wishing to export to regulated markets generally face additional trade costs. These may be related to identifying and processing the information on relevant requirements in the target market (information costs), the need for adjusting the product or production process to the requirements of the importing country (specification costs), to verifying and proving that these requirements are actually met (conformity assessment costs), or a combination of the three. For instance, an exporter wishing to sell a crop product to a country with particularly stringent maximum residue levels (MRLs) for certain pesticides, other more expensive pesticides may have to be used in the production process to avoid residue traces. Due to the additional costs, the higher product price may deter consumers, or the supplier may not be able to provide the product to the destination market at all. Both the reduced supply and higher prices in the import market come at a cost, possibly offsetting or even outweighing the positive effects of reduced market failures. Such trade costs may thus have trade effects similar to those of tariffs and are often estimated as tariff equivalents or ad-valorem equivalents (AVEs) to indicate their trade impeding effects – with estimates suggesting that the AVE of NTMs is around three-times larger on average than that of tariffs. Unlike tariffs, however, an abolition of such measures generally is not optimal due to the correction of market failures they pursue.

There are various ways to quantify and measure the effects of non-tariff measures. As referred in Chen and Novy (2012) a commonly used approach to estimate impact of NTMs involves collecting observable data on the incidence of NTMs and then econometrically estimating their effect on either price-gaps or the quantity of trade flows across countries. Using these approaches, the impact on trade has been found to depend on the sector examined, level of development, types of firms involved in production and trade and levels of trade. For example, Otsuki et al. (2001) found negative effect of EU standards on aflatoxin on African food exports. Wilson and Otsuki (2004) found a negative effect of EU standards on chlorpyrifos on Latin America, Asia and Africa exports of bananas to OECD and Chen et al. (2008) found a negative effect of regulation on pesticides on Chinese exports of vegetables and fish. Similarly, Wei et al. (2012) found negative effects of maximum residual limits on tea export with Melo et al. (2014) finding that increased stringency of SPS decreased export volumes of fresh fruits. Some studies found differing effects of the same requirements between developed and developing countries. For example, Anders and Caswell (2009) found a negative effect of SPS measures in seafood for developing but positive for developed countries. Others, such as Schlueter et al. (2009), found

Box 1.7. **Non-tariff measures and regulatory requirements: Between tackling market failures and avoiding unnecessary trade costs** *(cont.)*

mixed effects at the product level with some SPS measures increasing trade in meat products, while others restrict trade. In comparison, changes in some product level NTMs where found to have no effect – Xiong and Beghin (2010) found that changes in groundnut maximum residues limits had no influence on trade. Results also differ in their impact on firms, with Crivelli and Groschl (2012) finding that all SPS specific trade concerns have negative impact on probability to export, but positive on value. For consumers, NTMs do not always deliver *net* benefits. A study by van Tongeren et al. (2010) found that less strict regulations on raw milk cheese, shrimp and flowers have the potential to create gains for consumers.

Theoretical work by von Lampe et al. (2016) suggest that to maximise national welfare, regulators should balance the positive effects of specific regulations with the trade costs arising from regulatory differences compared to trade partners. The optimal outcome will strongly depend on the importance of the domestic effects relative to those of trade costs: regulations tackling highly sensitive problems, for example those targeted at protecting human lives and health, are unlikely to be compromised unless trade costs are very large. In contrast, in less sensitive areas (such as labelling requirements) even moderate trade costs may justify modifications. Information about trade partners' regulatory systems and preferences therefore is key in attempts to reduce regulatory differences and their resulting trade costs. Such convergence may be further pursued through direct co-operation between trade partners. Harmonisation of regulations is theoretically optimal only if regulatory preferences and other related conditions are equal across countries. Where systems are similar, the (mutual) recognition of requirements or, more commonly, conformity assessment procedures may allow unnecessary trade costs to be avoided without the need to adjust national regulations.

Most empirical evidence of the impact of harmonisation or mutual recognition on trade has looked at regulations in general rather than specifically at SPS measures. Despite this, this evidence suggests that such processes, if applied to SPS and other agro-food specific regulations, can reduce compliance costs. For example, Moenius (2004) finds that common standards have a positive impact on bilateral trade flows while Reyes (2011) shows that harmonisation increases both the extensive (new trade flows) and intensive margins of trade (increased quantities in existing trade flows). Similarly, Chen and Mattoo (2008) provide evidence in favour of both the trade-creating effect of harmonisation and mutual recognition. Cadot and Gourdon (2016) show that mutual recognition of conformity procedures decreases estimated tariff equivalents of standards by one-fifth; however, Disdier et al. (2014) demonstrate that North-South harmonisation of technical barriers creates or reinforces a hub-and-spoke trade structure potentially detrimental to the integration of Southern countries.

In addition to market price support, SCT is made up of payments that are based on the level of output produced; the use of specific sector inputs; and on the basis of land (or animal count) allocated to the production of a specific commodity. An example of these payments is the **European Union's** Voluntary Coupled Support. These latter transfers are relatively small in terms of their contribution to SCT, and have fallen in relative importance over time. In 2000, these other transfers represented 16% of the total value of SCT. By 2016, this had fallen to 10%. Despite its small share, this type of support is used intensively in some countries.

Producer support is also made up of other categories related to all and group commodity transfers along with other transfers (Figure 1.17). These other forms of support also provide assistance to producers in addition to that captured by the SCT. Indeed, for many countries, support provided for input use is often not commodity specific. In **Indonesia**, for example, fertiliser subsidies are provided which account for around 44% of total budgetary transfers (in 2013-15) and in the **Russian Federation**, a series of concessional credit programmes exist targeting variable input use for a range of agricultural activities.

In absolute terms, the real value of SCT support has risen over time, and most strongly since 2008. However, in relative terms, the SCT as a percentage of gross farm receipts (in all countries for these products) has fallen since 2000 suggesting the intensity of support has also fallen.

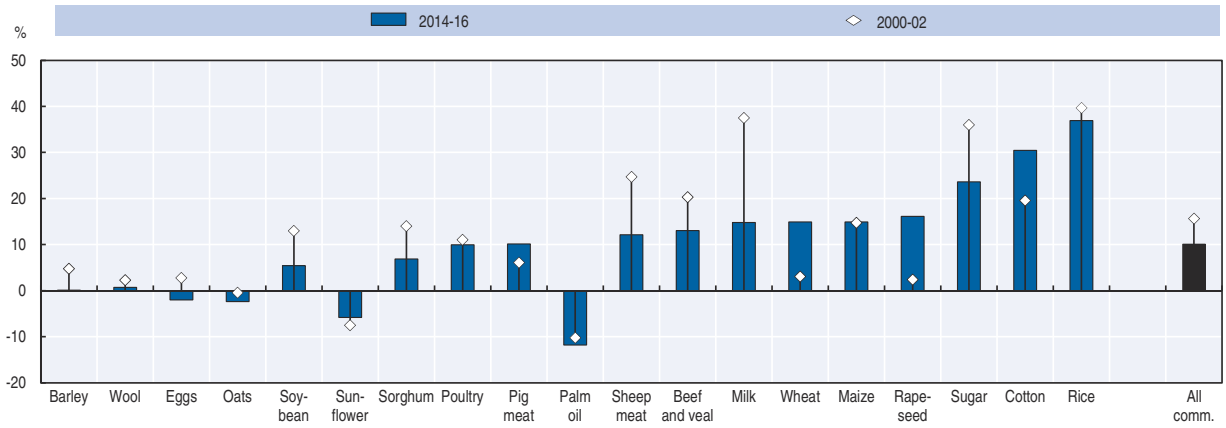
Trends in composition of single commodity support

The use of single commodity support is considered to be one of the most production and trade distorting forms of support. The reason for this is that the measures employed are, by definition, targeted to the production of specific outputs or the use of specific inputs into the targeted sectors and so can create allocative inefficiencies within the sector by biasing production towards certain products at the expense of others.[4] The reasons for targeting specific commodities varies across countries, however, despite the individual nature of support decisions within countries, there appears to be a common set of production activities that attract government support.

Over the period 2014-16, rice, cotton and sugar were the most supported sectors in relative terms – expressed as a percentage of gross farm receipts of these sectors for all countries covered by the PSE (Figure 1.18). For a number of the top supported commodities, relative support levels have trended up over time compared with 2000-02, despite the fall seen in the relative levels of support provided as SCT to all commodities over the same period. Particularly large falls in relative support have been seen in milk and sheep meat sectors.

Figure 1.18. **Single commodity transfers, all countries, 2000-02 and 2014-16**

Percentage of gross farm receipts for each commodity



Note: Commodities are ranked according to the absolute value of % SCT in 2014-16.
Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink http://dx.doi.org/10.1787/888933506721

In absolute terms, rice, maize, wheat, pig meat, beef and milk attract the highest levels of support. Support to these commodities account for around 59% of total single commodity support between the years 2014-16 and 38% of total producer support measured by the PSE. The relative and absolute support levels show that producer support across the 52 countries included in the Monitoring and Evaluation Report is highly concentrated within a limited set of commodities.

While the aggregate changes in the absolute and relative levels of SCT suggest there has been limited change in approaches to domestic support in the countries examined since 2000, the changes within individual commodities suggest compositional shifts in the levels

of support. As such, the policy approaches applied by individual countries for specific products have changed over time. These changes can be broadly contrasted by highlighting some of the main supported commodities as shown in Figure 1.18 and exploring the changes in that support that have been facilitated by different policy approaches in supporting countries. These changes are broadly categorised into two: commodities with falling support and remaining high levels of support. Such changes are relevant in considering what reforms are important and those which may be possible at the multilateral level.

It also should be noted that not all countries provide significant levels of single commodity support or more generally significant amounts of distorting support. For these countries, the reform efforts undertaken since 2000 will not be captured here but are reflected in the changes in the overall measures of support as discussed previously.

Falling support and pathways taken to decouple

Across the main supported commodities (top 11), the absolute real value of support – and in particular, its most distorting forms – provided to four commodities – those of cotton, milk, sugar and poultry – show signs of decline to varying degrees and for differing reasons. This section details these changes with respect to the policy choices that underlie the observed movements, with the changes for particular commodities where there have been significant reductions in support highlighted. For all but poultry, SCT changes are the result of policy reform – the changes in poultry, by contrast, have been brought about by a strong rise in world prices and subsequent falls in measured market price support.

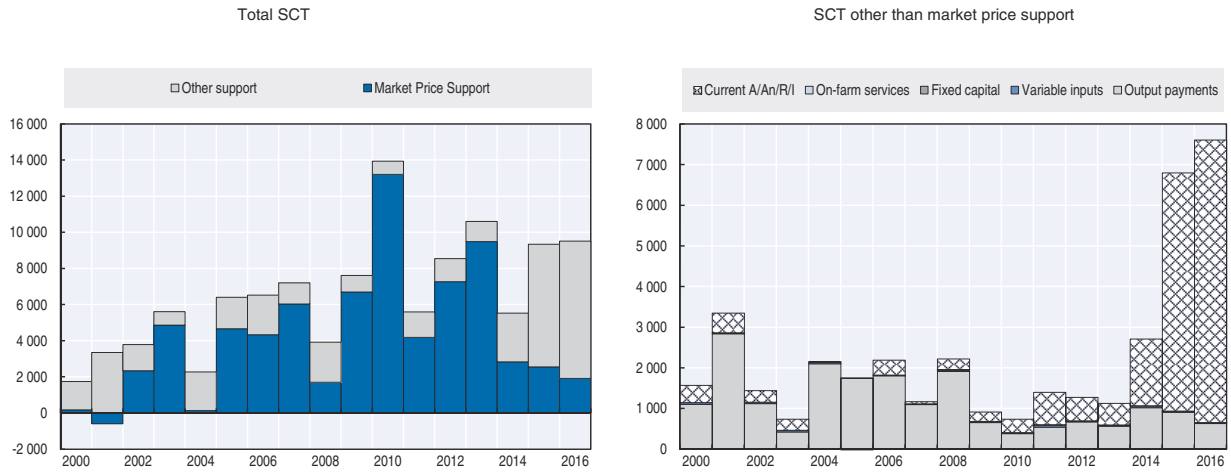
The manner in which support has been provided to ***cotton***, the second most intensively supported commodity (Figure 1.19), has changed since 2000. These changes, however, have occurred more recently beginning in 2014 after a period of increase between 2000 and 2013 (Figure 1.19). Since 2014, there is a clear shift away from market price support towards area based payments – a change that has accelerated since. This shift towards less coupled payments has occurred primarily on the back of reforms by **China** where floor prices have been lowered and payments have shifted to a planted area basis. Reforms have also taken place in **Turkey** where deficiency payments were introduced in 2002. However, such payments, while not market price support, remain highly production distorting. Changes in other support (shown as SCT other than market price support in Figure 1.19) are also linked to policies in the **United States** where crop insurance programmes are paid on a current area/animal number/receipts/income (Current A/An/R/I on Figure 1.19) basis.

The dairy sector (***milk*** production as measured in the PSE) has been subject to some of the most notable reform since 2000 (Figure 1.20). Reforms have taken place across a wide range of countries. For example, **Australia** completed the final steps of deregulating its dairy sector by removing all remaining price support mechanisms with the aid of temporary assistance adjustment packages in 2000 (continuing a longer history of reform). **Switzerland** also abolished its milk quota system in 2009. More recently, the **European Union's** milk production quota system expired in 2015. The other countries with significant changes in support to dairy include the **United States,** which ended price support and export subsidies in favour of a margin insurance programme, and **Turkey** for which exchange rate movements coupled with those in international prices saw a reversal of market price support in recent years.

For ***sugar***, the aggregate changes match the changes seen in world sugar prices – falling market price support during a period of rising prices up to 2011, and rising market price support thereafter when prices began to fall. However, within the aggregate movements there have been changes in policy as well. **Chile**, **Colombia**, **Mexico** and **Switzerland** all

Figure 1.19. **Single commodity transfers to cotton, all countries, 2000-16**

Real USD



Note: Absolute dollar values are expressed in real 2000 USD using the United States GDP deflator.
Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

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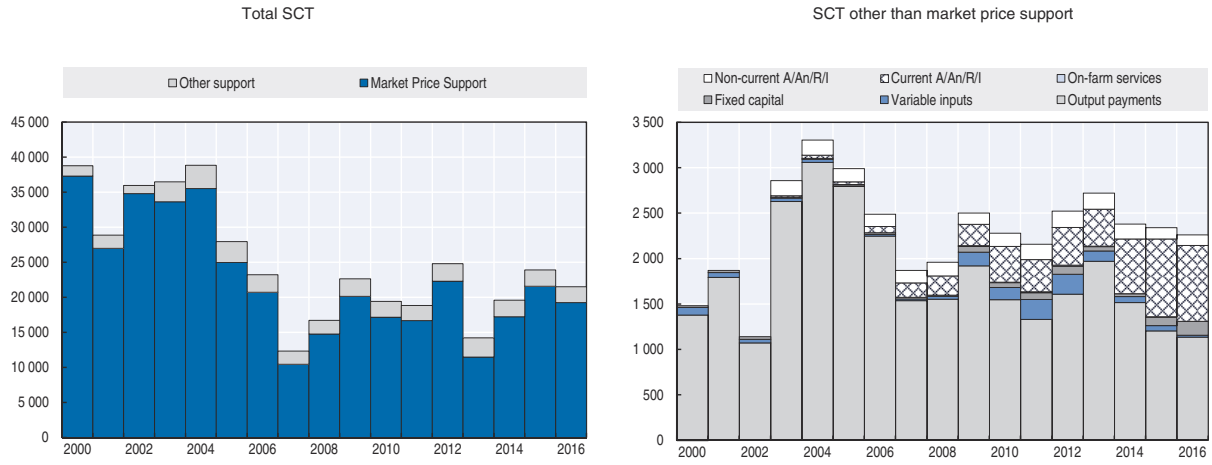
Figure 1.20. **Single commodity transfers to milk, all countries, 2000-16**

Real USD



Note: Absolute dollar values are expressed in real 2000 USD using the United States GDP deflator.
Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

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decreased support levels independently of price movements, whereas support for sugar in **China** and **Indonesia** consistently rose. In the **United States**, support levels remained flat despite support there being primarily related to market price support. Support also fell in the **European Union** as the sector has been anticipating the end of the sugar quota in 2017. This shift in the European Union has been widespread, where successive reforms of agricultural policies have increased market orientation (except for wheat) and shifted support from commodity specific to less distortive area payments that are subject to environmental compliance. The share of these payments has increased and conditions become more stringent through time.

Beyond the trends seen within single commodity support directly, transitions have occurred away from such support into areas not captured by looking at the composition of SCT. Some countries have shifted away from producer based support altogether and instead have targeted their policies and support towards general services to the agricultural sector. Countries that focus their policy instruments on general services include **Australia**, **Chile**, **New Zealand**, **South Africa** and **Viet Nam**. For **Australia** and **New Zealand**, over the longer history of measurement by the PSE, there has been a considerable shift from production distorting support to farmers to general services support (as discussed above).

Remaining high levels of support

For a number of commodities, the support provided in terms of market price support or that of other forms has been rising. For maize, pig meat, poultry, beef, wheat and rapeseed, for example, market price support has been rising. For rice, support across various categories has fallen to negative levels during the food price spikes of 2007-08, but plateaued at higher levels since 2012.

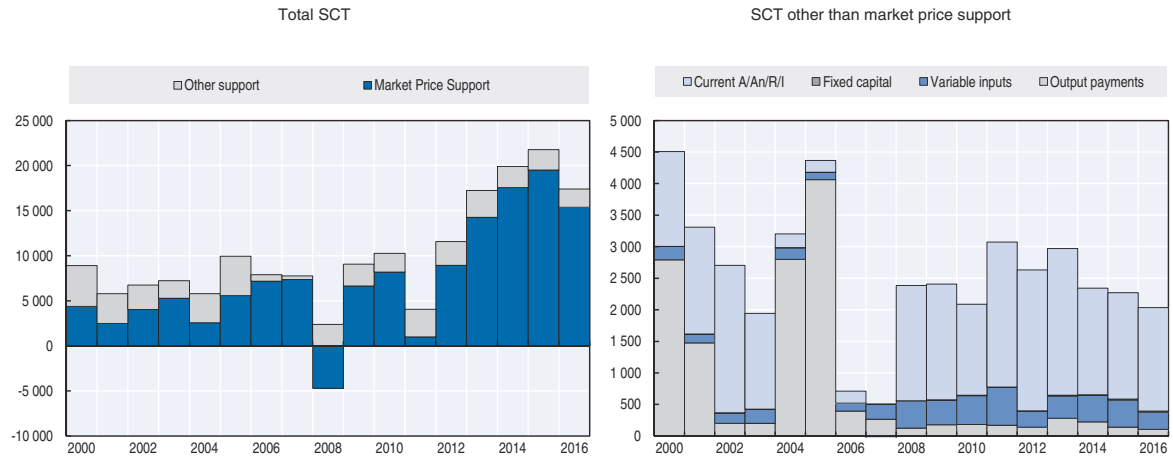
High levels of market price support for ***rice*** have in part been driven by the push for self-sufficiency in some countries and the use of policies to insulate domestic markets and increase producer prices. For **China**, **Indonesia** and the **Philippines**, rice self-sufficiency targets exist which are underpinned by food security objectives – in the belief that self-sufficiency will improve food security. In these countries, self-sufficiency targets also exist for a range of other commodities – for China in wheat but at a 95% level, for Indonesia in maize, soybeans, sugar and beef (although the targets are most aggressively applied in rice) and the Philippines also in maize. Other factors that have seen market price support remain high for rice globally relate to a mix of self-sufficiency and rural development objectives such as in **Japan** and **Korea**. However, in both these countries support levels have fallen since 2000. In Japan, market price support fell by 36% in real USD terms between 2000 and 2016 (56% in real JPY) through policy reforms such as the liberalisation of its rice distribution system and efforts to promote land consolidation. In Korea, support fell by around 37% in real terms between 2000 and 2016 due to changes in government purchasing arrangements, which moved toward purchases at market prices. Despite the rising levels of support, some reforms have taken place in China with area payments being used to replace some of the support price systems.

In other staple commodities, such as ***maize***, there has been a rise in the level of market price support but a shift away from other forms of support (Figure 1.21). These changes have been driven by a change in the choice and effect of policies in **China** and the **United States**. In the United States, support has fallen and shifted away from direct output subsidies. China's market price support for maize has increased significantly over time. However, in recent years China has implemented a number of reforms aimed at moving away from this type of support. Specifically, changes were made to floor prices, introduced in 2007, which extend past reforms that were applied to soybeans. The aim has been to shift away from support prices and to separate subsidies from price. In this way, producers would be more responsive to prices set by the market and thus policies have begun to limit market price support.

Both wheat and rapeseed have seen significant increases in the level of support provided by market price support since 2000. For ***wheat***, increases began in 2006 with **China** and the **European Union** (counter to trends in other commodities) responsible for much of the increase (Figure 1.22). In contrast, support levels have fallen in **Turkey**. For ***rapeseed***, total

Figure 1.21. **Single commodity transfers to maize, all countries, 2000-16**

Real USD



Note: Absolute dollar values are expressed in real 2000 USD using the United States GDP deflator.
Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

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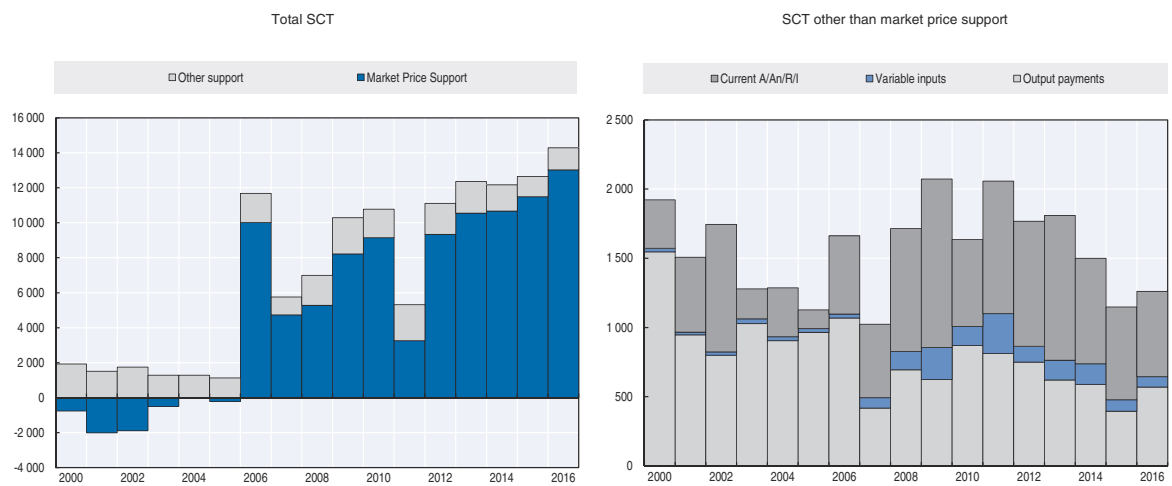
Figure 1.22. **Single commodity transfers to wheat, all countries, 2000-16**

Real USD



Note: Absolute dollar values are expressed in real 2000 USD using the United States GDP deflator.
Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

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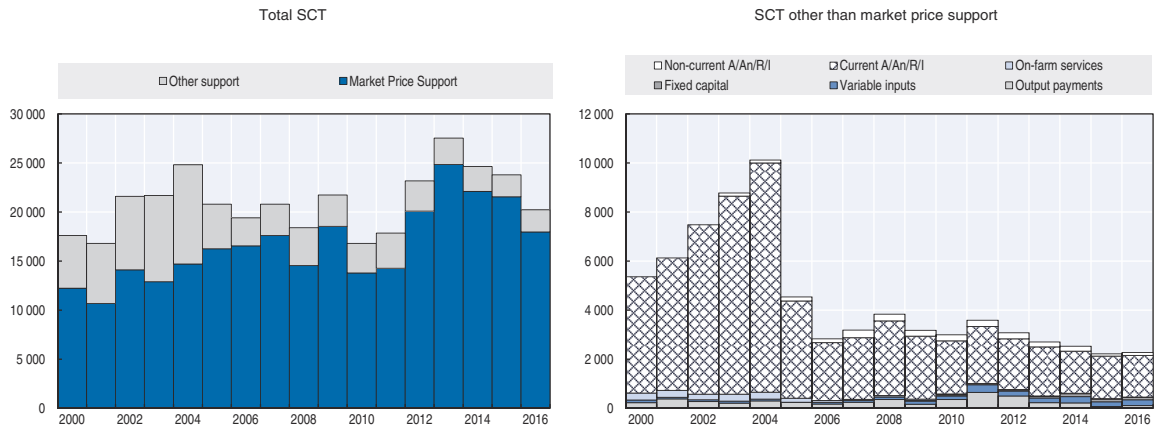
support increases have been driven by market interventions in **China**, initially through minimum prices and later through a shift to a floor price. The floor price scheme was later abandoned in the 2015/16 marketing year, with the introduction of some direct payments (area based) in some provinces. This policy shift in China has already seen some falls in market price support.

In livestock sectors related to beef and veal, pig meat and sheep meat production, support is relatively high across a wide range of economies. As with other commodities, the bulk of the support provided to these producers is through market price support. For all three commodities, support levels have been increasing over time.

A large number of countries provide support to their ***beef and veal*** sectors (Figure 1.23). In 2000, the majority of the SCT to beef producers worldwide was provided by the **European Union** (around 76%), with **Japan** and **Korea** also providing significant levels. However, over time, support in the European Union has been reduced significantly, more than halving in real terms since 2000. However, uncertainties exist over this trend as member states have recently chosen to attribute additional direct payments to this sector (within the limits permitted by the CAP 2014-20). Despite this net reduction in support in the **European Union**, support has risen overall due to significant real increases in real support from **Turkey**, the **Russian Federation**, **Kazakhstan** and **China**.[5] Of these countries, it is only in **Kazakhstan** where the majority of support is not provided through market price support but rather through a mix of output subsidies, credit subsidies and subsidies for breeding animals. **Brazil** also provides other kinds of support to beef producers in the form of preferential credit arrangements.

Figure 1.23. **Single commodity transfers to beef and veal, all countries, 2000-16**

Real USD



Note: Absolute dollar values are expressed in real 2000 USD using the United States GDP deflator.
Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database), *http://dx.doi.org/10.1787/agr-pcse-data-en*.

StatLink http://dx.doi.org/10.1787/888933506816

For ***pig meat***, much of the support provided currently (2014-16) comes from interventions in **China**, **Japan** and **Korea**. For these countries, support has increased over time. However, over time, this picture has changed with the **European Union** significantly reducing SCT and interventions in the sector – moving from positive support to its elimination. However, under the new CAP, the European Union has extended support for private stockholding to this sector. For ***poultry***, significant support is provided by the **European Union** and **Switzerland** (which has remained stable) along with **China** and **Indonesia** for whom support has increased and relies on tariffs and other border measures.

For ***sheep meat***, changes again reflect a compositional effect of countries undertaking different sets of policy reforms. Support in **China** has been increasing, whereas in **European Union** it has been falling as per other commodities. Notably, in **South Africa**, albeit at low levels, SCT was eliminated over the period.

Assessing support and reforms

This report has provided an insight into the ways in which various policy packages provide support to the agriculture sector across a wide range of countries and has taken a

deeper look at the way in which single commodities have been supported. Measuring support, and its changes over time, is a critical input into the ability to assess support impacts and in the formulation of recommendations for change. Such assessments and recommendations should be targeted towards helping the sector overcome its future challenges. For agriculture, the sector will face a number of challenges related to meeting future demand in the context of a changing climate in a more sustainable manner. It is important, therefore, that policy packages are both efficient and effective and so enable the sector to meet these challenges. However, as highlighted in this report, support policies are often implemented in a production and trade distorting manner and without reference to meeting the stated policy objectives. For these reasons, in April 2016, the Ministers and Representatives of 47 countries, including all OECD member countries, and the European Union, declared that "[…] while policies for food and agriculture have begun to change, international and domestic policy settings are not sufficiently aligned with emerging needs" (OECD, 2016b, paragraph 3). This statement indicates there is a recognition that policies need to change. The assessment detailed here is directed at options for this change.

Key to addressing the future challenges facing agriculture are investments in general services for the sector. Across the countries examined, an average of USD 90 billion (EUR 77 billion) was spent on general services supporting the agriculture sector each year between 2014 and 2016. These services provide important platforms and inputs into the sector that help it to address challenges related to sustainable productivity growth and also provide a means to address some of the uncertainties associated with changing climates. Key services and investments within this group of policies include improvements to sector-specific infrastructure and investments related to the agricultural knowledge and information system. Effective investments that lead to the supply of good quality services have the potential to address these key long-term challenges facing the agricultural sector (OECD, 2016c). Despite their importance and primacy in the stated objectives for government intervention, these investments remain limited compared to support to farmers individually.

- Countries should increase their efforts in supporting general services for the agricultural sector where they can demonstrate net benefits for their societies from doing so. In particular, well-functioning agricultural innovation systems broadly defined, appropriate science-based biosecurity efforts and investments in adapted physical and other infrastructure are required to make their agricultural sectors better prepared to respond to future challenges and opportunities: taking advantage of increasing demand for diverse and high-quality food, being more responsive to the uncertainties laying ahead, increasing resilience relative to weather, market or other shocks, and enhancing the environmental performance of the sector. Redirecting producer support to general services can also provide a pathway to transition the sector away from distorting forms of support.

In contrast to the expenditures on general services, in aggregate the countries covered in this report spent an annual average of USD 519 billion (EUR 442 billion) to support their individual agricultural producers in the years 2014-16. These transfers are significant and need to be financed either directly from tax revenues or be leveraged from consumers through policy instruments that lead to higher prices such as tariffs and quotas, for example. These transfers are a burden on taxpayers and consumers and do not come without cost – both directly in markets through altering production decisions and in terms of opportunity costs for governments as they necessarily reduce expenditures on other government provided public goods and services. Furthermore, for many countries, there is a need to better align the types of transfers (policy levers) used with the underlying objectives of

government intervention in the sector – those related to objectives of food and nutrition security, well-functioning markets, sustainable productivity growth and resource use, mitigation of and adaptation to climate change, resilience to different risks, the provision of public goods and ecosystem services, and inclusive growth and development.

The use of market price support as the main form of transfer to producers highlights starkly this contrast. Almost 60% of all farm support continues to be provided by maintaining higher prices on domestic markets compared with those on international markets. Indeed the trends in market price support, and hence of single commodity transfers, since 2000 paint a relatively sobering picture of the progress of reform to remove distortions in agricultural markets. Overall, the real value of potentially most trade and production distorting support provided to agriculture has increased, although its intensity has fallen. The distortions created by these policies can have significant negative impacts on markets and ultimately on the welfare of households. And in general, such policies are at best blunt instruments to achieve the objectives of agricultural policy that are targeted to helping the sector overcome the challenges it is facing.

Most often market price support is conferred through border barriers, and so allows governments to support farmers without burdening the public budget. However, it is one of the most trade and market distorting forms. Market price support reduces the transmission of market signals to producers and hence diminishes the degree to which farmers can respond to market requirements. It also reduces incentives to improve efficiency in agricultural production. When it comes to food security, the use of market price support is most often counterproductive. Driven through a push for food self-sufficiency, and hence the higher market prices act as a regressive tax on households – disproportionally hurting poorer vulnerable households due to the greater relative importance of food in their budgets. On the producer side, such support is also disproportionally captured by large producers who are arguably not in need of support. Moreover, by increasing domestic prices it also adds to the costs of domestic food processors, reducing the potential for downstream economic activities and employment, including in rural areas. It is also comparatively non-transparent as to how much individual firms and households benefit or suffer.

The significant use of market price support suggests there is still significant room for improvement in the design of agricultural policies. Evidence on changes in market price support within SCT across a range of commodities has shown that moves to decouple payments and reduce this type of support have slowed for many countries, however, attempts move away from this type of support remain ongoing in a number of large agricultural producers.

- Market price support should therefore be reduced and eventually eliminated. This includes negative market price support still prevalent in some markets. Market price support is generally a non-transparent and untargeted measure inconsistent with a well-functioning multilateral trade system. While it technically increases self-sufficiency rates in selected commodities (often at the expense of other production activities), it hurts food security of the poorest parts of the population. In order to replace market price support with other, more appropriate measures, governments need to have the required fiscal resources to help fund direct assistance to poorer farm households, as well as for general services support.

The use of other forms of direct support to producers, such as payments based on output quantities or on the use of variable inputs without any restrictions on their use, play

a much smaller role overall but remain important in certain markets. While such instruments can lessen the impact on consumers relative to market price support (as they are taxpayer funded) they remain highly production and trade distorting and also do not target the market failures or policy objectives at the heart of government intervention in agricultural markets. These measures are also not cost-effective in terms of their ability to provide income support to needy farm households: a significant share of the outlays for these measures tends to leak away outside the farm sector. In addition, support for specific production inputs increases the risk of their over- or misuse, with potentially harmful consequences for farmers' and consumers' health and the environment.

- Output payments and input subsidies, particularly those without input constraints, should therefore also be reduced. They generally represent an inefficient use of government budgets and fail to achieve desired policy outcomes in the most effective manner. In addition, they can contribute to unsustainable resource use. Therefore their replacement with policies better targeted and tailored to the intended outcomes should be considered.

Despite this, while only in its infancy, countries are attempting to innovate with new policies targeting the use of insurance products (a service input into a producers production system) being developed that seek to directly target the market failures that may inhibit producer adoption of such products. Such policy experimentation is important in discovering new and more effective ways in addressing the issues facing the sector. More generally, helping producers to better manage risk is a key policy objective for a number of countries. Across the countries included in this report, policy choices and measures vary considerably. These relate to both insurance products and taxation arrangements that ultimately seek to stabilise incomes (either directly or through stabilising revenues). Risk management tools are important in a world that is expected to become more volatile and subject to additional shocks, due to climate change, market related and other uncertainties. OECD work has proposed a three-tier risk management system (OECD, 2011). It distinguishes normal business risks (to be borne and managed by farmers) from larger risks requiring market solutions (such as insurance systems and futures markets) and catastrophic risks requiring public engagement. Current support systems for risk management tools involve a large range of insurance and stabilisation schemes as well as ad hoc assistance in response to extreme climate events, blurring the borders between the normal business risks, medium-size marketable risks and those of catastrophic nature, and reducing incentives for on-farm or market-based risk management options.

- Countries should clarify and streamline their risk management policies in two ways: first, the limits between normal business risks, marketable risks and catastrophic risks need to be defined, in a process involving relevant stakeholders, in a transparent and operational manner. These definitions will allow administrations to become active when public involvement is required, while sending clear signals to farmers and other private agents for developing relevant on-farm and market-based, privately organised risk management tools. Second, government support should focus only on managing catastrophic risks for which private solutions cannot be developed. Care should be taken that public support does not crowd out private solutions based on market tools. Farmers also need to increase self-reliance and improve preparedness for changing temperatures and precipitation patterns that may characterise the new "normal" due to climate change. Finally, governments should play a proactive role in providing information on climate and market risks for the farmers and private sectors to facilitate the development of risk management strategies and tools.

Other direct payments, such as support for on-farm investments and services, present alternatives to market price support or payments for output and the use of unconstrained inputs. If well targeted towards specific investments where market failures prevent the efficient allocation of resources (such as those addressing environmental externalities from production systems), such payments can help governments assist producers in achieving the shared objectives they have for the sector. As such, they should focus on fostering innovation within the farm sector, helping to improve its environmental sustainability or to alleviate other market imperfections.

Beyond altering the incentives around production or the use of inputs, direct payments to farmers are increasingly used to support farm incomes. Farm income support, however, is not generally well targeted to those farm households in need and often privileges large farms if linked to historical production data. This poor targeting arises as the reasons for treating farming households differently to those households whose members work in other sectors of the economy are often unclear, making design of policy instrument difficult. Understanding the problem at hand with respect to lower farm household incomes (holistically measured including non-farm income) is a critical step in better targeting these policies. A key consideration in designing these policies should also be the neutrality with other households not involved in agriculture, which requires the specific market failure and motivations for support to be known and be transparent. If these issues are well understood, direct payments can present an effective tool for achieving specific policy objectives. Despite this, direct payments of a temporary nature can play an important transitory role in the process of reforming policies. Such temporary payments provide a means to help adjustment away from more distorting government intervention. In other instances, direct payments that seek to compensate or encourage farmers to produce non-market goods or services (such as those related to the environment) can be effective, but only if governments are informed purchasers. Such payments require governments to have a good understanding of what they are buying on behalf of their citizens and require monitoring to ensure producers supply the goods and services that they have effectively been contracted to supply.

- To improve the efficiency of direct payments, countries should seek to target the market failures that may lead to persistent low incomes in agriculture, and to understand how these differ from those of non-agricultural households. A better understanding of these problems and of total farm household income is critical in defining specific policy objectives for such support payments. Further, governments also need to have a good understanding of the non-market goods and services sought when designing payments on the basis of seeking improvements in environmental performance. Tailoring the payments requires information on both the size of the problem at hand and the marginal costs of reducing it. Such information may not always be readily available or accessible economically. However, both appropriate proxies (often already applied for objectives related to natural resources) and better data availability that comes with modern information technology will help to overcome such shortcomings.

Notes

1. *www.oecd.org/std/na/OECD-QNA-Contributions-04-17.pdf.*
2. *www.oecd.org/eco/outlook/interim-economic-outlook-september-2016.htm* but consistent with the December Outlook (OECD, 2016a).

3. Value added is the value of the gross output of producers less the value of intermediate goods and services consumed in production, before accounting for consumption of fixed capital in production. (World Bank, 2017: *http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS*).
4. In some countries, programmes applied broadly across commodities are captured in SCT – such as the crop insurance programmes in the United States. In such instances, the distorting effect on production will be less.
5. In 2014 and 2015, the market price support became positive in the United States but subsequently fell to zero again in 2016. This temporary effect was not policy related and was due to reduced beef supplies in the United States as after a number of years of herd liquidation producers entered a period of herd rebuilding due to improved forage conditions and feeder calf prices. High beef prices continued into 2015 as supplies reflected lower slaughter.

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Chapter 2

Country snapshots

This chapter contains a snapshot view of agricultural policy developments in the countries covered in this report. A more comprehensive discussion is provided in the country chapters published online (http://dx.doi.org/10.1787/agr_pol-2017-en).

2.1. Australia

Support to agriculture

Support to producers in Australia has continuously been reduced from already relatively low levels in 1986-88. Australia's Producer Support (PSE) is one of the lowest in the OECD area at 1.9% for the period 2014-16, with total support to agriculture (TSE) representing around 0.1% of GDP. Support to Australian agricultural producers is roughly equally split between support directly to producers (PSE) and general services support (GSSE).

Australia does not have in place any measures that convey market price support, meaning that domestic prices are at parity with world prices for major production activities. In 2016, around 45% of the support that is provided directly to producers was targeted towards input use. Most of this is directed at fixed capital formation on farms. The most significant measures relate to payments that seek to help producers deal better with droughts and other natural events through concessional loans along with measures that provide subsidies for upgrading on-farm water infrastructure to help reduce environmental externalities. Much of the remaining support is delivered in a decoupled manner and is similarly directed towards risk and environmental management, with income tax averaging arrangements, farm management deposits and other environmental programmes accounting for 42% of the total support to producers.

General services support in Australia is targeted towards the Agricultural Knowledge and Innovation System and the development of infrastructure – respectively these two areas account for 51% and 34% of GSSE expenditure. Australia's Agricultural Knowledge and Innovation System is one of co-funding, where industry plays a significant role in the funding and setting of the research agenda. Over time, coupled with the move away from producer support, the share of general services in total support has increased from 6% in 1986-88 to 49% in 2016.

Main policy changes

In response to the 2015 Agricultural Competitiveness "White Paper", in 2016 the Australian Government introduced reforms to enable producers to better manage risk and build resilience. The Managing Farm Risk Programme opened on 29 March 2016 allows eligible farm businesses to access a one-off rebate for costs incurred obtaining independent and professional advice when applying for new insurance policies. In this way, the scheme differs fundamentally to that applied in a number of other countries in that it does not seek to subsidise or alter the price of the insurance product itself. Instead, the focus of the scheme is directly targeted at reducing the costs associated with accessing products and overcoming the information barriers and transactions costs associated with taking on complex financial products. Further to this, the Australian Government also made changes to the Farm Management Deposit Scheme, increasing the deposit limit and allowing financial institutions to offer the Deposits as farm business offset accounts (so the preferenced savings can be used to offset interest payments on farm debt). Farm Management Deposits

have been part of the suite of resilience and drought support measures in Australia for some time and in previous reviews have been found to be supportive in enabling farmers to better manage climate and production risks.

In response to concerns in the dairy industry, the Australian Government also introduced some targeted industry assistance. Dairy producers were granted faster access to existing measures (the Farm Household Allowance) along with the provision of new support through a targeted concessional loans scheme. Beyond direct support, the Australian Government has also committed to establish a milk price index to improve market transparency and assist dairy farmers to follow price trends.

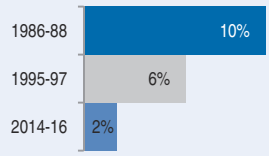
Assessment and recommendations

- There has been continuous and significant progress on policy reform since 1986-88, reducing the level of support to agriculture as measured by the %PSE to close to 2%. Australia also removed the potentially most distorting forms of support in the early 2000s. The remaining support programmes are targeted to risk management, environmental conservation and provision of general services.
- Since the end of the Exceptional Circumstances programmes in 2013 Australia has continued to reform its drought policies. An Intergovernmental Agreement is now in place that aims to focus drought support measures on encouraging drought preparedness and resilience. Most policy measures have moved in this direction with, in particular, recent policies on insurance and savings concessions focusing on market and producer-level decisions as the core response to risk. Despite this, there have also been increases in the use of concessional loans. These measures should be reviewed to ensure they are effective and efficient responses to the challenges that are faced by the sector.
- The overall challenge for the future is to improve the economic viability of farms while ensuring a sustainable use of scarce resources, in particular, water. In this light, water market reforms and basin management should continue to be a policy priority alongside efforts to help producers better adapt to climate change.
- Australia should continue using its industry partnership arrangement through rural research and development corporations (RDCs) to foster innovation and the adoption of new technologies and practices, in order to improve productivity growth.

Development of support to agriculture

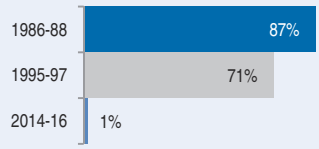
PSE as % of receipts (%PSE)

Support to farmers as measured by the %PSE declined from 10% in 1986-88 to 2% in 2014-16. Most of the decline in recent years is due to the reduced support under the drought policy.



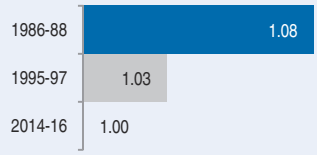
Potentially most distorting support as % of PSE

The share of potentially most distorting support (based on output and variable input use – without input constraints) has decreased significantly over time, and accounts for 1% of the PSE in 2014-16. Market price support is zero.



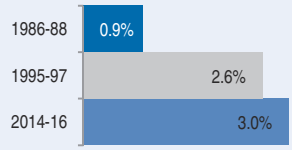
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers in 1986-88 were 1.08 times higher than world prices, compared to parity with world prices in 2014-16.



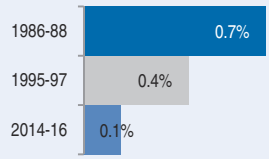
GSSE relative to agricultural value added

The expenditures for general services, equivalent to 0.9% of agricultural value added 1986-88, have increased to an equivalent of to 3% of agricultural value added 2014-16 in line with the changing structure of support away from producer support to support to general services (and within that, to the agricultural innovation system).

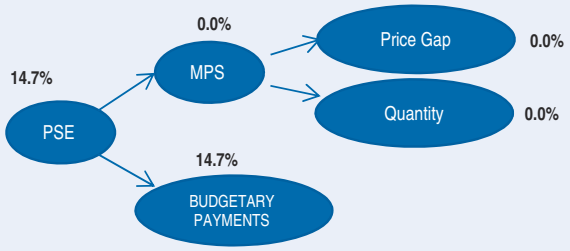


TSE as % of GDP

Total support was 0.7% of GDP in 1986-88, declining to 0.1% by 2014-16. The share of expenditures on general services (GSSE) in total support (TSE) has increased, from 5.9% in 1986-88 to 49.2% in 2014-16.

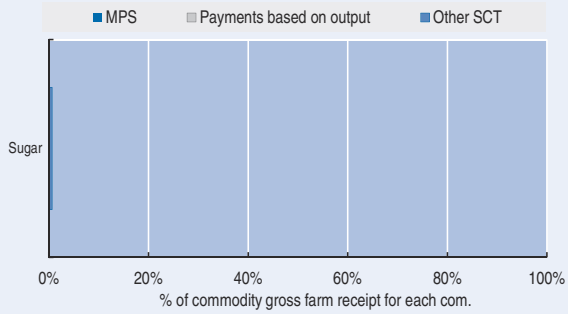


Decomposition of change in PSE, 2015 to 2016



The level of support increased by 14.7% in 2016, mainly due to increased budgetary payments related to environmental programmes.

Transfer to specific commodities (SCT), 2014-16



The share of Single commodity transfers (SCT) in the PSE is virtually zero.

Table 2.1. **Australia: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**14 358**	**21 486**	**45 622**	**49 501**	**42 634**	**44 729**
of which: *share of MPS commodities (%)*	81.7	75.3	69.0	68.1	69.4	69.4
Total value of consumption (at farm gate)	**5 152**	**7 794**	**20 197**	**22 425**	**19 106**	**19 062**
Producer Support Estimate (PSE)	**1 506**	**1 282**	**879**	**962**	**785**	**890**
Support based on commodity output	1 095	630	0	0	0	0
Market Price Support[1]	1 095	630	0	0	0	0
Payments based on output	0	0	0	0	0	0
Payments based on input use	230	466	398	469	335	392
Based on variable input use	217	287	21	15	17	31
with input constraints	0	0	8	3	6	16
Based on fixed capital formation	4	25	244	305	194	234
with input constraints	0	0	122	163	87	116
Based on on-farm services	9	154	133	149	124	127
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	14	105	138	76	102
Based on Receipts / Income	0	14	86	100	65	93
Based on Area planted / Animal numbers	0	0	19	38	11	9
with input constraints	0	0	19	38	11	9
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	171	347	317	347	377
With variable payment rates	181	103	322	291	323	353
with commodity exceptions	0	0	182	155	180	212
With fixed payment rates	0	68	24	26	24	24
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	1	28	38	27	20
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	0	28	38	27	20
Based on other non-commodity criteria	0	1	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**10.3**	**5.8**	**1.9**	**1.9**	**1.8**	**2.0**
Producer NPC (coeff.)	**1.08**	**1.03**	**1.00**	**1.00**	**1.00**	**1.00**
Producer NAC (coeff.)	**1.11**	**1.06**	**1.02**	**1.02**	**1.02**	**1.02**
General Services Support Estimate (GSSE)	**95**	**384**	**981**	**1 215**	**866**	**863**
Agricultural knowledge and innovation system	95	291	534	688	476	438
Inspection and control	0	20	109	117	101	111
Development and maintenance of infrastructure	0	54	322	403	267	297
Marketing and promotion	0	20	15	8	21	17
Cost of public stockholding	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**5.9**	**23.2**	**52.5**	**55.8**	**52.5**	**49.2**
Consumer Support Estimate (CSE)	**-600**	**-267**	**0**	**0**	**0**	**0**
Transfers to producers from consumers	-600	-267	0	0	0	0
Other transfers from consumers	0	0	0	0	0	0
Transfers to consumers from taxpayers	0	0	0	0	0	0
Excess feed cost	0	0	0	0	0	0
Percentage CSE (%)	**-11.7**	**-3.4**	**0.0**	**0.0**	**0.0**	**0.0**
Consumer NPC (coeff.)	**1.13**	**1.04**	**1.00**	**1.00**	**1.00**	**1.00**
Consumer NAC (coeff.)	**1.13**	**1.04**	**1.00**	**1.00**	**1.00**	**1.00**
Total Support Estimate (TSE)	**1 601**	**1 666**	**1 860**	**2 177**	**1 650**	**1 753**
Transfers from consumers	600	267	0	0	0	0
Transfers from taxpayers	1 000	1 399	1 860	2 177	1 650	1 753
Budget revenues	0	0	0	0	0	0
Percentage TSE (% of GDP)	**0.7**	**0.4**	**0.1**	**0.1**	**0.1**	**0.1**
GDP deflator (1986-88=100)	**100**	**134**	**223**	**224**	**223**	**223**
Exchange rate (national currency per USD)	**1.40**	**1.32**	**1.26**	**1.10**	**1.33**	**1.35**

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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933508754

2.2. Brazil

Support to agriculture

Brazil provides a relatively low level of support and protection to agriculture, reflecting its position as a competitive exporter. The level of producer support (PSE) was 3.8% of gross farm receipts in 2014-16, barely more than a fifth of the OECD average. The total support estimate to agriculture (TSE) was 0.5% of GDP in 2014-16. The direct support to farms (PSE) is the dominant part of the TSE (about 75% in 2014-16). Payments based on output and input use are the most important element of the support. As for the General Services Support Estimate (GSSE) the main elements are expenditures on agricultural knowledge and innovation generation and transfer, which accounted for close to 80% of the total in 2014-16.

Over one-third of support to producers is provided through measures that distort farm prices, such as regional minimum guaranteed prices and deficiency payments. On aggregate, the level of that type of support is moderate, with significant variation across commodities. While domestic prices were below world prices in the mid-1990s, generating negative market price support (MPS), prices are now almost aligned. Another important component of support to producers is support based on variable inputs, mainly through concessional credit and crop insurance subsidies. Credit is also available for farm investment. The role of direct payments is minor, mainly in the form of deficiency payments. Access to most farm support programmes is conditional on environmental criteria.

Main policy changes

The fiscal year 2016/17 saw a general increase in regional minimum guaranteed prices largely related to high inflation. This contributed to higher domestic producer prices for most commodities in 2016, leading to significant increases in MPS in 2016 compared to previous years. For some commodities like maize, lower domestic production was also an important factor despite the opening of duty-free import quotas in an attempt to lower domestic prices.

In the continuation of previous plans, the agricultural plan for 2016/17 provides high levels of funding for credit subsidies, but slightly lower than in 2015/16 reflecting lower demand for credit. In the agricultural plan for 2016/17, wider adoption of crop insurance was foreseen and more funds were allocated to the programme. While crop insurance subsidies increased in 2016 compared to the previous year, they remained lower than in 2014.

Efforts to restore domestic and international confidence in the safety of food products (in particular meat) continued, notably in the area of pest and disease control and traceability, including through improvements in the information systems.

Assessment and recommendations

- Despite the variety of regional price support programmes, prices received by agricultural producers in Brazil are more or less aligned with international levels. In 2016, however, domestic prices increased for most commodities, while the decline in border prices was attenuated by the depreciation of the BRL relative to the USD. As a result, prices received by Brazilian farmers were 5% higher than border prices, with significant differences across commodities. Differences in support levels by commodity create distortions within the sector, which should be removed.
- As part of plans to increase adoption of agricultural insurance programmes, additional funding was foreseen and a number of initiatives, such as the development of better information and tools to analyse risk, and model contracts, were launched to improve the

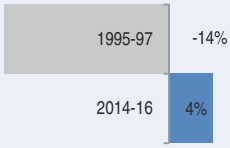
effectiveness of the crop insurance programme. It is essential to continue strengthening the information base to develop insurance products while using public funds efficiently, to monitor the effectiveness and efficiency of insurance subsidies, and to ensure they are not crowding out market solutions.

- Agricultural credit at preferential interest rates has been growing steadily, although demand and thus expenditure declined since the macroeconomic situation has deteriorated in 2015. While the credit system is intended to address failures in financial markets, it also creates default-related risks for government and producers. The availability of funds for loans is partly explained by the obligation for banks to reserve a certain portion of their deposits for agricultural credit, thus potentially creating excess supply. Furthermore, most of this credit is concentrated on subsidising short-term borrowing such as working capital and commercialisation loans that further distort markets. A reform of the concessional credit system could consider a gradual downsizing of concessional loans for working capital to commercial producers, by gradually limiting the scope of eligible commercial producers and their supported activities. At the same time, access to credit by rural borrowers could be facilitated through simpler regulations and procedures. Agricultural credit support could then be re-focused to support on-farm investments that explicitly incorporate technological innovations and advanced farm management and environmental practices.
- Several programmes have been introduced to encourage environmental improvements. For instance, insurance and credit support is conditioned by environmental criteria, and credit is available to modernise production systems and preserve natural resources, among others. This is expected to improve long-term sustainability of the sector.
- Access to export markets is crucial for Brazilian agriculture. Efforts continued to improve animal health. The restructuring of the sanitary and phytosanitary inspection system with a view to improve its efficiency and reliability is an important contribution to gain or re-gain foreign markets, complemented by bilateral and multilateral trade discussions. Diligent and transparent investigation of sanitary problems recently discovered by Brazilian authorities should help restore confidence.
- Expenditure on general services to agriculture constituted about a quarter of total support to the agricultural sector in 2014-16, with research and development and innovation accounting for the most part. The agricultural innovation system has contributed in maintaining relatively high productivity growth in the commercial sector. It is important to maintain the research capacity and increase the diffusion of innovations to a wider range of farmers.
- Weak infrastructure is still a significant bottleneck for agricultural development, and funding of agricultural-specific investments has decreased in recent years. The agri-food sector benefits more widely from general transport and Information and Communication Technology (ICT) infrastructure, which are not included in OECD estimates of expenditures on general services to agriculture. However, domestic public and private investment in infrastructure is likely to have suffered from the current economic downfall.

Development of support to agriculture

PSE as % of receipts (%PSE)

Brazil has moved from taxing the sector in the mid-1990s to a low positive level of support. Support to farmers as measured by the %PSE was 4% of gross farm receipts in 2014-16, well below the OECD average. At close to 5% in 2016, the %PSE almost doubled compared to 2015.

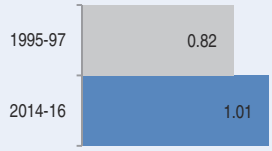


Potentially most distorting support as % of PSE

The share of potentially most distorting support (based on output and variable input use – without input constraints) accounted for 37% of the PSE in 2014-16. This is due to MPS and deficiency payments as since 2008 all support to variable input use is conditioned by environmental criteria.

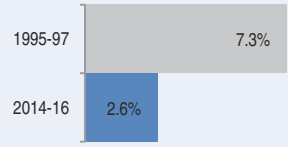
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers were mostly aligned with world prices in 2014-16, while they were 20% lower in 1995-97. However, Brazilian farmers received prices 5% higher than the work prices in 2016.



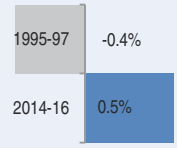
GSSE relative to agricultural value added

Expenditures for general services were equivalent to 2.6% of the agricultural value added in 2014-16, down from 7.3% in 1995-97. Financing of agricultural knowledge and innovation generation and transfer accounted for four-fifths of the GSSE.

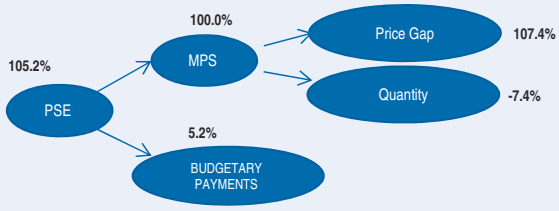


TSE as % of GDP

Total support was 0.5% of GDP in 2014-16, while it was negative in 1995-97 as negative market price support was not offset by other forms of support to producers and expenditures for general services.

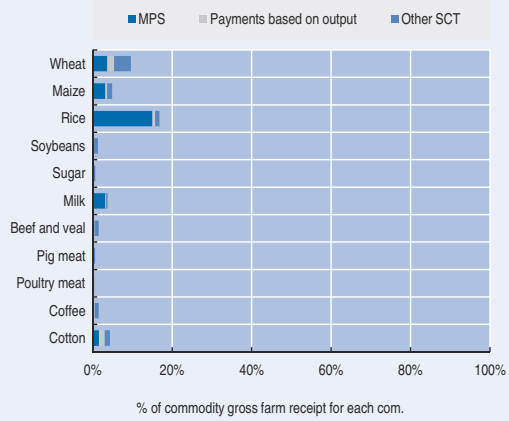


Decomposition of change in PSE, 2015 to 2016



The level of support to producers more than doubled in 2016, as did MPS due to strong increases in domestic prices, while devaluation limited increases in world prices in national currency.

Transfer to specific commodities (SCT), 2014-16



Transfer to specific commodities represented 61% of support to farms in 2014-16. Single Commodity Transfers (SCT) for rice was 17% and for wheat close to 10% of gross receipts for the commodity. SCT was also significant for cotton, maize and milk.

Table 2.2. **Brazil: Estimates of support to agriculture**

Million USD

	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**43 895**	**159 374**	**186 865**	**143 171**	**148 086**
of which: *share of MPS commodities (%)*	73.0	81.7	81.0	82.0	82.2
Total value of consumption (at farm gate)	**52 747**	**112 117**	**134 197**	**97 458**	**104 695**
Producer Support Estimate (PSE)	**-6 826**	**6 221**	**7 542**	**3 758**	**7 362**
Support based on commodity output	-9 706	2 139	1 573	635	4 210
Market Price Support[1]	-9 784	1 679	848	307	3 881
Payments based on output	78	461	726	328	328
Payments based on input use	2 879	3 871	5 579	3 009	3 026
Based on variable input use	1 659	1 942	2 563	1 640	1 623
with input constraints	0	1 942	2 563	1 640	1 623
Based on fixed capital formation	1 156	1 741	2 619	1 345	1 259
with input constraints	0	1 741	2 619	1 345	1 259
Based on on-farm services	65	188	398	23	143
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	210	389	114	127
Based on Receipts / Income	0	210	389	114	127
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 (%)	**-14.4**	**3.8**	**3.9**	**2.6**	**4.9**
Producer NPC (coeff.)	**0.82**	**1.01**	**1.01**	**1.00**	**1.03**
Producer NAC (coeff.)	**0.87**	**1.04**	**1.04**	**1.03**	**1.05**
General Services Support Estimate (GSSE)	**3 365**	**2 654**	**3 708**	**1 946**	**2 308**
Agricultural knowledge and innovation system	1 135	2 029	2 462	1 746	1 878
Inspection and control	108	41	73	16	35
Development and maintenance of infrastructure	1 686	351	773	61	218
Marketing and promotion	7	12	29	3	3
Cost of public stockholding	428	221	372	120	173
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**..**	**25.8**	**28.9**	**28.5**	**21.7**
Consumer Support Estimate (CSE)	**6 442**	**-166**	**600**	**782**	**-1 881**
Transfers to producers from consumers	6 520	-1 489	-848	-306	-3 312
Other transfers from consumers	-123	-143	-127	-41	-263
Transfers to consumers from taxpayers	14	1 230	1 574	1 130	985
Excess feed cost	30	236	0	0	708
Percentage CSE (%)	**12.3**	**-0.3**	**0.5**	**0.8**	**-1.8**
Consumer NPC (coeff.)	**0.89**	**1.02**	**1.01**	**1.00**	**1.04**
Consumer NAC (coeff.)	**0.89**	**1.00**	**1.00**	**0.99**	**1.02**
Total Support Estimate (TSE)	**-3 447**	**10 104**	**12 823**	**6 833**	**10 655**
Transfers from consumers	-6 398	1 632	974	347	3 574
Transfers from taxpayers	3 073	8 615	11 976	6 527	7 343
Budget revenues	-123	-143	-127	-41	-263
Percentage TSE (% of GDP)	**-0.4**	**0.5**	**0.5**	**0.4**	**0.6**
GDP deflator (1995-97=100)	**91**	**395**	**365**	**394**	**427**
Exchange rate (national currency per USD)	**1.00**	**3.06**	**2.35**	**3.33**	**3.49**

.. 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 Brazil are: wheat, maize, rice, soybean, sugar, milk, beef and veal, pig meat, poultry, cotton, coffee.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933508982

2.3. Canada

Support to agriculture

Canada has significantly reduced its agricultural support since the late 1980s. Producer support as a share of gross farm receipts fell sharply between 1986-88 and 1995-97, in large part because market price support (MPS) to the grains industry was discontinued in 1995. The decline in the level of support since then has been more gradual because there have not been any significant policy changes to MPS for dairy, poultry, and eggs. MPS for these sectors accounts for around 48% of the producer support estimate (PSE) in 2014-16. Lower levels of disaster payments in recent years and a shift of budgetary expenditures towards generic, not farm-specific, support to the sector since the mid-1990s have resulted in lower farm income support overall.

Canada's PSE declined from 36% in 1986-88 to 9% in 2014-16, and has been consistently below the OECD average. However, the share of potentially most distorting support (based on output and variable input use – without input constraints) was 67% in 2014-16, above the OECD average and at a similar level to 1986-88. MPS for milk accounts for the largest share of potentially most distorting support. On average, prices received by farmers were 6% higher in 2014-16 than those observed in world markets. Since 1995, this has largely resulted from MPS for milk, poultry and eggs, as producer prices of other commodities are mostly aligned with border prices. As producer support has declined, the share of the General Services Support Estimate (GSSE) in the Total Support Estimate to agriculture (TSE) has almost doubled since 1986-88 and reached around 30%. A greater proportion of budgetary transfers were shifted to indirect support, including Agricultural Knowledge and Innovation Systems and Inspection and Control.

Main policy changes

The current agricultural policy framework in Canada, *Growing Forward 2* (GF2), expires in 2018. Agriculture and Agri-Food Canada (AAFC) is currently in the process of reviewing GF2 in preparation for the Next Agricultural Policy Framework (NPF). Canadian federal, provincial, and territorial ministers of agriculture agreed six priority areas for the NPF: 1) markets and trade; 2) science, research and innovation; 3) risk management; 4) environmental sustainability and climate change; 5) value-added agriculture and agri-food processing; and 6) public trust.

Under GF2 programmes, two new initiatives were established under the AgriRecovery framework in 2016. The Canada-Nova Scotia Maple Sector Initiative provided CAD 1 million (USD 0.8 million) in assistance to commercial maple producers in Nova Scotia with the extraordinary costs for repairing sap collection systems due to the unusually heavy and repeated snowfalls. The Canada-Nova Scotia Fire Blight Initiative provided CAD 1.3 million (USD 1.0 million) to support commercial tree fruit growers in Nova Scotia with the extraordinary costs directly associated with managing fire blight infection and re-establishing orchards due to this infection.

In November 2016, Canada announced the introduction of legislation in early 2017 to advance a long-term agenda for a more transparent, balanced and efficient rail system. The Government will address the future of extended interswitching (one railway company carries traffic for the other railway company) limits and the Maximum Revenue Entitlement, a limit on the average revenue per tonne that can be earned by prescribed railways for shipping regulated grain to designated export positions.

In 2016, Canada signed the Comprehensive Economic and Trade Agreement with the European Union. Canada and the People's Republic of China announced the launch of exploratory discussions for a possible Canada-China FTA. In addition, senior officials were tasked with preparing terms of reference for a feasibility study on the merits of a free trade agreement between Canada and the ASEAN.

Assessment and recommendations

Canada's domestic markets for most agricultural commodities are competitive. However, the dairy, poultry and egg sectors are protected from international competition and continue to receive high market price support. This distorts production and trade and acts as a barrier to entry into those supply-managed sectors, because high rents are capitalised in the value of quotas required to produce under the supply-management system. Over time, there has been an increasing emphasis on generic support to the sectors relative to farm income support through new programmes that target industry-led research and development, adoption of innovation in food and agriculture, and marketing initiatives.

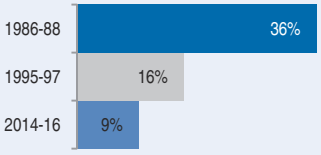
There are a number of reforms that could contribute to Canada's long-term objective of improving the profitability, competitiveness and sustainability of the food and agriculture sector.

- As a step towards phasing out the supply management the available quotas should be increased in size 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, which currently act as a barrier to entry into supply-managed sectors.
- Stricter protocols and disciplines should be in place for programmes that provide budgetary support to mitigate farm income fluctuations. This would reduce potential pressure for additional support in situations where existing programmes suffice, and encourage farmers to find better ways to manage risk at their own farm level.
- The policy focus should continue to shift towards facilitating the adoption of innovation by targeting industry-led research and development, adoption of innovation in food and agriculture, and marketing initiatives. This would contribute to the long-term objectives of improving the competitiveness and sustainability of the sector.

Development of support to agriculture

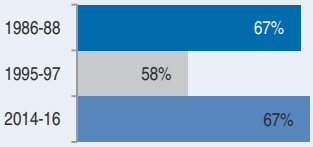
PSE as % of receipts (%PSE)

Support to farmers as measured by the %PSE declined from 36% in 1986-88 to 9% in 2014-16. Significant reforms during the late 1980s and early 1990s have reduced producer support, but the decline in the level of support since the mid-1990s has been more gradual. Support has remained consistently below the OECD average since the early 1990s.



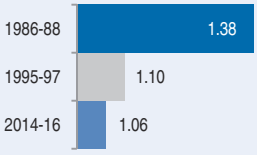
Potentially most distorting support as % of PSE

Market price support (MPS) to grains was discontinued in 1995, reducing the share of potentially most distorting support (based on output and variable input use – without input constraints). Currently, MPS for dairy accounts for the biggest proportion of most distorting support, which is above the OECD average and at a similar level to 1986-88



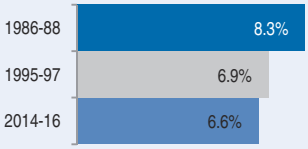
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

On average, prices received by farmers were 6% higher in 2014-16 than those observed in world markets. Since 1995, the NPC has resulted largely from MPS for dairy, poultry and eggs. Producer prices of other commodities are mostly aligned with border prices.



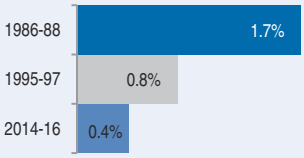
GSSE relative to agricultural value added

Budgetary expenditure to GSSE were equivalent to 6.6% of the agricultural value added, down from 8.3% in 1986-88. Growth in expenditures for general services hence was slower than the growth in agricultural value.

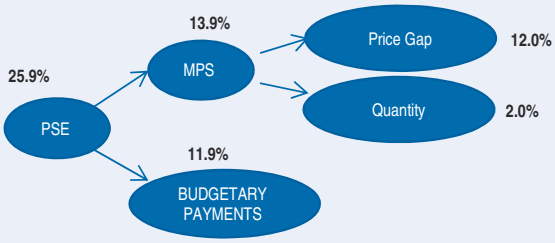


TSE as % of GDP

Total support (TSE) relative to GDP has declined since 1986-88, to 0.4% of GDP in 2014-16. As PSE has declined, the share of general services support (GSSE) in the TSE has increased, almost doubling since 1986-88 to around 30%

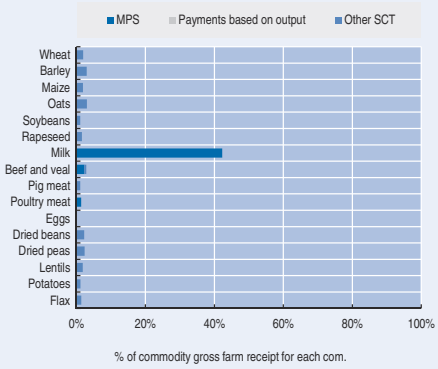


Decomposition of change in PSE, 2015 to 2016



The level of producer support increased in 2016 as a result of higher level of budgetary payments to disaster payments and crop insurance as well as higher market price support to eggs and poultry, driven by lower border prices.

Transfer to specific commodities (SCT), 2014-16



Single commodity transfers made up 76% of the PSE in 2014-16. The share of the SCT in commodity receipts is particularly high for milk.

Table 2.3. **Canada: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**14 083**	**20 052**	**46 058**	**50 516**	**45 092**	**42 565**
of which: *share of MPS commodities (%)*	85.6	84.2	85.0	84.7	85.5	84.9
Total value of consumption (at farm gate)	**12 688**	**15 656**	**29 793**	**33 280**	**29 054**	**27 045**
Producer Support Estimate (PSE)	**6 136**	**3 524**	**4 424**	**4 561**	**3 935**	**4 777**
Support based on commodity output	3 488	1 793	2 689	2 776	2 425	2 867
Market Price Support[1]	3 125	1 670	2 689	2 776	2 425	2 867
Payments based on output	364	123	0	0	0	0
Payments based on input use	1 098	520	385	435	375	344
Based on variable input use	629	260	299	326	290	280
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	448	245	71	93	62	58
with input constraints	0	0	0	1	0	0
Based on on-farm services	20	15	15	16	22	5
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	1 336	612	1 343	1 339	1 129	1 563
Based on Receipts / Income	467	334	655	612	558	794
Based on Area planted / Animal numbers	869	278	688	726	571	768
with input constraints	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	0	1	0	0
Payments based on non-current A/An/R/I, production not required	0	577	0	0	0	0
With variable payment rates	0	535	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	42	0	0	0	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	205	21	7	10	6	4
Percentage PSE (%)	**36.1**	**16.1**	**9.3**	**8.7**	**8.4**	**10.7**
Producer NPC (coeff.)	**1.38**	**1.10**	**1.06**	**1.06**	**1.06**	**1.07**
Producer NAC (coeff.)	**1.56**	**1.19**	**1.10**	**1.10**	**1.09**	**1.12**
General Services Support Estimate (GSSE)	**1 153**	**1 218**	**1 846**	**2 097**	**1 825**	**1 616**
Agricultural knowledge and innovation system	483	527	689	789	699	580
Inspection and control	283	258	808	937	810	676
Development and maintenance of infrastructure	268	148	179	170	156	211
Marketing and promotion	85	251	155	185	143	136
Cost of public stockholding	0	0	0	0	0	0
Miscellaneous	34	34	15	16	17	13
Percentage GSSE (% of TSE)	**15.7**	**25.7**	**29.3**	**31.5**	**31.7**	**25.3**
Consumer Support Estimate (CSE)	**-2 860**	**-1 758**	**-2 968**	**-3 092**	**-2 657**	**-3 156**
Transfers to producers from consumers	-3 089	-1 750	-2 628	-2 654	-2 366	-2 863
Other transfers from consumers	-36	-19	-345	-441	-293	-300
Transfers to consumers from taxpayers	31	4	2	3	2	2
Excess feed cost	234	7	2	0	0	5
Percentage CSE (%)	**-22.7**	**-11.2**	**-10.0**	**-9.3**	**-9.1**	**-11.7**
Consumer NPC (coeff.)	**1.33**	**1.13**	**1.11**	**1.10**	**1.10**	**1.13**
Consumer NAC (coeff.)	**1.29**	**1.13**	**1.11**	**1.10**	**1.10**	**1.13**
Total Support Estimate (TSE)	**7 319**	**4 747**	**6 273**	**6 660**	**5 762**	**6 396**
Transfers from consumers	3 125	1 769	2 972	3 095	2 659	3 163
Transfers from taxpayers	4 230	2 997	3 645	4 007	3 396	3 533
Budget revenues	-36	-19	-345	-441	-293	-300
Percentage TSE (% of GDP)	**1.7**	**0.8**	**0.4**	**0.4**	**0.4**	**0.4**
GDP deflator (1986-88=100)	**100**	**126**	**184**	**184**	**183**	**184**
Exchange rate (national currency per USD)	**1.32**	**1.37**	**1.24**	**1.10**	**1.28**	**1.33**

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, dry beans, dry peas, milk, beef and veal, pig meat, poultry and eggs.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933508773

2.4. Chile

Support to agriculture

Agricultural policies in Chile create almost no market distortions. For the period 2014-16 Chile had a Nominal Protection Coefficient (NPC) almost equal to zero, meaning that domestic prices were practically aligned with international prices. Producer Support Estimate (PSE) accounted for an average of 3% of gross farm receipts in 2014-16. A major component of PSE is input subsidies, in particular subsidies for fixed capital formation. Market Price Support (MPS) is relatively small, accounting for only 3% of the PSE and mostly related to sugar. Around 50% of government spending on agriculture has been provided through general services to develop agriculture as a whole (e.g. hydrological infrastructure, sanitary and phytosanitary services, and agricultural knowledge and innovation system). Total support to agriculture imposes a small burden on the economy accounting for only 0.3% of GDP in 2016.

Main policy changes

The orientation of agricultural policy has remained unchanged. The policy objectives continue to emphasise agricultural productivity and competitiveness, social inclusion and sustainability with investments targeted to a number of areas, notably irrigation, the recovery of degraded soils, and in maintaining Chile's strong sanitary and phyto-sanitary conditions, strengthening policy instruments that promote family farming and the development of the rural economy. This is done through emphasising technological innovation, access to credit for smallholders, irrigation subsidies, and improving market information. Some changes have occurred in the way irrigation programmes are provided to farmers by the National Irrigation Commission (CNR). The new programmes provide specific support to small-scale farmers and indigenous people, by designing specific instruments to help them to adapt to climate change effects. Efforts continued to be made on risk management tools, institutional improvements, public-private partnerships to create more value added along the food value chains for small-scale farmers, and to improve the well-functioning of markets. Training and skills for agricultural workers and farmers were also strengthened.

Assessment and recommendations

- Chilean agricultural policy creates few market distortions, its domestic prices are practically aligned with international prices and support to farmers averaged 3% of gross farm receipts in 2014-16. Total support to agriculture imposes a smaller burden on the economy than in most OECD countries, accounting for only 0.3% of GDP in 2016. General services account for 53% of total support to this sector, mainly directed at infrastructure, research and development and inspection services.
- Chile has ensured that its agricultural policies remain well targeted to its principal objectives of facilitating smallholder development, i.e. 70% of direct payments go to smallholders to improve their productivity and competiveness.
- Total budgetary allocations to the agricultural sector (i.e. payments to farmers and spending on general services) remained more or less constant between 2015 and 2016. Support payments comprise mostly support for farm inputs, rural and territorial development, the recovery of degraded soils, and on-farm irrigation. Most of the allocations on general services consist of spending on infrastructure (irrigation), inspection services, R&D, knowledge transfer and improving market information. The spending on public goods

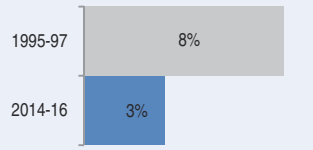
includes essential investments that help raise agricultural competitiveness and protect the country's environment and natural resource base. But the fact that money is spent on public goods does not itself guarantee that policies are effective, and there is a need for a more systematic evaluation of policy performance.

- While increasing payments to farmers are targeted towards small-scale agriculture and indigenous farmers, careful attention should be paid to assessing their effectiveness. Impact assessments should be carried out systematically.

Development of support to agriculture

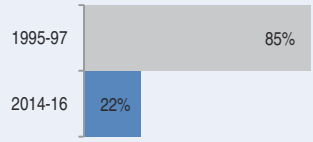
PSE as % of receipts (%PSE)

Support to farmers as measured by the %PSE declined from 8% in 1995-97 to 3% in 2014-16. This support is amongst the lowest in the OECD area and it is dominated by direct payment mostly to smallholders.



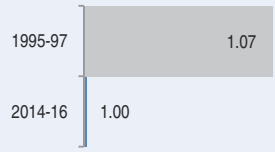
Potentially most distorting support as % of PSE

Over time Chile has reduced its potentially most distorting support (based on output and variable input use – without input constraints). Most of the support to farmers has been linked to input subsidies, in particular to fixed capital formation input use.



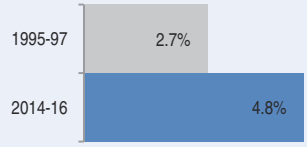
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Producer prices are practically perfectly aligned with world prices, reflecting almost inexistent distortions in output markets.



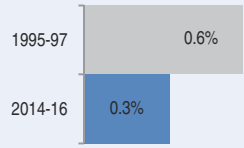
GSSE relative to agricultural value added

Expenditures for general services were equivalent to 4.8% of the agricultural value added in 2014-16, a higher figure than the 2.7% observed in 1995-97 period.

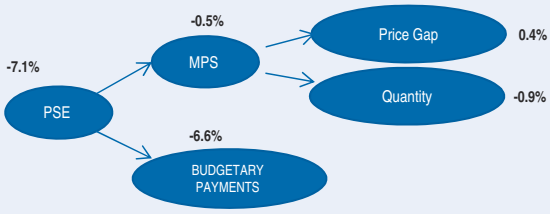


TSE as % of GDP

Total agricultural support was 0.3% of GDP in 2014-16. General services (GSSE) in total support (TSE) was 47% in 2014-16.

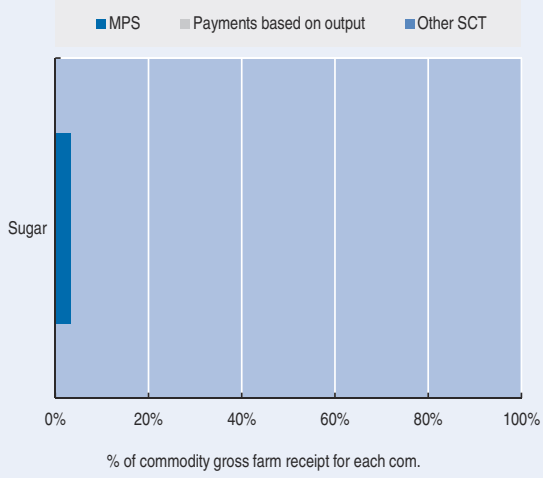


Decomposition of change in PSE, 2015 to 2016



The level of support decreased by 7.1% in 2016, mainly due to decreased budgetary payments.

Transfer to specific commodities (SCT), 2014-16



Transfers to single commodities are limited to sugar and represented 3% of commodity gross farm receipts in 2014-16.

Table 2.4. **Chile: Estimates of support to agriculture**

Million USD

	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**5 122**	**12 666**	**13 132**	**12 231**	**12 634**
of which: *share of MPS commodities (%)*	64.6	61.3	59.1	61.1	63.7
Total value of consumption (at farm gate)	**5 151**	**11 338**	**12 192**	**10 882**	**10 940**
Producer Support Estimate (PSE)	**390**	**393**	**418**	**401**	**360**
Support based on commodity output	317	12	12	13	10
Market Price Support[1]	317	12	12	13	10
Payments based on output	0	0	0	0	0
Payments based on input use	63	357	372	355	343
Based on variable input use	16	73	82	69	67
with input constraints	0	0	0	0	0
Based on fixed capital formation	24	185	197	178	180
with input constraints	17	97	102	98	91
Based on on-farm services	23	99	93	107	96
with input constraints	1	32	28	33	35
Payments based on current A/An/R/I, production required	10	24	34	33	7
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	10	24	34	33	7
with input constraints	10	24	34	33	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 (%)	**7.5**	**3.0**	**3.1**	**3.2**	**2.8**
Producer NPC (coeff.)	**1.07**	**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)	**79**	**404**	**412**	**398**	**402**
Agricultural knowledge and innovation system	22	84	92	83	77
Inspection and control	1	82	82	80	85
Development and maintenance of infrastructure	50	222	222	219	225
Marketing and promotion	5	17	18	17	16
Cost of public stockholding	0	0	0	0	0
Miscellaneous	1	0	0	0	0
Percentage GSSE (% of TSE)	**17.0**	**50.8**	**49.7**	**49.9**	**52.8**
Consumer Support Estimate (CSE)	**-392**	**-32**	**-34**	**-31**	**-31**
Transfers to producers from consumers	-324	-12	-12	-13	-10
Other transfers from consumers	-76	-20	-22	-19	-21
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	7	0	0	0	0
Percentage CSE (%)	**-7.6**	**-0.3**	**-0.3**	**-0.3**	**-0.3**
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)	**469**	**797**	**830**	**799**	**762**
Transfers from consumers	399	32	34	31	31
Transfers from taxpayers	145	785	818	786	752
Budget revenues	-76	-20	-22	-19	-21
Percentage TSE (% of GDP)	**0.6**	**0.3**	**0.3**	**0.3**	**0.3**
GDP deflator (1995-97=100)	**100**	**231**	**221**	**230**	**240**
Exchange rate (national currency per USD)	**409.47**	**633.83**	**570.64**	**654.32**	**676.54**

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 Chile are: wheat, maize, apples, grapes, sugar, tomatoes, milk, beef and veal, pig meat and poultry.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933509001

2.5. China

Support to agriculture

After two decades of gradual growth, the level of support to agricultural producers in the People's Republic of China (hereafter "China") has stabilised in recent years with the percentage Producer Support Estimate (%PSE) fluctuating in a range of 14-16% in 2013-16. This partly reflects policy reforms undertaken in China, such as stabilisation or even lowering of minimum prices for rice and wheat; exclusion of some commodities from government purchases at intervention prices (cotton, soybeans, rapeseed and, most recently, maize); and partial replacement of market interventions by direct payments. Another factor is a nominal depreciation of the CNY vis-à-vis USD since 2013 after a long period of gradual appreciation.[1]

The Total Support Estimate (TSE) was 2.4% of GDP in 2014-16, thus about four times higher than the OECD average. This shows the high economic cost of China's policies supporting agriculture. While payments based on area planted tend to increase, MPS remains the dominant part of the total support. Within the General Services Support Estimate (GSSE), three categories attract the largest financial support: public stockholding, development and maintenance of infrastructure, and agricultural knowledge and innovation system.

The overall level of price distortions remained unchanged in recent years with domestic prices on average 13% above world prices. Following the discontinuation of intervention prices for cotton, in 2015 and 2016 domestic cotton prices fell closer to the world levels and the fall has been covered by compensatory payments accounting for a growing share of cotton producers' receipts. With the exception of eggs, producers are benefiting from high transfers accounting for between 10% and 50% of commodity receipts.

Main policy changes

In 2016, China continued policy reforms to diminish the negative consequences of high domestic prices compared to those on international markets. In addition to policies launched in 2014-15, China put forward reforms to the maize purchasing and storage system. The minimum price support for maize, introduced in 2007, was thus discontinued and replaced with a new mechanism of "marketised purchases" that would "separate subsidies from price", allowing market supply and demand to determine prices, while farmers would receive support via direct payments. To diminish the level of maize stocks accumulated in the earlier period, government auctions were organised and supported at the provincial level by subsidies for processors purchasing grains from state reserves. A structural component of the reform includes a programme to diminish maize production through a reduction in the area planted to maize and direct payments to enhance conversion from maize production to other crops such as soybeans, pulses and feed crops.

In 2016, China extended a single payment scheme called "agricultural support and protection subsidy" to the whole country. Implemented on a pilot basis in 2015, the programme combines three earlier area payments (direct payments for grain producers, comprehensive subsidy on agricultural inputs and seed variety subsidy) into a single area payment. Four-fifths of the funds allocated for this payment are intended to protect arable land fertility and to preserve grain production capacity and one-fifth to support large-scale production within so-called "new-style" farms. Currently, it is by far the most important budgetary support programme for the Chinese farming sector.

Assessment and recommendations

- Recent reforms to replace intervention prices by direct payments based partly on area planted are a step in the right direction. In particular, the most recent reform of the maize purchasing and storage system is likely to diminish both costs of feed for livestock producers and of storage. Such reforms could be extended to include rice and wheat. In the future, the link between direct payments and production decisions should be loosened by providing them on a historical area basis, for example, and "greened" by making them conditional on environmentally friendly cultivation practices.
- As land and water are very scarce in China and environmental pollution caused by farming has become an alarming issue, any further increase in agricultural production should only be achieved through sustainable improvement of productivity. In this respect, existing agricultural policy instruments should be reviewed to improve their coherence with agro-environmental policy objectives. In particular, the announced water price reform could be accelerated to cover water provision costs, in order to enhance more efficient water use.
- To address the issue of rural poverty and foster broader rural development, access of the rural population to education and training, healthcare, physical infrastructure, and financial services should be further improved. For the elderly, the government should – as envisaged – quickly take full responsibility for rural pensions and also gradually increase their level.
- To reduce potential volatility of food supplies on domestic markets, China should further diversify sources of food through stronger integration of domestic and international agro-food markets.
- To ease the re-allocation of land to more efficient farmers, recent land market reforms strengthening rural land-use rights should be further reinforced. This can be achieved by: providing all rural households with certificates detailing their land rights; expanding further the newly established exchange platforms (land transfer service centers and electronic platforms) for the transfer of rights for rural farmland and construction land and enhancing their transparency; and universally introducing resident permits for migrant workers that provide access to public services, while protecting their land entitlements.
- The share of public expenditures for general services, especially the agricultural knowledge and innovation system, in total support to agriculture is relatively low compared to the OECD average. Further efforts are needed to restructure agricultural support towards longer term growth and competitiveness in the sector.

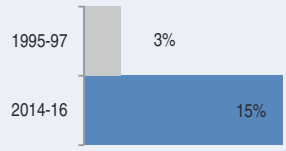
Note

1. The depreciation increases border reference prices when converted to the local currency equivalents, thus diminishing positive price gaps when compared with domestic prices and hence the estimated market price support.

Development of support to agriculture

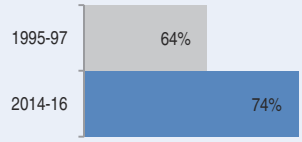
PSE as % of receipts (%PSE)

Support to farmers as measured by the %PSE has increased from 3% in 1995-97 to 15% in 2014-16 and is now close to the OECD average.



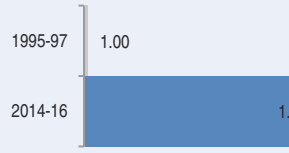
Potentially most distorting support as % of PSE

The share of potentially most distorting forms of support (based on output and variable input use) has increased and in 2014-16 accounted for 74% of the total, well above the OECD average.



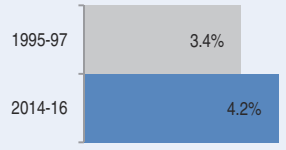
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers were on average 13% higher than world prices in 2014-16.



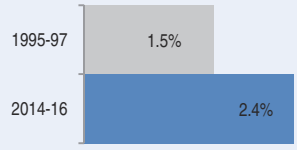
GSSE relative to agricultural value added

Expenditures for general services were equivalent to 4.2% of the agricultural value added in 2014-16, up from 3.4% in 1995-97.

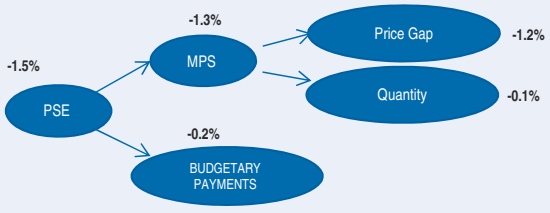


TSE as % of GDP

Total support to agriculture as % of GDP increased from 1.5% in 1995-97 to 2.4% in 2014-16 and is almost four times higher than the OECD average.

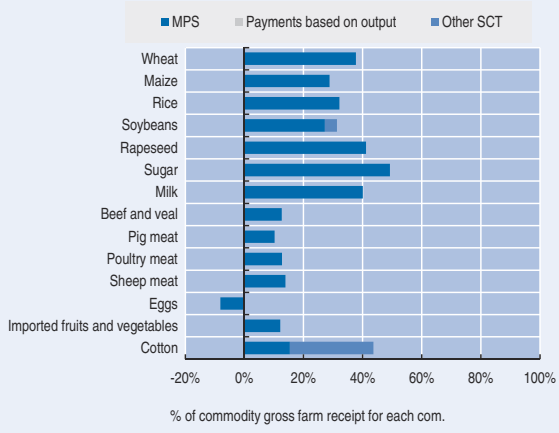


Decomposition of change in PSE, 2015 to 2016



The level of support declined slightly in 2016, mostly due to a fall of domestic prices vis-a-vis those on international markets. This fall is driven by reforms of the Chinese market intervention system and by the depreciation of the Chinese Yuan vis-à-vis USD. Budgetary support declined just marginally.

Transfer to specific commodities (SCT), 2014-16



The share of single commodity transfers in commodity receipts varies from above 40% for sugar and cotton to a negative value for eggs. The role of payments based on output has been increasing for cotton and soybeans.

Table 2.5. **China: Estimates of support to agriculture**

Million USD

	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**239 511**	**1 384 671**	**1 359 198**	**1 391 103**	**1 403 714**
of which: *share of MPS commodities (%)*	92.6	84.5	87.3	84.7	81.4
Total value of consumption (at farm gate)	**242 571**	**1 413 078**	**1 387 739**	**1 410 281**	**1 441 213**
Producer Support Estimate (PSE)	**6 667**	**215 271**	**205 792**	**227 837**	**212 182**
Support based on commodity output	2 198	155 662	148 514	165 146	153 326
Market Price Support[1]	2 198	155 662	148 514	165 146	153 326
Payments based on output	0	0	0	0	0
Payments based on input use	3 832	21 682	22 304	22 290	20 452
Based on variable input use	2 055	3 981	3 973	4 266	3 703
with input constraints	0	0	0	0	0
Based on fixed capital formation	1 297	13 728	14 242	13 884	13 058
with input constraints	0	0	0	0	0
Based on on-farm services	479	3 974	4 090	4 140	3 691
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	464	32 012	29 134	34 037	32 865
Based on Receipts / Income	464	2 342	2 761	2 176	2 088
Based on Area planted / Animal numbers	0	29 670	26 373	31 861	30 777
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	174	3 428	3 332	3 747	3 205
With variable payment rates	0	0	0	0	0
with commodity exceptions	0	0	0	0	0
With fixed payment rates	174	3 428	3 332	3 747	3 205
with commodity exceptions	0	0	0	0	0
Payments based on non-commodity criteria	0	2 487	2 508	2 618	2 335
Based on long-term resource retirement	0	2 487	2 508	2 618	2 335
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 (%)	**2.7**	**14.9**	**14.5**	**15.7**	**14.5**
Producer NPC (coeff.)	**1.00**	**1.13**	**1.13**	**1.14**	**1.12**
Producer NAC (coeff.)	**1.03**	**1.18**	**1.17**	**1.19**	**1.17**
General Services Support Estimate (GSSE)	**5 530**	**39 864**	**37 803**	**47 039**	**34 751**
Agricultural knowledge and innovation system	450	9 695	10 095	9 851	9 139
Inspection and control	265	2 252	2 315	2 340	2 102
Development and maintenance of infrastructure	1 292	11 754	12 406	11 726	11 131
Marketing and promotion	0	652	618	690	648
Cost of public stockholding	3 523	15 511	12 369	22 431	11 732
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**44.4**	**15.6**	**15.5**	**17.1**	**14.1**
Consumer Support Estimate (CSE)	**-2 205**	**-160 240**	**-148 888**	**-170 983**	**-160 849**
Transfers to producers from consumers	-562	-149 492	-143 593	-157 337	-147 546
Other transfers from consumers	-1 168	-24 093	-18 591	-27 629	-26 060
Transfers to consumers from taxpayers	252	0	0	0	0
Excess feed cost	-727	13 345	13 296	13 983	12 757
Percentage CSE (%)	**-0.9**	**-11.3**	**-10.7**	**-12.1**	**-11.2**
Consumer NPC (coeff.)	**1.01**	**1.14**	**1.13**	**1.15**	**1.14**
Consumer NAC (coeff.)	**1.01**	**1.13**	**1.12**	**1.14**	**1.13**
Total Support Estimate (TSE)	**12 449**	**255 135**	**243 595**	**274 876**	**246 934**
Transfers from consumers	1 730	173 585	162 184	184 966	173 606
Transfers from taxpayers	11 887	105 643	100 002	117 540	99 388
Budget revenues	-1 168	-24 093	-18 591	-27 629	-26 060
Percentage TSE (% of GDP)	**1.5**	**2.4**	**2.3**	**2.5**	**2.2**
GDP deflator (1995-97=100)	**100**	**178**	**178**	**177**	**178**
Exchange rate (national currency per USD)	**8.34**	**6.36**	**6.16**	**6.28**	**6.64**

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, peanuts, exported fruit and vegetables, and imported fruit and vegetables.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933509020

2.6. Colombia

Support to agriculture

Colombia's level of support to producers expressed as a share of gross farm revenues (%PSE) averaged 16% over the period 2014-16, which is slightly below the OECD average. PSE has been decreasing due to a depreciation of the Colombian Peso, falling producer prices, particularly after the entry into force of a free trade agreement with the United States in 2012, the temporary interruption of the use of the Andean Price Band System for certain products, and the increase of production of main agricultural products. Market price support (MPS) is the main component of the PSE – accounting for more than 70% of the total support to farmers provided over the period 2014-16. MPS is mostly determined by the use of border measures for several agricultural products including rice, maize, poultry, milk, sugar, and pig meat. Budgetary transfers accounted for 18% of the support to producers during 2014-16 and have been dominated by payments based on variable input use. Budgetary payments to general services directed at the sector as a whole (GSSE), have been relatively small, accounting on average for only 13% of the total support estimate (TSE). Expenditures on these items include: agricultural research and knowledge transfer; infrastructure, particularly in irrigation; and farm restructuring.

Main policy changes

The policy framework *Colombia Siembra* created in 2015, led to increased planting of agricultural products covering 434 000 hectares of new land (coming mostly from idle land) in 2016. The main crops planted were rice, maize, palm oil, fruit trees, forestry, cocoa, soybeans, and beans. The policy framework has also promoted the production of pig meat, beef and milk. In terms of institutional changes, in 2015 INCODER, the institution in charge of rural development and land issues, was dismantled and its functions will be implemented by three new agencies created in 2016: the National Land Agency (*Agencia Nacional de Tierras*, ANT); the Rural Development Agency (*Agencia de Desarrollo Rural*, ADR); and the Renovation of Territory Agency (*Agencia de Renovación de Territorio*, ART). As the ART agency co-ordinates the intervention of national and territorial entities in rural areas affected by the internal conflict with the guerrillas (FARC) and hence is an entity related to the peace process (see below for more details), it has been detached from the Ministry of Agriculture and is now under the auspices of the Presidency. Efforts on training to strengthen the technical capacity of the Animal and Plant Health Agency (ICA) took place in 2016.

Budgetary allocations to the agricultural sector have been reduced by 40%, due to the increasing fiscal constraints faced by the government. Several programmes have decreased their outlays and others have been dismantled altogether. However, twelve new programmes were created in 2016 to deliver budgetary support to agriculture; equivalent to COL 290.6 billion (USD 95 million). Around 54% of the new programmes target general services to the sector (land restitution, territorial development, rural education, and irrigation investments, among others). The remainder of the transfers from the new programmes were given through a range of different input subsidies to farmers.

The peace agreement was finally signed (26 September 2016) by the guerrillas (FARC) and the Colombian Government and approved by Congress (30 November 2016). This situation will have important implications as the first article of the agreement relates to investments for rural and agricultural development.

In 2016, tariffs for fertilisers and pesticides imports were set to zero. A proposal was also sent to Congress to remove tariffs on used agricultural machinery and equipment for a period of two years with the option to renew. Tariffs for beans, lentils, garlic and palm oil were also removed.

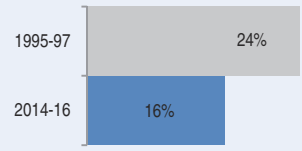
Assessment and recommendations

- The agricultural sector in Colombia faces a wide series of structural and institutional challenges that hinder competitiveness. Underinvestment in public goods and services, poor land management, unsuccessful land tenure reforms (more than 40% of land ownership continues to be informal) and a long-running internal conflict closely linked to drug trafficking, have deeply affected the performance of the Colombian agricultural sector.
- Market price support (MPS) is the dominant form of support to producers. Colombia also implements a range of policies aimed at price stabilisation (Price Stabilisation Funds, FEP) which contribute to the high levels of price support. An assessment of the effectiveness of the Price Stabilisation Funds used in several agricultural products should be carried out.
- Critical areas such as infrastructure, agricultural research and development (R&D), and agricultural knowledge transfer and farm restructuring continue to receive limited support. Short term responses to the problems faced by agricultural producers, including the use of input subsidies, have diverted scarce economic resources from the need to develop the enabling environment. A re-orientation of support would help foster a more inclusive and sustainable agricultural growth.
- Government should carry out a thorough review and impact assessment of the wide array of policy instruments, including those provided by private producer associations with government support, and programmes to support agriculture. This review should identify areas where current programmes could be better targeted to specific objectives and overlap between measures reduced. The majority of current programmes cover very broad and different areas and are implemented through a bundle of policy instruments with unclear impact. The review should redefine and reorganise policy instruments based on evidence of costs and benefits.
- Improving strategic information collection on the agricultural sector is crucial for the good design of policies. Institutional co-ordination should be improved and information better disseminated to farmers.
- Colombia faces the twin challenges of high concentration of land ownership and the under-exploitation of arable land. Improved land rights should contribute to long-term growth in the agriculture sector and contribute to promote rural development.
- The peace agreement signed by the guerrillas (FARC) and the Colombian Government and approved by Congress represents new budgetary challenges: outlays to the sector have been reduced dramatically due to fiscal constraints, and monetary resources will be needed to fulfil the first article of the peace agreement related to investments for rural and agricultural development. Dealing with these pressures offers an opportunity for Colombia to improve the efficiency and effectiveness of its agricultural support.

Development of support to agriculture

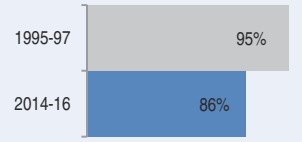
PSE as % of receipts (%PSE)

Since the 1990s, Colombia has provided significant levels of support to its farmers. The PSE for 2014-16 was 16% of gross farm receipts. The %PSE has steadily declined from 18% in 2014 to 13% in 2016.



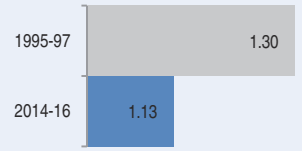
Potentially most distorting support as % of PSE

Around 70% of PSE is linked to commodity market price support alone. Variable input use support accounts for 13% of PSE. This support, if not constrained is considered to be the most production and trade distorting measures.



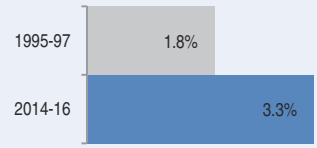
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers, on average, are estimated to be 13% higher than those observed in the world markets.



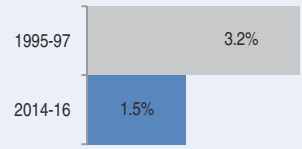
GSSE relative to agricultural value added

Expenditures for general services were equivalent to 3.3% of the agricultural value added in 2014-16, a larger number then the 1.8% seen in 1995-97.

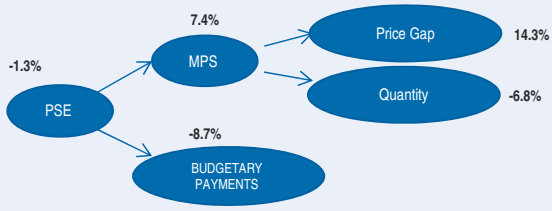


TSE as % of GDP

Total support to agriculture represents 1.5% of GDP for the period 2014-16. The share of GSSE in TSE was 15% for 2014-16.

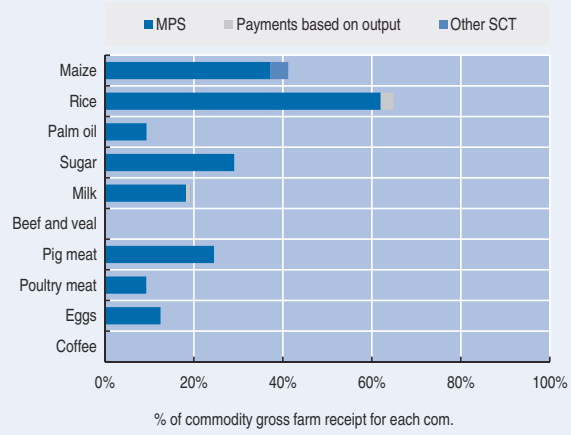


Decomposition of change in PSE, 2015 to 2016



The level of support in 2016 has declined slightly due to a reduction of budgetary payments, which were partly offset by the increase of the market price support.

Transfer to specific commodities (SCT), 2014-16



The most important Single Commodities Transfers (SCTs) were rice (more than 60% of commodity gross farm receipt), maize (more than 40%), sugar (30%) and pig meat (25%).

Table 2.6. **Colombia: Estimates of support to agriculture**

Million USD

	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**14 228**	**25 017**	**27 698**	**23 041**	**24 312**
of which: *share of MPS commodities (%)*	72.9	76.9	79.8	81.5	69.4
Total value of consumption (at farm gate)	**10 644**	**22 176**	**22 937**	**19 108**	**24 482**
Producer Support Estimate (PSE)	**3 451**	**4 112**	**5 323**	**3 716**	**3 297**
Support based on commodity output	3 275	3 338	4 144	2 987	2 884
Market Price Support[1]	3 250	3 231	3 942	2 899	2 854
Payments based on output	26	107	202	88	30
Payments based on input use	175	774	1 180	730	413
Based on variable input use	126	437	677	400	233
with input constraints	108	257	320	276	174
Based on fixed capital formation	23	193	264	198	116
with input constraints	5	83	112	78	60
Based on on-farm services	27	144	239	131	64
with input constraints	0	50	103	25	22
Payments based on current A/An/R/I, production required	1	0	0	0	0
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	1	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 (%)	**24.0**	**15.5**	**18.3**	**15.6**	**13.3**
Producer NPC (coeff.)	**1.30**	**1.13**	**1.13**	**1.12**	**1.12**
Producer NAC (coeff.)	**1.32**	**1.18**	**1.22**	**1.18**	**1.15**
General Services Support Estimate (GSSE)	**311**	**638**	**812**	**664**	**439**
Agricultural knowledge and innovation system	79	258	283	276	215
Inspection and control	11	43	67	36	27
Development and maintenance of infrastructure	221	299	430	302	167
Marketing and promotion	0	38	32	51	30
Cost of public stockholding	0	0	0	0	0
Miscellaneous	0	0	0	1	0
Percentage GSSE (% of TSE)	**8.2**	**13.4**	**13.2**	**15.2**	**11.8**
Consumer Support Estimate (CSE)	**-3 207**	**-3 392**	**-3 334**	**-3 110**	**-3 731**
Transfers to producers from consumers	-2 965	-2 538	-2 809	-2 212	-2 592
Other transfers from consumers	-251	-879	-542	-922	-1 173
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	8	25	17	24	34
Percentage CSE (%)	**-30.3**	**-15.4**	**-14.5**	**-16.3**	**-15.2**
Consumer NPC (coeff.)	**1.44**	**1.18**	**1.17**	**1.20**	**1.18**
Consumer NAC (coeff.)	**1.44**	**1.18**	**1.17**	**1.19**	**1.18**
Total Support Estimate (TSE)	**3 762**	**4 751**	**6 135**	**4 381**	**3 736**
Transfers from consumers	3 216	3 417	3 351	3 134	3 765
Transfers from taxpayers	797	2 213	3 326	2 169	1 144
Budget revenues	-251	-879	-542	-922	-1 173
Percentage TSE (% of GDP)	**3.2**	**1.5**	**1.6**	**1.5**	**1.3**
GDP deflator (1995-97=100)	**100**	**377**	**364**	**373**	**393**
Exchange rate (national currency per USD)	**1 029.96**	**2 600.32**	**2 002.56**	**2 744.51**	**3 053.88**

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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933509039

2.7. Costa Rica

Support to agriculture

Costa Rica's policies to support agricultural producers generated an average of 10% of gross farm receipts (%PSE) in 2014-16. While this is little more than half of the OECD average, this support is almost entirely (97%) based on Market Price Support (MPS), one of the most trade and production distorting forms of support. Products most supported through the MPS policies include rice, poultry, pig meat and sugar. The remaining 3% of support is provided through different kinds of subsidies, including input subsidies for fixed capital formation and payments for environmental services. PSE was the largest component of the Total Support Estimate (TSE) to agriculture in 2014-16 accounting for 88% of the total; the remaining 12% was based on support to general services GSSE, which however accounted for 80% of budgetary allocations. About 46% of the GSSE were allocated to agricultural knowledge and innovation systems (more specifically to extension services and R&D and innovation system). Development and maintenance of infrastructure (in particular irrigation and farm restructuring) accounted for 40% of total GSSE outlays, and inspection and control services accounted for 12%. Together, these three categories represent 98% of the total GSSE budget.

Main policies changes

Costa Rica's agricultural policy priorities have remained unchanged and include poverty reduction, and agriculture and rural development. The government provides a range of general services to agriculture, including extension services, research and development (R&D), and plant and animal health services, with emphasis on environmental protection. The country continues to provide minor subsidies through credit to farmers at preferential interest rates, payments for environmental protection, and subsidies for fixed capital formation mostly directed to smallholders.

In 2016, the country undertook some institutional reforms that try to improve co-ordination issues across public institutions. For instance, the government took first steps to reform the extension services, with the ambition to better link these services with the Innovation and Transfer of Agricultural Technology (INTA), the research and development (R&D) institution that belongs to the Ministry of Agriculture and Livestock (MAG). Some efforts were also undertaken to improve the co-ordination between the National Phytosanitary Service (SFE) and the Ministry of Trade (COMEX) and customs, through more and better communication venues (i.e. improving official communication protocols or procedures). Furthermore, the Sectoral Climate Change Commission was established to co-ordinate activities across the main agricultural institutions.

Other 2016 initiatives aim to simplify import processes by reducing bureaucracy. This concerns the registration of agricultural inputs (e.g. agrochemicals) through a revision of the regulations by SFE, the Ministry of Environment and Energy (MINAE), and other related bodies. A revision was also undertaken of the storage requirements, established by SFE, for imported vegetables. These requirements have been complex and were complicating imports processes. The results of this revision are still underway. Finally, the National Irrigation and Drainage Service institution (SENARA) revised and changed the water pricing system (from a fixed rate based on hectare/year to a variable rate based on water availability and costs of maintaining the irrigation system) in order to improve the water use efficiency in agriculture.

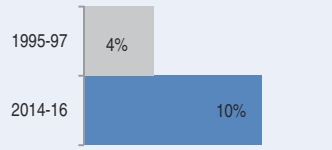
Assessment and recommendations

- Costa Rica's producer support is still predominantly provided through border protection for several products, namely rice, poultry, pig meat, milk and sugar. This support continues to distort both domestic markets and trade, constrains competition and, hence, productivity and competitiveness, and is known to be inefficient for addressing declared policy objectives. In the light of market liberalisation under Costa Rica's Free Trade Agreements (FTAs), the government should develop and communicate a credible strategy to phase out market price support to ensure an orderly adjustment.
- Not all farms are economically viable or have access to markets. As price protection is reduced, development of alternative economic opportunities such as ecotourism, agro-food processing and other rural industries, will be important to create employment in the rural areas. Improved rural education and accompanying assistance programmes can help producers to adapt and shift to non-farm activities, and it will also be necessary to provide social safety net measures for displaced farmers.
- As more than 80% of the government budgetary allocations are directed to general services, ensuring and improving its efficiency is fundamental. For instance, extension services are a core function for the agricultural sector, but capacity constraints and misallocated resources constrain their effectiveness. Extension services also suffer from limited co-ordination between R&D, knowledge generation and farmers' needs. Steps undertaken in 2016 to reform the extension services go in the right direction, but these are only initial steps and more efforts are needed.
- Major investments are required to improve the sector's infrastructure, both to enhance productivity (e.g. through irrigation and drainage) and to facilitate the access to markets (e.g. through transportation, distribution, cold-chain facilities etc.).
- Complex responsibilities and weak co-ordination among the institutions challenge the implementation of public measures and impede effective service provision to the agricultural sector. Reducing bureaucracy and improving institutional co-ordination is therefore important to ensure that support programmes are implemented in a more efficient manner.
- Particularly small-scale producers suffer from poor access to credit and financial tools. In addition, stringent requirements impede small-scale farms from taking advantage of available credit sources, and private commercial banks lack incentives to enter the market. While avoiding moral hazard, existing credit programmes provided by the development banking system and agricultural organisations could be expanded as a first step to improve the financial infrastructure for smallholders in particular.
- The government should consider ways to foster greater competition within the markets of agricultural products. The lack of competition in some agricultural markets is potentially constraining the sector's productivity and competitiveness and reduces market access opportunities for smallholders.
- Costa Rica is among global leaders in responding to climate change, with a long history of environmental protection, sustainable development and action on climate change mitigation. In spite of these important efforts, opportunities for further improvements remain. In particular, the country should better align adaptation and other agricultural objectives to prepare for climate change. Farmers' awareness could also be enhanced through strengthened co-ordination between R&D and technical assistance.

Development of support to agriculture

PSE as % of receipts (%PSE)

Support, as measured by the %PSE has increased from 4% in 1995-97 to 10% in 2014-16. This support has remained below the OECD average.

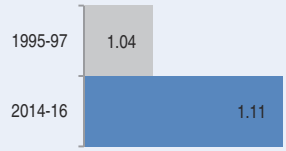


Potentially most distorting support as % of PSE

Market price support, among the potentially most distorting forms of support, continue to dominate and represented 97% of the PSE in 2014-16, practically unchanged from its 1995-97 level.

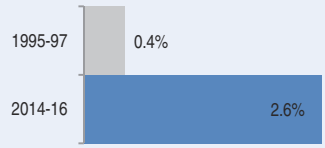
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Border protection and price interventions resulted in producer prices 11% higher than international prices in 2014-16, on average, up from 4% higher in 1995-97.



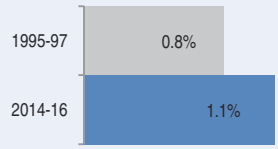
GSSE relative to agricultural value added

Around 80% of budgetary spending is in the form of GSSE. Support to general services was equivalent to 2.6% of agricultural value added in 2014-16, up from 0.4% observed in 1995-97.

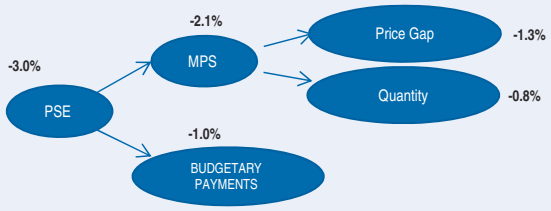


TSE as % of GDP

Total support has been increasing over time and reached 1.1% of GDP in 2014-16. 85% of the total support was provided in the form of market price support, while support to general services represented some 13% of it.

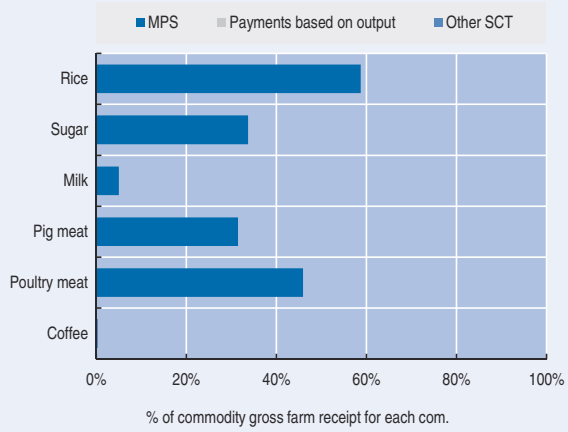


Decomposition of change in PSE, 2015 to 2016



The level of support decreased by 3% in 2016, mainly due to the decrease in MPS. This decrease was due to a combination of slightly lower producer prices for some products and a weaker local currency.

Transfer to specific commodities (SCT), 2014-16



Single Commodity Transfers (SCT) represented, on average, 97% of the total PSE. SCTs are important particularly for rice (60% of gross farm receipts), poultry, sugar and pig meat (all above 30).

Table 2.7. **Costa Rica: Estimates of support to agriculture**

Million USD

	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**2 195**	**4 977**	**4 916**	**4 879**	**5 137**
of which: *share of MPS commodities (%)*	71.4	85.8	86.5	86.8	83.9
Total value of consumption (at farm gate)	**1 063**	**2 619**	**2 531**	**2 560**	**2 765**
Producer Support Estimate (PSE)	**88**	**501**	**406**	**562**	**536**
Support based on commodity output	80	485	391	542	522
Market Price Support[1]	80	485	391	542	522
Payments based on output	0	0	0	0	0
Payments based on input use	8	15	14	18	12
Based on variable input use	7	3	2	3	3
with input constraints	0	2	2	3	3
Based on fixed capital formation	1	9	9	12	6
with input constraints	0	5	5	6	4
Based on on-farm services	1	3	3	3	3
with input constraints	1	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	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	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
Percentage PSE (%)	**3.9**	**10.0**	**8.2**	**11.5**	**10.4**
Producer NPC (coeff.)	**1.04**	**1.11**	**1.09**	**1.13**	**1.11**
Producer NAC (coeff.)	**1.04**	**1.11**	**1.09**	**1.13**	**1.12**
General Services Support Estimate (GSSE)	**7**	**72**	**61**	**80**	**75**
Agricultural knowledge and innovation system	1	33	31	32	35
Inspection and control	0	9	9	9	8
Development and maintenance of infrastructure	6	29	19	37	31
Marketing and promotion	0	1	1	1	1
Cost of public stockholding	0	0	0	0	0
Miscellaneous	0	0	0	1	0
Percentage GSSE (% of TSE)	**7.6**	**12.5**	**13.0**	**12.5**	**12.2**
Consumer Support Estimate (CSE)	**-87**	**-467**	**-380**	**-506**	**-515**
Transfers to producers from consumers	-79	-437	-361	-487	-464
Other transfers from consumers	-8	-30	-20	-19	-51
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	0	0	0	0	0
Percentage CSE (%)	**-8.0**	**-17.8**	**-15.0**	**-19.8**	**-18.6**
Consumer NPC (coeff.)	**1.09**	**1.22**	**1.18**	**1.25**	**1.23**
Consumer NAC (coeff.)	**1.09**	**1.22**	**1.18**	**1.25**	**1.23**
Total Support Estimate (TSE)	**95**	**573**	**467**	**642**	**610**
Transfers from consumers	87	467	380	506	515
Transfers from taxpayers	17	136	106	155	146
Budget revenues	-8	-30	-20	-19	-51
Percentage TSE (% of GDP)	**0.8**	**1.1**	**0.9**	**1.2**	**1.1**
GDP deflator (1995-97=100)	**100**	**531**	**523**	**540**	**..**
Exchange rate (national currency per USD)	**206.00**	**538.59**	**537.22**	**534.59**	**543.96**

.. 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 Costa Rica are: rice, sugar, milk, beef and veal, pig meat, poultry, bananas, coffee, palm oil and pineapple.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933509058

2.8. European Union

Support to agriculture

The European Union has gradually reduced its support to agriculture since the mid-1990s. New instruments, in particular payments that do not require production have gained weight and price distortions have been significantly reduced. At the same time, more payments are submitted to environmental compliance. Around 50% of support to producers is conditional on mandatory environmental constraints. An additional 10% of support to producers goes to voluntary environmental schemes that go beyond the mandatory requirements.

Support has stabilised at around 20% of gross farm receipts since 2010. Payments that do not require production account for about 40% of support. However in 2016, and for the second consecutive year, production-linked support has increased, mainly reflecting the rise in EU average producer prices in a context of lower world prices and also production-linked budget payments.

An overwhelming share of support to the sector, as measured by the TSE, goes to producers (more than 85%). Investments in knowledge and infrastructures are the main components of general services to the sector at large, as measured by the GSSE.

Main policy changes

The end of the milk production quota in 2015, and of the sugar quota in 2017, are important steps away from production and trade distorting measures. Similarly, plantation limits in the vine sector were relaxed in January 2016 when new vine planting was authorised although limited to 1% of the planted vine area per year.

In recent years, payments that encourage commodity production have increased, while they vary greatly across sectors and member states.

In 2016, the main policy developments were linked to the full implementation of the CAP 2014-20 and exceptional measures that were taken as a response to market conditions in the dairy, fruit and vegetables, and pig sectors. In the dairy sector these included public intervention, support to private storage and voluntary supply management and public distribution. Additional packages were targeted to dairy and livestock producers to implement measures such as support to small scale farming, extensive production, environmental and climate friendly production, cooperation between farmers, improvement of quality and added value, training in financial instruments and risk management tools. Exceptional measures targeted to the fruits and vegetables sectors included market withdrawal, subsidised “non-harvesting” and “green harvesting”. In addition to EU funds, member states were allowed to match these amounts with national funds.

Assessment and recommendations

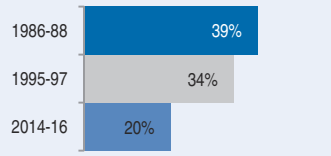
- Policy reforms since 1986-88 have considerably reduced the level and improved the composition of support. Payments that do not require production have gained weight. They offer producers the flexibility to respond to market signals and to make their production choices independently from government intervention. The end of the milk production quota in 2015, and of the sugar quota in 2017, are important further steps away from production and trade distorting measures. However, policy instruments remain in some sectors that disconnect prices paid to producers from world market prices. In 2016, they accounted for 28% of support to producers as measured by the PSE.

- The share of payments requiring production has increased in 2016. Payments that encourage specific commodity production are not evenly used across member states; they influence production choices at the farm level and may distort competition. The CAP 2014-20's small farmers' scheme and the flexibility to introduce additional payments for the first hectares have redistributive effects that may slow structural adjustment.
- Around 50% of support to producers is conditional on mandatory environmental constraints, while exceptions are permitted. Mandatory environmental constraints include cross-compliance, and greening conditions attached to per hectare direct payments and payments to compensate for the implementation of environmental regulations and directives, where they apply. Payments also support farmers who engage in voluntary environmental schemes that go beyond the cross compliance and greening conditions. These payments make up 10% of support to producers. The efficiency of the menu of environmental measures and requirements associated should be assessed against the ambition to enhance the enforcement of environmental stewardship.
- Market access for agricultural products has improved through bilateral agreements and the reduction of applied tariffs. However, import and export licensing, Tariff Rate Quotas (TRQs) and special safeguards continue to apply to a number of products. These push support up when world prices decline.
- The CAP 2014-20 partly reverses the downward trend of production and trade distorting support. Commodity-specific payments have increased as EU member states have used greater flexibility to implement coupled payments. Other less market and resource distorting means could be used to support efforts to achieve long-term competitiveness and productivity gains. Short-term income variations can be addressed with risk management tools. Amendments to the CAP should focus on offering European farmers a levelled playing field, deepening market orientation and better targeting support to improve the long-term productivity, sustainability and efficiency of the sector. The allocation of a greater share of the budget to research and innovation programmes under Horizon 2020 is a move in the right direction.

Development of support to agriculture

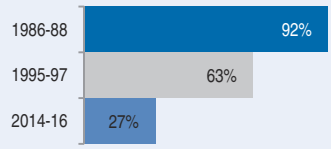
PSE as % of receipts (%PSE)

Support to producers as measured by the %PSE has declined gradually and consistently over the long term. Support has been around 20% of gross farm receipts since 2010, slightly above the OECD average.



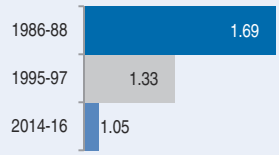
Potentially most distorting support as % of PSE

Market price support and border protection have declined over time and the composition of support has improved. The potentially most distorting support (based on output and variable inputs without input constraints) accounted for 27% of the PSE in 2014-16, well below the OECD average.



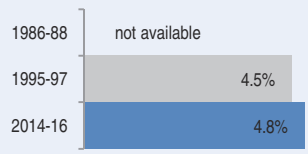
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

On average prices received by farmers were 5% higher than those on the world market in 2014-16. Domestic prices of rice, beef and veal, and poultry were above world prices by more than 20%, other commodity prices were closely aligned with border prices.



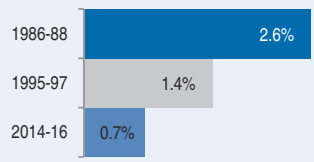
GSSE relative to agricultural value added

Expenditure for general services was equivalent to 5% of the agricultural value added in 2014-16, in line with OECD aggregate numbers. Investments in knowledge and infrastructures are the main components of general services to the sector at large.

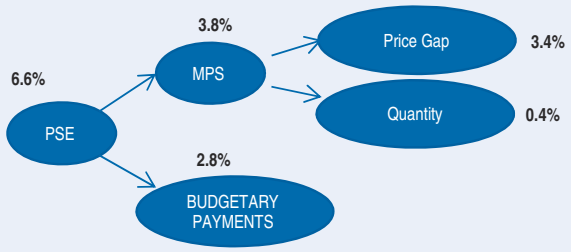


TSE as % of GDP

Total support was 2.6% of GDP in 1986-88, declining to 0.7% in 2014-16. More than 85% of the TSE is provided to individual farmers (PSE).

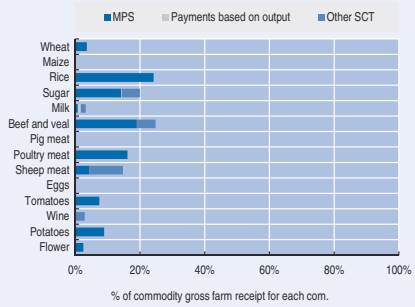


Decomposition of change in PSE, 2015 to 2016



The level of support has increased between 2015 and 2016 by 6.6%. This increase results from rises in both market price support and budgetary payments. The increase of market price support results mainly from a larger price gap as domestic price levels declined less than world prices.

Transfer to specific commodities (SCT), 2014-16



Single commodity transfers (SCT) represent 26% of the total PSE. Beef and veal, rice, sugar, poultry and sheep meat had the highest share of SCT in gross farm receipts in 2014-16. For most commodities, MPS was the main, and sometimes the only, component of SCT. Other SCT include input subsidies and support for market withdrawal as well as Voluntary Coupled Support under the CAP 2014-20.

Table 2.8. **European Union: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**233 558**	**295 609**	**441 075**	**510 858**	**414 944**	**397 424**
of which: *share of MPS commodities (%)*	75.0	73.7	74.1	74.6	74.1	73.5
Total value of consumption (at farm gate)	**208 051**	**284 566**	**464 767**	**537 218**	**430 662**	**426 420**
Producer Support Estimate (PSE)	**97 379**	**116 953**	**101 819**	**111 873**	**93 848**	**99 735**
Support based on commodity output	88 243	71 493	21 299	22 187	19 144	22 565
Market Price Support[1]	82 606	67 147	20 634	21 278	18 556	22 069
Payments based on output	5 637	4 346	665	910	589	496
Payments based on input use	5 116	8 106	13 659	15 626	14 030	11 321
Based on variable input use	960	2 827	5 935	6 515	5 816	5 473
with input constraints	0	0	53	71	51	36
Based on fixed capital formation	3 046	3 287	5 989	7 278	6 647	4 043
with input constraints	0	106	79	91	84	61
Based on on-farm services	1 109	1 992	1 735	1 833	1 568	1 805
with input constraints	90	512	16	10	2	35
Payments based on current A/An/R/I, production required	3 587	36 921	21 831	21 558	18 566	25 370
Based on Receipts / Income	147	81	706	879	543	697
Based on Area planted / Animal numbers	3 440	36 840	21 125	20 679	18 022	24 674
with input constraints	940	14 037	17 404	17 772	14 659	19 780
Payments based on non-current A/An/R/I, production required	0	0	80	148	92	0
Payments based on non-current A/An/R/I, production not required	0	30	42 919	49 346	40 554	38 857
With variable payment rates	0	0	0	0	0	0
with commodity exceptions	0	0	0	0	0	0
With fixed payment rates	0	30	42 919	49 346	40 554	38 857
with commodity exceptions	0	0	6 277	18 806	24	0
Payments based on non-commodity criteria	478	1 242	1 480	2 814	745	881
Based on long-term resource retirement	476	1 112	444	748	296	287
Based on a specific non-commodity output	2	130	974	1 974	401	545
Based on other non-commodity criteria	0	0	63	92	48	49
Miscellaneous payments	-43	-838	550	193	717	740
Percentage PSE (%)	**39.2**	**33.8**	**19.6**	**18.6**	**19.1**	**21.0**
Producer NPC (coeff.)	**1.69**	**1.33**	**1.05**	**1.05**	**1.05**	**1.06**
Producer NAC (coeff.)	**1.64**	**1.51**	**1.24**	**1.23**	**1.24**	**1.27**
General Services Support Estimate (GSSE)	**9 144**	**10 636**	**12 919**	**15 664**	**12 178**	**10 916**
Agricultural knowledge and innovation system	1 814	3 870	6 665	7 472	6 348	6 175
Inspection and control	194	285	794	908	738	736
Development and maintenance of infrastructure	1 331	2 089	3 237	4 690	2 735	2 287
Marketing and promotion	1 210	2 053	2 150	2 537	2 299	1 613
Cost of public stockholding	4 571	2 281	45	11	40	85
Miscellaneous	24	57	28	45	18	20
Percentage GSSE (% of TSE)	**8.2**	**8.1**	**11.1**	**12.2**	**11.3**	**9.8**
Consumer Support Estimate (CSE)	**-72 475**	**-58 351**	**-21 563**	**-24 852**	**-17 162**	**-22 675**
Transfers to producers from consumers	-83 403	-64 443	-20 505	-20 531	-18 288	-22 697
Other transfers from consumers	-1 631	-607	-2 564	-5 691	-239	-1 763
Transfers to consumers from taxpayers	4 992	4 954	1 172	1 212	1 365	941
Excess feed cost	7 567	1 745	334	159	0	844
Percentage CSE (%)	**-35.7**	**-20.8**	**-4.7**	**-4.6**	**-4.0**	**-5.3**
Consumer NPC (coeff.)	**1.69**	**1.30**	**1.05**	**1.05**	**1.05**	**1.06**
Consumer NAC (coeff.)	**1.55**	**1.26**	**1.05**	**1.05**	**1.04**	**1.06**
Total Support Estimate (TSE)	**111 515**	**132 543**	**115 911**	**128 749**	**107 392**	**111 592**
Transfers from consumers	85 034	65 050	23 070	26 222	18 527	24 460
Transfers from taxpayers	28 112	68 100	95 405	108 217	89 103	88 895
Budget revenues	-1 631	-607	-2 564	-5 691	-239	-1 763
Percentage TSE (% of GDP)	**2.6**	**1.4**	**0.7**	**0.7**	**0.7**	**0.7**
GDP deflator (1986-88=100)	**100**	**135**	**185**	**182**	**187**	**185**
Exchange rate (national currency per USD)	**0.91**	**0.81**	**0.85**	**0.75**	**0.90**	**0.90**

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 1995-97; and EU28 from 2014 when available.
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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933508792

2.9. Iceland

Support to agriculture

Iceland's level of support remains among the highest within the OECD, although it has fallen, notably during the second half of the last decade, due to higher world market prices and a strong devaluation of the Icelandic Króna. Reforms of the agricultural policies have been limited, with a shift towards more decoupled payments in the sheep meat sector in the mid-1990s and the establishment of a market for dairy quotas.

After some declining levels until 2013, support to agriculture, mainly due to falling international reference prices for livestock products, has increased significantly since then to reach its highest level in almost a decade, and at 56% of gross farm receipts the PSE has been more than three times the OECD average in 2014-16. The total support to agriculture (TSE) has averaged 1.2% of the country's GDP in recent years, with support to farmers (PSE) being the dominant component. Support to general services (GSSE) accounts for just over 4% of the total support to agriculture, with almost half related to expenditures for inspection and control systems.

Most agricultural support continues to be provided through market price support measures, principally through high tariffs that help to maintain high domestic prices relative to world prices, and therefore lead to a large transfer from consumers to agriculture producers. In addition, market price support is sustained through the payment entitlements system which is directly or indirectly coupled with production factors. Market price support accounts for 54% of the support to farmers in 2014-16. Output payments for milk producers and the more decoupled payments to sheep meat producers represent most of the remaining PSE. As a consequence, 80% of farm support is provided through some of the potentially most production and trade distorting forms.

Main policy changes

In 2016, the Government and the Farmer's Association concluded new agreements on horticultural production, beef and dairy production, sheep production, as well as on an agreement on horizontal support for agricultural activities. These agreements will replace the current ones which expired in 2016 or are due to expire in 2017 and will be valid for the 2017-26 period, with extensive reviews in 2019 and 2023. The key changes in the agreements relate to the dairy and sheep sectors: i) the gradual abolition of the milk quota system and reduction in support entitlements in dairy production, subject to the revision process until 2019; ii) reduction in support entitlements in sheep production and increased in support related to quality control. In addition, there is more emphasis on support which is not linked to specific agricultural sectors.

Assessment and recommendations

- Within the continued application of the current multi-year agreements between the Government of Iceland and the Farmer's Association, changes to the agricultural policy are limited. Despite the shift towards more decoupled payments in the sheep meat sector in the mid-1990s and the establishment of a market for dairy quotas helping to reduce efficiency losses, Iceland's support to farmers remains well above that of most other OECD countries. Moreover, support to farmers continues to be dominated by market price support and other production and trade distorting measures. About three-quarters of farm

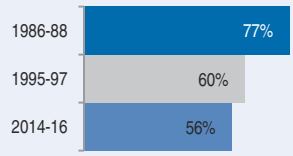
support is provided in these potentially most distorting forms, largely preventing agricultural producers from receiving market signals and responding to them.

- To reduce the level of support and its distortive effects in a sustainable manner, policies need to be changed away from border protection and in favour of measures less linked to production. The payments to sheep producers introduced in the mid-1990s are a step in this direction, even though some sheep holding needs to be maintained to remain eligible.
- Reforms need to efficiently target explicit policy objectives, including sustainable use of natural resources, while reducing market distortions. The new animal welfare regulations are a good example, but an increasing share of support to farmers should be directly linked to the avoidance of negative externalities and the provision of public goods. Programmes, such as the quality control programme for sheep farming, which is subject to environmental compliance requirements, could contribute to sustainable land management.
- Progress is needed in supporting innovation, including by encouraging a well-functioning agricultural knowledge and information system, for which public expenditures have been declining over the past decade.
- The new agreements between the Government and the Farmer's Association concluded in 2016, which will provide the policy framework for the 2017-26 period, is an opportunity for fostering the reform process towards less distorting support, particularly for the dairy and sheep sectors, in order to improve efficiency in a more sustainable manner.

Development of support to agriculture

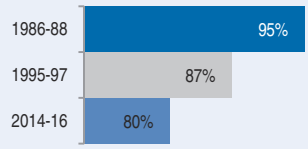
PSE as % of receipts (%PSE)

Between 1986-88 and 2014-16, support to farmers in Iceland has declined by 21 percentage points. But at 56%, it remains high compared to most other OECD countries. After having fallen to 41% in 2013, increased since then reaching 60% in 2016.



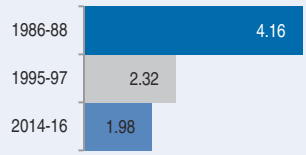
Potentially most distorting support as % of PSE

The share of potentially most distorting support (based on output and variable input use – without input constraints) in total PSE has fallen over the past decades, due to higher international commodity prices, the devaluation of the Króna in 2007, and the change in sheep meat payments towards historical entitlements in the mid-1990s. Still, these forms of support represent 80% of the total PSE.



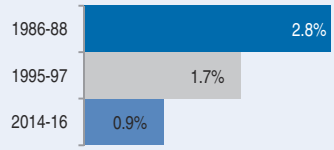
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

In the long term, the ratio of producer prices (including unit output payments) to border prices has been halved between 1986-88 and 2014-16, but producer prices still remain twice as high as those in the world market. Poultry, eggs, wool and milk show the highest NPC. Again, much of this decline was due to changes in international prices and exchange rates.



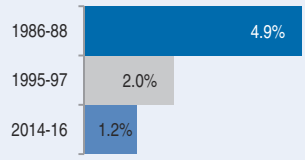
GSSE relative to agricultural value added

Expenditures on general services decreased in relative terms from an equivalent of 2.8% of agricultural value added in 1986-88 to 0.9% in 2014-16. Expenditures for inspection and control systems account for almost half of GSSE.

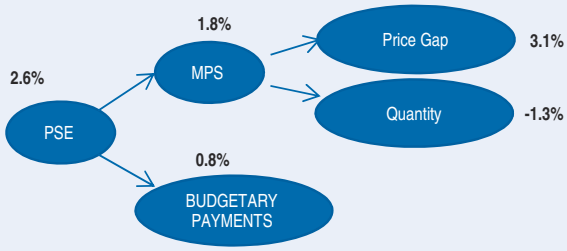


TSE as % of GDP

Total support was 1.2% of GDP in 2014-16, with the expenditure on general services representing some 4% of the Total Support Estimate (TSE).

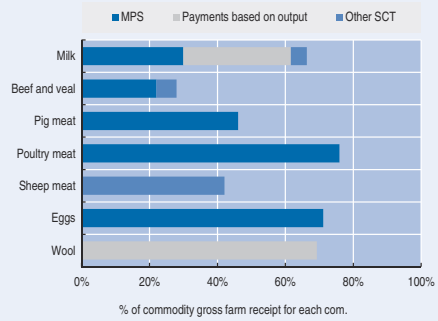


Decomposition of change in PSE, 2015 to 2016



The level of support increased in 2016 mainly due to a widened gap between higher domestic prices and lower border prices (MPS), in particular for poultry, beef and eggs in combination with appreciation of the Króna against the euro.

Transfer to specific commodities (SCT), 2014-16



Single Commodity Transfers (SCT) represented 98% of the total PSE. The share of the SCT in commodity gross farm receipts was more than 70% for poultry, eggs and wool.

Table 2.9. **Iceland: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**236**	**153**	**275**	**290**	**260**	**275**
of which: *share of MPS commodities (%)*	80.3	73.5	82.0	79.8	82.9	83.4
Total value of consumption (at farm gate)	**205**	**144**	**240**	**250**	**218**	**251**
Producer Support Estimate (PSE)	**193**	**131**	**204**	**192**	**199**	**222**
Support based on commodity output	180	114	160	147	157	177
Market Price Support[1]	179	67	110	95	111	125
Payments based on output	2	46	50	52	47	52
Payments based on input use	13	5	11	11	10	11
Based on variable input use	3	0	2	3	2	2
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	6	2	4	4	4	5
with input constraints	0	0	0	0	0	0
Based on on-farm services	4	3	4	4	4	4
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	-1	-3	2	1	2	2
Based on Receipts / Income	-1	-3	-4	-4	-3	-4
Based on Area planted / Animal numbers	0	0	5	6	5	6
with input constraints	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	15	32	33	29	33
Payments based on non-current A/An/R/I, production not required	1	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	1	0	0	0	0	0
with commodity exceptions	1	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 (%)	**77.2**	**60.4**	**55.5**	**49.8**	**57.1**	**59.6**
Producer NPC (coeff.)	**4.16**	**2.32**	**1.98**	**1.76**	**2.05**	**2.17**
Producer NAC (coeff.)	**4.38**	**2.52**	**2.25**	**1.99**	**2.33**	**2.48**
General Services Support Estimate (GSSE)	**18**	**14**	**9**	**8**	**8**	**11**
Agricultural knowledge and innovation system	5	5	1	1	1	1
Inspection and control	1	1	4	4	4	6
Development and maintenance of infrastructure	2	3	0	0	0	0
Marketing and promotion	1	1	0	0	0	0
Cost of public stockholding	9	4	3	3	3	3
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**6.9**	**9.2**	**4.3**	**4.2**	**3.9**	**4.8**
Consumer Support Estimate (CSE)	**-112**	**-59**	**-103**	**-89**	**-99**	**-122**
Transfers to producers from consumers	-157	-64	-104	-89	-99	-122
Other transfers from consumers	-1	-1	0	0	0	0
Transfers to consumers from taxpayers	46	5	1	1	1	1
Excess feed cost	0	0	0	0	0	0
Percentage CSE (%)	**-70.4**	**-42.9**	**-43.2**	**-35.5**	**-45.4**	**-48.7**
Consumer NPC (coeff.)	**4.38**	**1.82**	**1.77**	**1.55**	**1.84**	**1.95**
Consumer NAC (coeff.)	**3.38**	**1.75**	**1.76**	**1.55**	**1.83**	**1.95**
Total Support Estimate (TSE)	**257**	**150**	**214**	**201**	**207**	**234**
Transfers from consumers	158	65	104	89	99	122
Transfers from taxpayers	100	86	111	112	108	112
Budget revenues	-1	-1	0	0	0	0
Percentage TSE (% of GDP)	**4.9**	**2.0**	**1.2**	**1.2**	**1.2**	**1.2**
GDP deflator (1986-88=100)	**100**	**211**	**518**	**492**	**522**	**539**
Exchange rate (national currency per USD)	**40.94**	**67.48**	**123.13**	**116.69**	**131.90**	**120.81**

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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933508811

2.10. Indonesia

Support to agriculture

Indonesia's current agricultural policy settings were put in place in 2012 with the implementation of a series of reforms accompanying the new Food Law. These reforms saw a rise in the importance of food sovereignty and food self-reliance as the guiding principles underpinning agricultural policy. In practical terms, this has led to the implementation of policies and programmes to achieve self-sufficiency (a long-standing policy objective) in a number of products – those of rice, maize, soybeans, sugar and beef.

Commitment to the self-sufficiency policy agenda has intensified in recent years, especially with respect to rice. A number of measures were introduced directly targeting rice production, from the supply of new machinery to the upgrading of irrigation infrastructure. At the same time, in spite of falling world prices, market price support grew due to limitations placed on international trade. These measures and more favourable weather patterns have further reduced Indonesia's rice imports since 2012.

Producer support to agriculture in Indonesia has increased significantly in recent years. The pressures to increase self-sufficiency through market interventions have seen significant gaps appear between domestic and world market prices – these gaps have been compounded by the recent moderating of world market prices. With the vast majority of support provided in the form of market price support, Indonesia's percentage PSE rose from 20% of gross farm receipts in 2013 to 29% in 2015. Due to agriculture's large share in the domestic economy, total support to agriculture (%TSE) is also large at 4% of GDP – the highest of all countries examined. In contrast, support provided in the form of payments to general services to agriculture (GSSE) is relatively low, and between 2013-15 averages 5.2% of total support.

Main policy changes

For this edition of the Agricultural Policies Monitoring and Evaluation Report, no update of the support to agriculture was possible. As such, no specific details on changes in the implementation of various government programmes are available. Instead, this section highlights changes in broader policy settings.

During the 2016-17 period Indonesia has maintained the main features of its agricultural policy settings that were adopted in 2012. Market price support delivered through domestic and trade policy settings, along with budgetary transfers for variable inputs (mainly in the form of subsidies to fertiliser, seeds and credit) have been the main form of support provided to producers. The Government maintains minimum purchase prices for sugar, soybeans and paddy rice. Similarly, Indonesia has maintained its export tax arrangements related to palm oil (with increases reported for 2017) and cocoa. In addition, a levy of USD 50 per tonne of crude palm oil is used to fund subsidies on biofuels. Allied to this, in 2015, Indonesia announced plans to increase the biofuels mandate to blend 20% palm biodiesel in 2016, up from 15%. The mandate is set to increase to 30% by 2020.

Fertiliser subsidies remain the most significant component of budgetary outlays provided to the sector (up to 2015-16). Funding for these has increased over time, with some of the savings generated by reforms to the country's fuel subsidy arrangements being channelled into this policy area.

For rice, BULOG maintains its market operations and purchasing functions. However, the effects of trade barriers associated with Indonesia's self-sufficiency policies have

maintained domestic rice prices consistently above international prices. The market price support schemes for rice remain the most important contributor to the longer run significant increases in the level of support in Indonesia, as measured by PSEs, explaining close to 40% of the total PSE in this country in 2015. To counter some of these price effects, BULOG has continued to distribute rice within the RASKIN system. In 2015, this entailed large budgetary transfers to support the system of close to IDR 21 trillion (USD 1.7 billion), up from close to IDR 19 trillion spent in 2014 (USD 1.4 billion).

Assessment and recommendations

The current direction of Indonesian agricultural policy has seen significant price gaps appear between domestic and international markets. The policy focus has been on self-sufficiency as a tool to achieve food self-reliance and sovereignty and ultimately improve food security and food accessibility. However, the observed price effects are likely to be working against some of the main objectives that underpin the Food Law of 2012. While the RASKIN programme has been put in place to improve food accessibility for poor households, recent OECD analysis has brought into question the effectiveness of this programme in improving food security as measured by rates of undernourishment (OECD, 2015).

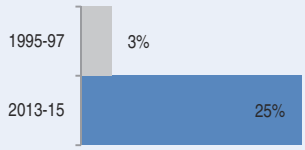
A number of reforms to the current policy setting are likely to better situate Indonesian agriculture to contribute to improvements in food security, improve its productivity performance and to increase the accessibility of food to citizens.

- To ease dependence on rice supplies, and deliver greater improvements in food security, Indonesia might consider reforming the RASKIN system through replacing the in-kind rice distribution with conditional cash transfers.
- Fertilizer subsidies have been found to be costly and the extent to which benefits accrue to farmers has been questioned.
- A greater focus should be placed on policies that combat poverty and stimulate domestic productivity through investments in infrastructure, the innovation system and through easing constraints on private investment in agriculture. Budgetary savings from reduced input subsidises could be re-allocated to reinforce Indonesia's Agricultural Innovation System and to improve long-term agricultural productivity. Further, to limit leakages and to better address rural poverty and development, savings from reduced input subsidies could be converted to decoupled payments per unit of land as has been progressively implemented in China.
- Indonesia applies a growing number of administrative requirements on agro-food imports related to food safety, quarantine, product standards and labelling. The combination of these requirements, uneven enforcement and poor transparency over changing rules is adding to trade costs. Ensuring that requirements are set on a scientific basis and improving transparency and consistent in application should help ease these growing costs.

Development of support to agriculture

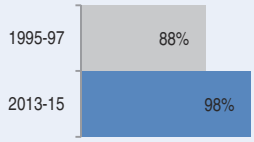
PSE as % of receipts (%PSE)

Indonesia has continued to increase support to agriculture, which was 10 percentage points above the OECD average for 2013-15. The level of support fell in 2011, but since increased by 13 percentage points in 2015, largely due to an increase in domestic prices relative to those that were seen in international markets at that time.



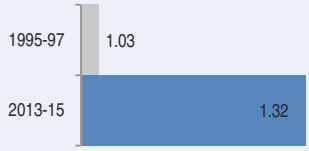
Potentially most distorting support as % of PSE

Support is provided almost exclusively through market price support and variable input subsidies, both considered as potentially the most production and trade distorting policies.



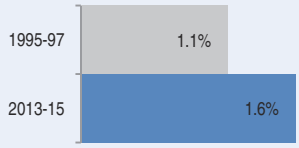
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

On average, prices received by farmers were 32% higher than those observed on the world markets in 2013-15. Poultry, rice, maize and sugar show the highest NPCs.



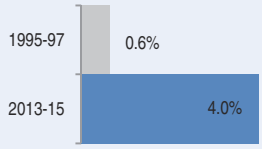
GSSE relative to agricultural value added

The expenditures for general services, equivalent to 1.1% of agricultural value added 1995-97, have increased to an equivalent of 1.6% of agricultural value added 2013-15.

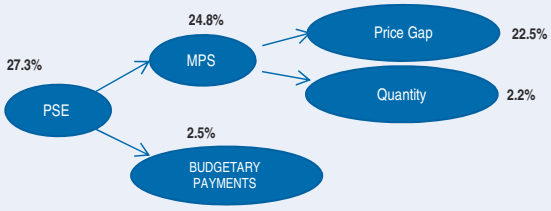


TSE as % of GDP

Total support has been increasing, reaching 4% of GDP in 2013-15 compared to the OECD average at 0.7% over the same period. The share of the GSSE in the TSE was low at just 5.2% in 2013-15.

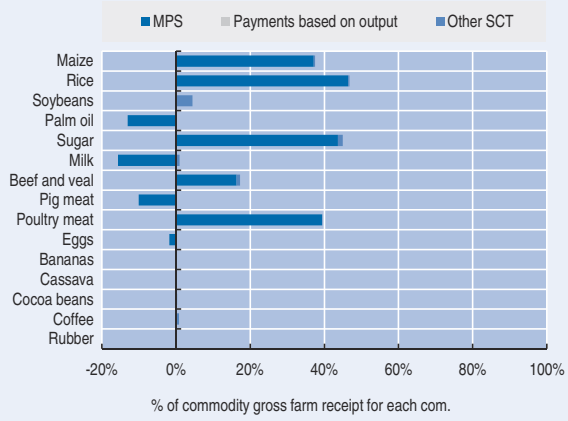


Decomposition of change in PSE, 2014 to 2015



Higher domestic prices compared to those on that were seen on international markets was the key factor leading to increase in PSE between 2014 and 2015. An increase in fertilizer subsidies in 2015 contributed to the slight increase in budgetary payments in that year.

Transfer to specific commodities (SCT), 2013-15



Producer Single Commodity Transfers were 92% of the PSE in 2013-15. SCT was very uneven across commodities, and some were taxed. The share of the SCT in commodity receipts was highest for sugar, poultry, rice and maize.

Table 2.10. **Indonesia: Estimates of support to agriculture**

Million USD

	1995-97	2013-15	2013	2014	2015
Total value of production (at farm gate)	**33 578**	**126 530**	**130 641**	**128 464**	**120 485**
of which: *share of MPS commodities (%)*	68.3	61.8	62.7	64.3	58.5
Total value of consumption (at farm gate)	**32 005**	**110 687**	**118 884**	**108 100**	**105 076**
Producer Support Estimate (PSE)	**1 330**	**31 665**	**27 154**	**31 871**	**35 969**
Support based on commodity output	1 026	28 953	24 760	29 208	32 891
Market Price Support[1]	1 026	28 953	24 760	29 208	32 891
Payments based on output	0	0	0	0	0
Payments based on input use	301	2 661	2 348	2 579	3 056
Based on variable input use	163	2 159	1 895	1 982	2 601
with input constraints	0	0	0	0	0
Based on fixed capital formation	126	477	444	588	399
with input constraints	3	4	6	7	0
Based on on-farm services	12	25	9	9	57
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	3	51	46	84	23
Based on Receipts / Income	3	51	46	84	23
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 (%)	**3.5**	**24.9**	**20.4**	**24.3**	**29.1**
Producer NPC (coeff.)	**1.03**	**1.32**	**1.25**	**1.32**	**1.40**
Producer NAC (coeff.)	**1.04**	**1.33**	**1.26**	**1.32**	**1.41**
General Services Support Estimate (GSSE)	**468**	**1 837**	**1 762**	**1 701**	**2 048**
Agricultural knowledge and innovation system	100	207	227	185	209
Inspection and control	24	58	71	50	53
Development and maintenance of infrastructure	343	1 395	1 230	1 243	1 713
Marketing and promotion	1	20	18	14	29
Cost of public stockholding	0	153	211	205	42
Miscellaneous	0	4	6	4	3
Percentage GSSE (% of TSE)	**27.8**	**5.2**	**5.7**	**4.8**	**5.2**
Consumer Support Estimate (CSE)	**-1 162**	**-32 548**	**-30 003**	**-32 036**	**-35 604**
Transfers to producers from consumers	-1 158	-32 277	-28 629	-32 276	-35 925
Other transfers from consumers	-5	-2 944	-3 960	-2 574	-2 297
Transfers to consumers from taxpayers	20	1 699	1 944	1 584	1 568
Excess feed cost	-19	974	643	1 231	1 050
Percentage CSE (%)	**-3.2**	**-30.2**	**-25.7**	**-30.1**	**-34.4**
Consumer NPC (coeff.)	**1.03**	**1.47**	**1.38**	**1.48**	**1.57**
Consumer NAC (coeff.)	**1.03**	**1.43**	**1.35**	**1.43**	**1.52**
Total Support Estimate (TSE)	**1 818**	**35 200**	**30 859**	**35 157**	**39 585**
Transfers from consumers	1 163	35 221	32 589	34 851	38 222
Transfers from taxpayers	660	2 924	2 230	2 881	3 660
Budget revenues	-5	-2 944	-3 960	-2 574	-2 297
Percentage TSE (% of GDP)	**0.6**	**4.0**	**3.4**	**3.9**	**4.6**
GDP deflator (1995-97=100)	**100**	**809**	**770**	**811**	**846**
Exchange rate (national currency per USD)	**2 484.70**	**11 900.79**	**10 449.96**	**11 866.34**	**13 386.06**

Note: 2016 data not available. 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: palm oil, cocoa beans, cassava, bananas, rubber, coffee, maize, rice, soybean, sugar, milk, beef and veal, pig meat, poultry and eggs.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933509077

2.11. Israel

Support to agriculture

Despite efforts to implement market-oriented reforms, the persistence of some regulations, price controls and border protection continue to isolate domestic farmgate prices for some commodities from changes on international markets. Consequently, domestic prices, in particular for milk, have not come down to the same degree as international prices in recent years, resulting in a rising price gap with international markets and increases in producer support – which has reached a level close to the OECD average.

Producers of some commodities benefit from market price support, with the largest support for milk and bananas in 2014-16. For eight exported fruit and vegetables (groundnuts, tomatoes, pepper, oranges, grapefruits, grapes, avocados and potatoes), no export subsidies nor other market price support policies either supporting or taxing producers have been identified, thus the price gaps for these commodities have been set to zero. In absolute terms, support for milk and poultry producers is the largest and in 2014-16 these commodities accounted on average for almost half of the total value of market price support.

Market price support and input subsidies, potentially most distorting forms of support, still dominate producer support in Israel and represent 91% of the total. Total support to agriculture (TSE) was 0.5% of GDP in 2014-16, just below the OECD average at 0.6%.

The share of the General Services Support Estimate (GSSE) in total support has declined in recent years, but budgetary support directed at the Agricultural Knowledge and Innovation System, in particular on agricultural knowledge generation, has increased and now represents more than half of all GSSE expenditures.

Main policy changes

In 2016, the Ministry of Agriculture and Rural Development (MARD) and the Ministry of Finance (MoF) agreed with the representatives of the Israel Farmers' Federation to reform the beef sector. The agreement foresees partial conversion of farm support for beef producers from indirect support, by means of tariff quotas and tariffs, to a system of direct payments. The quotas for duty free fresh beef imports will gradually increase from 7 500 tonnes in 2016 to 17 500 tonnes in 2020. Moreover, the MFN customs rates for out-of-quota beef imports will decrease gradually from 12% plus ILS 13 000 (USD 3 390) per tonne in 2016 to 12% and zero ILS in 2020. Cattle farmers will receive compensation payments which will be paid per unit of pasture area. The total amount of compensation will gradually increase from ILS 12 million (USD 3.1 million) in 2017 to ILS 16 million (USD 4.2 million) in 2021 and then will remain at this level until 2024.

The Israeli government and the Knesset approved in 2016 the amendment of the Water Law introducing a flat rate for fresh water. The use of extraction fees will be phased out. The single flat rate will be based on a weighted average of actual costs and "normative costs", determined by the Water Authority and reflecting the real cost of pumping and distributing the water. Consequently, the nationwide water price in 2019 is expected to be set at ILS 1.81 (USD 0.47) per cubic meter for all farmers.

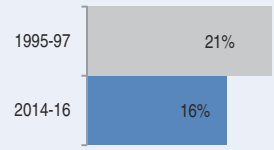
Assessment and recommendations

- While the level of support to agriculture has fallen over the long term, it increased in recent years and in composition it remains production and trade distorting. This reflects the continued high border protection for agricultural commodities and various forms of support for farm inputs. Such a structure of support effectively taxes consumers and creates transfers from taxpayers to producers.
- Despite certain reforms undertaken since 2014, Israel's tariff profile for agricultural products remains highly uneven, with very high – sometimes prohibitive – tariffs for such goods as dairy products, fresh beef (under reform since 2016), eggs and certain fruits and vegetables, and low, sometimes duty-free, tariffs for other commodities such as coarse grains, sugar, oilseed and frozen beef. The tariff system on agriculture remains complicated, involving a large number of non-ad-valorem tariffs (specific, compound or mixed). While the reform of the beef sector is a step in the right direction, its scope should be further enlarged to include other sectors such as dairy.
- OECD Trade Facilitation Indicators for Israel suggest that the country lags behind the OECD average in particular in such areas as the streamlining of border procedures and border agency co-operation (both domestic and cross-border). Israel has undertaken efforts to diminish regulatory burden in various areas, including in agriculture and in agro-food trade, leading to significant improvements in 2015-17. Border procedures can be further streamlined and simplified by providing for the possibility to release goods prior to the final determination and payment of Customs duties, in particular as regards perishable products such as food and agricultural commodities. Progress made in these areas would not only reduce trade costs and encourage trade flows, but would also diminish costs for consumers, including of agro-food products.
- Israel is the world leader in water technology, water recycling and in developing new sources of water, in particular through desalination. As the share of recycled and desalinated water in total water use by agriculture has constantly been growing, the share of agriculture in freshwater consumption declined to 35% in 2015. Water stress indicator also declined substantially over the last two decades, but remains almost five times higher than the OECD average. As arable land is another scarce factor with an average availability of just 0.04 hectare per capita, Israel will need to continue efforts to sustain high levels of productivity growth to maintain its competitiveness on international agro-food markets.
- Israel's annual growth rate of total factor productivity in agriculture has been much above the world average. It is the result of advances in technology due to research and development, high managerial skills of Israeli farmers and an effective public extension service. Expenditures on the agricultural knowledge and innovation system have been increasing and in recent years accounted for more than half of total expenditures on general services. In this respect, Israel could be considered a positive example for countries coping with difficult climatic conditions and scarce natural resources.

Development of support to agriculture

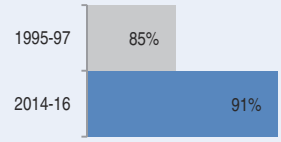
PSE as % of receipts (%PSE)

Support to producers (%PSE) was 16% in 2014-16 compared to 21% in 1995-97. In absolute terms, support for milk and poultry producers is the largest and in 2014-16 these commodities accounted for almost half of the total value of market price support.



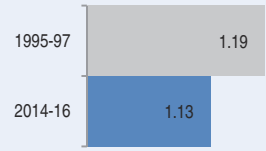
Potentially most distorting support as % of PSE

Market price support and input subsidies without input constraints, both considered as potentially most distorting forms of support, dominate representing 91% of the total in 2014-16 and this share even increased compared to 85% in 1995-97.



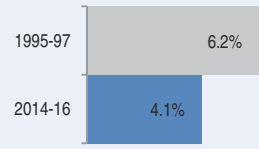
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers were 13% higher than world prices in 2014-16. This represents a 6 percentage points fall relative to the 1995-97 average.



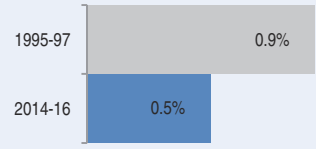
GSSE relative to agricultural value added

Expenditures for general services have fallen from an equivalent of 6.2% of agricultural value added in 1995-97 to 4.1% in 2014-16. However, expenditures on agricultural knowledge and innovation system have been increasing each year and in 2014-16 accounted for more than half of total expenditures on general services.

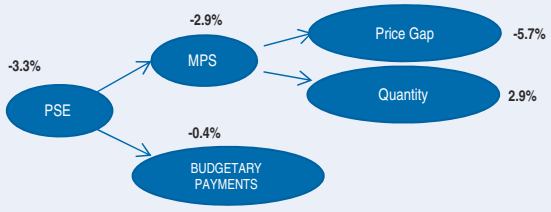


TSE as % of GDP

Total support to agriculture as a share of GDP declined from 0.9% in 1995-97 to 0.5% in 2014-16.

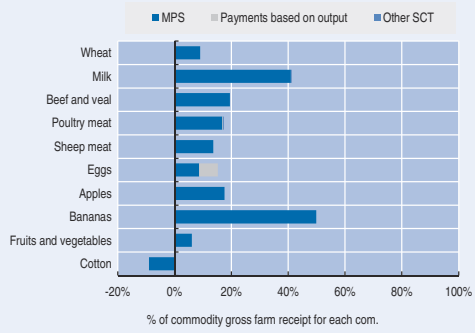


Decomposition of change in PSE, 2015 to 2016



The value of Producer Support Estimate declined slightly in 2016 compared to 2015, largely due to narrower gaps between domestic and world prices. Budgetary expenditures remained almost unchanged.

Transfer to specific commodities (SCT), 2014-16



Producers of most commodities benefit from positive price gaps, with the largest gaps for milk and bananas. In turn, cotton producers were implicitly taxed in 2014-16. For eight exported fruit and vegetables, no market price support policies have been identified, thus the price gaps for them have been set to zero.

Table 2.11. **Israel: Estimates of support to agriculture**

Million USD

	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**3 621**	**7 903**	**8 388**	**7 583**	**7 738**
of which: *share of MPS commodities (%)*	72.4	80.0	78.3	80.0	81.6
Total value of consumption (at farm gate)	**3 697**	**8 339**	**8 957**	**8 020**	**8 041**
Producer Support Estimate (PSE)	**810**	**1 269**	**1 056**	**1 390**	**1 361**
Support based on commodity output	544	1 055	850	1 171	1 143
Market Price Support[1]	523	1 038	830	1 155	1 128
Payments based on output	20	17	20	16	15
Payments based on input use	215	135	147	129	128
Based on variable input use	143	97	112	91	88
with input constraints	0	0	0	0	0
Based on fixed capital formation	57	24	25	20	26
with input constraints	0	0	0	0	0
Based on on-farm services	15	14	11	17	14
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	32	72	50	83	82
Based on Receipts / Income	30	57	38	72	62
Based on Area planted / Animal numbers	2	14	12	11	20
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	18	8	9	8	8
With variable payment rates	0	8	9	8	8
with commodity exceptions	0	0	0	0	0
With fixed payment rates	18	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 (%)	**20.7**	**15.7**	**12.3**	**17.8**	**17.1**
Producer NPC (coeff.)	**1.19**	**1.13**	**1.10**	**1.16**	**1.15**
Producer NAC (coeff.)	**1.26**	**1.19**	**1.14**	**1.22**	**1.21**
General Services Support Estimate (GSSE)	**121**	**157**	**171**	**152**	**148**
Agricultural knowledge and innovation system	48	80	84	78	80
Inspection and control	17	23	26	25	19
Development and maintenance of infrastructure	3	33	41	30	27
Marketing and promotion	19	1	0	1	1
Cost of public stockholding	34	14	16	13	12
Miscellaneous	0	6	3	6	9
Percentage GSSE (% of TSE)	**13.0**	**10.9**	**13.9**	**9.9**	**9.8**
Consumer Support Estimate (CSE)	**-722**	**-955**	**-855**	**-1 026**	**-985**
Transfers to producers from consumers	-569	-850	-704	-951	-895
Other transfers from consumers	-159	-109	-161	-72	-93
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	6	4	10	-3	4
Percentage CSE (%)	**-19.6**	**-11.5**	**-9.5**	**-12.8**	**-12.2**
Consumer NPC (coeff.)	**1.25**	**1.13**	**1.11**	**1.15**	**1.14**
Consumer NAC (coeff.)	**1.24**	**1.13**	**1.11**	**1.15**	**1.14**
Total Support Estimate (TSE)	**931**	**1 426**	**1 227**	**1 542**	**1 509**
Transfers from consumers	728	959	865	1 023	988
Transfers from taxpayers	362	576	523	591	614
Budget revenues	-159	-109	-161	-72	-93
Percentage TSE (% of GDP)	**0.9**	**0.5**	**0.4**	**0.5**	**0.5**
GDP deflator (1995-97=100)	**100**	**167**	**163**	**168**	**171**
Exchange rate (national currency per USD)	**3.22**	**3.77**	**3.58**	**3.89**	**3.84**

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, peanuts, tomatoes, peppers, potatoes, avocados, bananas, oranges, grapefruit, grapes, apples, milk, beef and veal, sheep meat, poultry and eggs.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933509096

2.12. Japan

Support to agriculture

Japan has gradually reduced its support to agriculture but the change has been relatively moderate. Producer support as a percentage of gross farm receipts (%PSE) is about 47% in 2014-16, down from 64% in 1986-88 but still almost three times the OECD average, while total PSE has decreased by around 40% (in nominal JPY). Market price support (MPS) remains the main element of PSE and is mainly sustained by trade barriers, especially for rice, pork and milk. Prices received by producers (Producer NPC) are on average 75% above world market prices.

While the share of potentially most distorting support (MPS, support based on output and variable input use – without input constraints) has declined, it still accounts for 86% of producer support. Support that is based on individual commodities (Producer SCT) represents 87% of support to farmers. The share of direct payments in the PSE is increasing in recent years particularly in the form of area and income based payments.

The total support estimate to agriculture (TSE) represents 1.1% of Japan's GDP in 2014-16. Support for producers (PSE) represents 83% of TSE in 2014-16, while another 17% is the support for general services provided to agriculture (GSSE). Around 80% of the GSSE is directed to the development and maintenance of infrastructure such as irrigation facility and disaster preventions, while 12% of the GSSE finances the agricultural knowledge and innovation system.

Main policy changes

In November 2016, Japan revised the "Plan to Create Vitality for the Industry and Regional Communities" by adding various policy packages to improve competitiveness and to promote agro-food exports. The Plan outlines the agricultural policy reform agenda including input cost reduction; the introduction of a revenue insurance scheme; the reform of the raw milk distribution system; productivity improvement in the beef and dairy sectors; the reforms of agricultural supply-chains; and the promotion of feed rice production. The Plan also aims to boost agro-food exports through promoting production according to international standards; protection of intellectual property rights; and promotion activities on Japanese cuisine and food culture.

In April 2017, two revisions were made on the payments for manufacturing milk (Scheme of Compensation Price for Producers of Milk for Manufacturing Use). First, milk used for fresh cream, concentrated skim mik and concentrated whole milk production became covered by the payments in addition to skim milk powder, butter and cheese. Second, the payment rate was set uniformly, rather than differently by usage, so that farmers can respond to market signals more directly.

Japan and 11 other Pacific Rim nations concluded the Trans-Pacific Partnership (TPP) negotiations in late 2015. The agreement improves market access of agricultural products, including for rice, pork, dairy, beef, wheat, and sugar. Japan's parliament ratified the TPP agreement and passed related legislations in December 2016. However, the United States withdrew from the agreement in January 2017. The agreement can only take effect if it is ratified by all 12 original signatories or at least six members that represent 85% of the total GDP of the 12 member countries. This condition could not be met without the US, as it alone accounts for 60% of the total GDP.

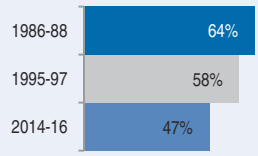
Assessment and recommendations

- Phasing out of the administrative allocation of rice production by the 2018 crop year is an important step to give farmers more freedom to respond to market signals and lower rice prices, yet the remaining trade barriers will keep the price of rice high. A gradual reduction of these measures will help to generate benefits for consumers through lower prices and for farmers through increased flexibility in production decisions.
- Japan has made significant efforts to promote land consolidation to "business farmers" certified by authorities. The establishment of the farmland bank and various types of supports for which only business farms are eligible could contribute to farm size growth and hence lower production cost. However, farmers may be reluctant to release their farmland if doing so prevents them from selling their farmland for non-farm usage (such as construction of industry and service facilities, or private housing) at much higher prices. Reducing the incentive for farmland owners to speculate in such a way, would further help structural change and land consolidation. One option would be to tax the price differential between agriculture and non-agriculture land.
- Japan's agricultural productivity (measured by total factor productivity) has grown at a faster pace than the world average. In order to maintain this trend, shifting away from market price support towards the support for agricultural innovation and promotion of private research and development (R&D) activities is important. The current agricultural innovation system is characterised by a traditional top-down approach, where scientists in the public sector develop new technologies that are disseminated by extension officers to farmers. The promotion of private R&D and adoption of new technologies under the policy reform plan is a move in the right direction.
- Japan intends to pursue economic partnerships with other countries and to promote agro-food exports. While this signals a move towards a more market-oriented agricultural sector, the reduction of border measures on agricultural products would contribute to structural change and further productivity growth of the Japanese agro-food sector through its participation in global value chains.

Development of support to agriculture

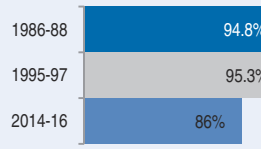
PSE as % of receipts (%PSE)

Support to producers (%PSE) decreased gradually and consistently overtime, but overall support remains high compared to the OECD average.



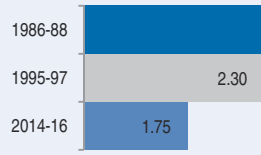
Potentially most distorting support as % of PSE

The potentially most distorting support (MPS and support based on output and variable input use – without input constraints) still represents 86% of the PSE. Market price support continues to be the main element of that support.



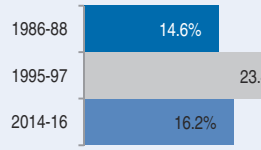
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers were around 2.65 times higher than those in world markets in 1986-88, but this ratio was reduced to 1.75 in 2014-16.



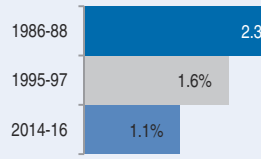
GSSE relative to agricultural value added

Expenditures for general services (GSSE) were equivalent to 16.2% of agricultural value added in 2014-16 and mainly focused on the development and maintenance of infrastructure such as irrigation facility.

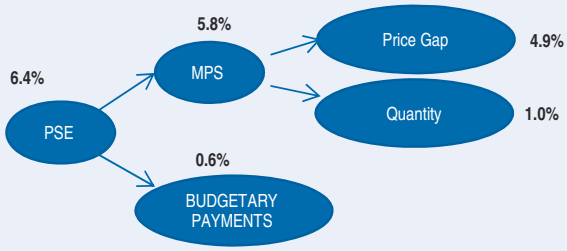


TSE as % of GDP

Total support to agriculture (TSE) was 1.1% of GDP in 2014-16, reduced by half since 1986-88.

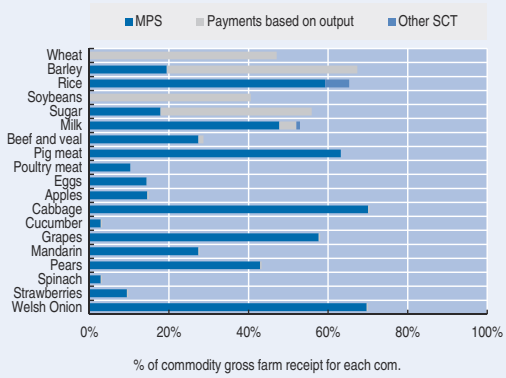


Decomposition of change in PSE, 2015 to 2016



The level of support increased by 6.4% in 2016 mainly due to the increase in the gap between domestic and border prices, in particular for rice. This is explained by slightly higher domestic prices in combination with a decline in import prices and an appreciation of JPY.

Transfer to specific commodities (SCT), 2014-16



Transfers to specific commodities represented 87% of support to farms in 2014-16. The level and structure of the Single Commodity Transfers (SCT) vary greatly by commodity. SCTs above 50% of commodity gross farm receipts are maintained for barley, rice, sugar, milk, pork, cabbage, grapes and Welsh onion.

Table 2.12. **Japan: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**72 767**	**95 057**	**76 748**	**79 018**	**72 709**	**78 517**
of which: *share of MPS commodities (%)*	68.4	67.9	65.7	65.4	65.7	65.8
Total value of consumption (at farm gate)	**98 515**	**141 486**	**114 232**	**120 303**	**108 346**	**114 048**
Producer Support Estimate (PSE)	**49 757**	**58 891**	**39 817**	**42 587**	**35 198**	**41 666**
Support based on commodity output	46 141	54 996	33 610	36 441	29 454	34 935
Market Price Support[1]	44 603	53 380	32 064	34 693	28 038	33 461
Payments based on output	1 539	1 616	1 546	1 748	1 416	1 474
Payments based on input use	2 056	2 804	1 298	1 546	1 191	1 158
Based on variable input use	1 024	1 164	464	484	431	478
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	890	1 443	560	765	514	401
with input constraints	0	0	0	0	0	0
Based on on-farm services	142	197	274	297	246	279
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	0	1 916	1 101	2 025	2 623
Based on Receipts / Income	0	0	348	33	320	692
Based on Area planted / Animal numbers	0	0	1 568	1 068	1 705	1 931
with input constraints	0	0	669	75	917	1 014
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	1 091	2 993	3 499	2 528	2 950
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	1 091	2 993	3 499	2 528	2 950
with commodity exceptions	1 560	1 091	2 431	2 262	2 322	2 709
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 (%)	**64.0**	**58.2**	**47.0**	**49.0**	**44.1**	**48.0**
Producer NPC (coeff.)	**2.65**	**2.30**	**1.75**	**1.82**	**1.66**	**1.78**
Producer NAC (coeff.)	**2.78**	**2.39**	**1.89**	**1.96**	**1.79**	**1.92**
General Services Support Estimate (GSSE)	**8 769**	**19 418**	**8 383**	**8 548**	**7 878**	**8 722**
Agricultural knowledge and innovation system	514	897	998	1 079	959	957
Inspection and control	55	96	92	103	85	88
Development and maintenance of infrastructure	7 747	17 583	7 058	7 155	6 593	7 426
Marketing and promotion	152	256	100	68	124	109
Cost of public stockholding	301	586	134	142	118	143
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**14.9**	**24.7**	**17.4**	**16.7**	**18.3**	**17.3**
Consumer Support Estimate (CSE)	**-61 284**	**-76 199**	**-45 595**	**-47 929**	**-41 785**	**-47 071**
Transfers to producers from consumers	-44 031	-52 896	-32 076	-34 697	-28 047	-33 484
Other transfers from consumers	-17 213	-23 539	-13 559	-13 276	-13 771	-13 630
Transfers to consumers from taxpayers	-108	240	7	8	7	7
Excess feed cost	68	-4	32	36	25	36
Percentage CSE (%)	**-62.3**	**-53.7**	**-39.9**	**-39.8**	**-38.6**	**-41.3**
Consumer NPC (coeff.)	**2.65**	**2.16**	**1.66**	**1.66**	**1.63**	**1.70**
Consumer NAC (coeff.)	**2.65**	**2.16**	**1.66**	**1.66**	**1.63**	**1.70**
Total Support Estimate (TSE)	**58 417**	**78 549**	**48 208**	**51 143**	**43 084**	**50 395**
Transfers from consumers	61 243	76 435	45 635	47 973	41 818	47 113
Transfers from taxpayers	14 387	25 654	16 132	16 447	15 037	16 912
Budget revenues	-17 213	-23 539	-13 559	-13 276	-13 771	-13 630
Percentage TSE (% of GDP)	**2.3**	**1.6**	**1.1**	**1.1**	**1.0**	**1.1**
GDP deflator (1986-88=100)	**100**	**109**	**93**	**92**	**93**	**94**
Exchange rate (national currency per USD)	**147.09**	**107.96**	**111.88**	**105.85**	**121.00**	**108.80**

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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink *http://dx.doi.org/10.1787/888933508830*

2.13. Kazakhstan

Support to agriculture

The level of producer support was around 11.4% on average in 2013-15. It however became negative in 2016 as domestic producer prices weakened against world levels. A negative price gap resulted in a negative estimate of market price support (MPS) at the aggregate level. Budgetary transfers to producers decreased slightly in real terms compared to their average in the three preceding years and were provided mainly in the form of subsidies to farm investments. Total support to agriculture (TSE) reduced substantially but remained positive. General services obtained approximately the same amount of funding as on average in 2013-15 in real terms. The main components of GSSE were spendings on the agricultural knowledge and innovation system, the inspection and control system and for the development and maintenance of infrastructure.

Main policy changes

A number of policy changes were implemented and approved during 2016 and early 2017. From 1 January 2016 the government eliminated the state purchases of grain. It also decided to eliminate a group of measures of producer support such as area payments for food crops, cotton quality expertise subsidy and interest subsidies to investment credits in 2017. The budgetary resources saved in this way are to be used for provision of investment subsidies in the form of grants to investment, financial rehabilitation of farms and other measures of producer support. A moratorium on the implementation of the Law on Introducing Amendments to the Land Code, which envisaged the introduction of private ownership on agricultural land, was introduced by the President's Edict dated 6 May 2016. A Law on Agricultural Cooperation that came into effect on 1 January 2016 facilitates the creation and operation of producer co-operatives and makes them eligible for a range of support measures available to agricultural producers. The State Programme of Agro Industrial Complex Development in the Republic of Kazakhstan for 2017-21 was enacted in February 2017. While preserving major principles of the country's agricultural policy framework adopted since 2013, it puts a stronger emphasis on the development of individual household plots and small farms and improving agriculture supporting infrastructure and services such as agricultural machinery, agrichemical services, infrastructure for trade and certification services.

Assessment and recommendations

- Total support estimate showed a substantial decline in 2016 compared to earlier years. The main reason for this was the market price support estimated to be negative.
- Several reforms were introduced to limit production and trade distorting support, most of them to be implemented in 2017.
- A broad farm debt restructuring programme has been implemented since 2013. With approximately KZT 25 billion (USD 72 million) in 2016, the volume of this form of direct support to farmers was equivalent to one-fifth of all public funds directed to general services. A more active use of the bankruptcy procedure should be considered to improve the sector performance and to attain more effective allocation of public funds and productive ressources.
- A greater focus needs to be placed on enabling producers to better manage market and climate-related risks and on generating incentives for a more efficient and sustainable use

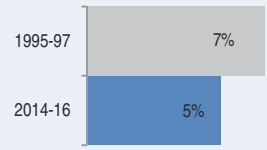
of natural resources. Developing a national system of extension services and improving attractiveness of rural areas to young professionals can present more effective policies for improving farm decision-making and performance than granting support conditioned on compliance with administratively specified requirements such as regional specialisation schemes.

- A number of infrastructure projects launched recently have the potential to reduce weaknesses in the transport and market infrastructure and improve water and land management. Investments in these areas are essential to attain the stated agricultural development goals and will need to be pursued.
- Promotion and facilitation of agriculture product exports shall improve price transmissions and farmers' market integration. An option to boost exports is the promotion of internationally competitive and innovative products for final food consumption and brand management.

Development of support to agriculture

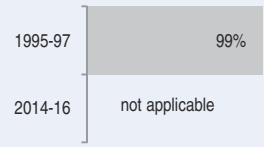
PSE as % of receipts (%PSE)

Support to agricultural producers as measured by the %PSE was estimated to be 5% of gross farm receipts on average in 2014-16 and thus lower than in 1995-97 and over the last 10 years on average. This moderate estimate of producer support for 2014-16 masks a negative PSE value for 2016.



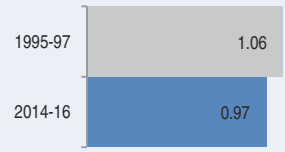
Potentially most distorting support as % of PSE

Due to a large negative market price support (MPS) value measured for 2016, the share of potentially most distorting support (support based on output and variable input use – without input constraints) turned negative and therefore is not reported. During 2014-15, the potentially most distorting support represented 43% of support to farms.



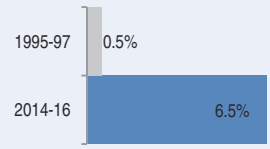
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers in 2014-16 were 3% lower than world prices compared to parity with world prices in 1995-97. This decrease in the average NCP was mainly due to substantial drops in NPCs for grain and other crop products in 2016.



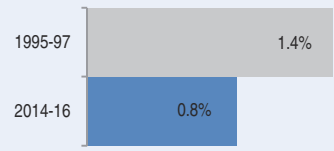
GSSE relative to agricultural value added

Support to general services (GSSE) increased substantially between 1995-97 and 2014-16 and was equivalent to 6.5% of agricultural value added in the most recent period. This reflects serious efforts undertaken in recent years to improve farmers' access to basic services and market infrastructure.

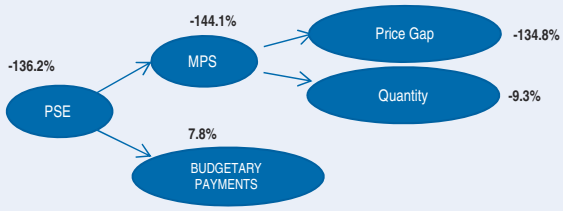


TSE as % of GDP

Total support to agriculture (TSE) as % of GDP declined from 1.4% in 1995-97 to 0.8% in 2014-16. This was associated with higher rates of the country's GDP growth compared to growth rates of the agriculture value added during the 2000s and the drop in TSE in 2016. The share of GSSE in TSE increased from 5% in 1995-97 to 36% in 2014-16.

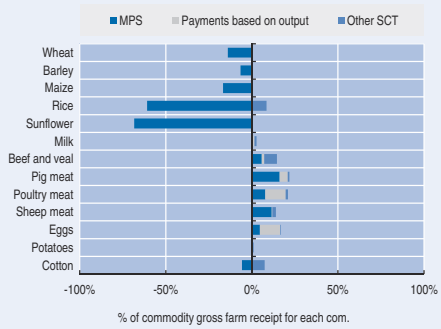


Decomposition of change in PSE, 2015 to 2016



The level of support became negative in 2016, mainly due to negative price gap resulting from depreciation of Kazakh Tenge in the second half of 2015. An increase in budgetary payments by 7.8% did not offset this price effect.

Transfer to specific commodities (SCT), 2014-16



As producer prices moved below the border price levels, SCTs became negative for almost all crops, but remained positive for livestock products.

Table 2.13. **Kazakhstan: Estimates of support to agriculture**

Million USD

	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**3 944**	**12 357**	**14 107**	**12 397**	**10 568**
of which: *share of MPS commodities (%)*	74.0	65.6	68.6	68.8	59.4
Total value of consumption (at farm gate)	**3 591**	**12 119**	**14 074**	**12 059**	**10 223**
Producer Support Estimate (PSE)	**274**	**893**	**1 496**	**1 546**	**-363**
Support based on commodity output	270	-106	299	485	-1 103
Market Price Support[1]	270	-240	154	346	-1 219
Payments based on output	0	134	146	139	116
Payments based on input use	4	804	947	839	626
Based on variable input use	2	233	300	227	172
with input constraints	0	0	0	0	0
Based on fixed capital formation	2	562	635	601	451
with input constraints	0	0	0	0	0
Based on on-farm services	0	9	12	11	4
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	190	243	219	108
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	0	190	243	219	108
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	5	7	3	5
Percentage PSE (%)	**6.7**	**5.0**	**9.7**	**11.4**	**-3.2**
Producer NPC (coeff.)	**1.06**	**0.97**	**1.02**	**1.04**	**0.90**
Producer NAC (coeff.)	**1.07**	**1.05**	**1.11**	**1.13**	**0.97**
General Services Support Estimate (GSSE)	**12**	**536**	**737**	**517**	**353**
Agricultural knowledge and innovation system	0	173	225	168	126
Inspection and control	11	191	261	191	122
Development and maintenance of infrastructure	1	159	229	155	93
Marketing and promotion	0	7	14	2	4
Cost of public stockholding	0	2	7	0	0
Miscellaneous	0	3	1	2	6
Percentage GSSE (% of TSE)	**4.9**	**36.0**	**32.3**	**24.5**	**84.3**
Consumer Support Estimate (CSE)	**-356**	**233**	**-317**	**-339**	**1 356**
Transfers to producers from consumers	-331	126	-235	-370	983
Other transfers from consumers	-11	-40	-91	-28	0
Transfers to consumers from taxpayers	0	174	46	47	429
Excess feed cost	-13	-27	-38	12	-56
Percentage CSE (%)	**-9.7**	**3.9**	**-2.3**	**-2.8**	**13.8**
Consumer NPC (coeff.)	**1.10**	**0.98**	**1.02**	**1.03**	**0.91**
Consumer NAC (coeff.)	**1.11**	**0.96**	**1.02**	**1.03**	**0.88**
Total Support Estimate (TSE)	**287**	**1 603**	**2 279**	**2 111**	**418**
Transfers from consumers	342	-87	325	398	-983
Transfers from taxpayers	-44	1 729	2 045	1 741	1 402
Budget revenues	-11	-40	-91	-28	0
Percentage TSE (% of GDP)	**1.4**	**0.8**	**1.0**	**1.1**	**..**
GDP deflator (1995-97=100)	**100**	**951**	**942**	**959**	**..**
Exchange rate (national currency per USD)	**67.88**	**247.69**	**179.19**	**221.73**	**342.16**

.. 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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink *http://dx.doi.org/10.1787/888933509115*

2.14. Korea

Support to agriculture

Korea has gradually reduced its support to agriculture and modest progress has been made towards more market oriented policies. As non-tariff measures on rice were transformed into a tariff system from 2015, all import restrictions on agricultural products are now in the form of tariffs and tariff rate quotas. Along with reducing price support, the government has introduced a range of direct payment programmes from the late 1990s and implemented an agricultural insurance scheme from 2005.

Total support to agriculture (TSE) as a percentage of GDP has significantly declined over the analysed period from 8.6% in 1986-88 to 1.7% in 2014-16. However, at 49% producer support expressed as a share of gross farm receipts (% PSE) is still 2.5 times higher than the OECD average. The market price support (MPS) has been the dominant element in the support to farmers. Even though the ratio of producer price to border price has declined from 3.3 in 1986-88 to 1.9 in 2014-16, the share of the MPS in the PSE shows only a very moderate decrease from 99% to 92% for the same period. The transfer to individual farmers represents 87.4% of the TSE, while support to general services (GSSE) takes up 12.5% of the TSE. The expenditure on the development and maintenance of infrastructure accounts for 52% of the GSSE, followed by the agricultural knowledge and innovation system.

Main policy changes

Korea announced its *supplemented plan to balance supply and demand of rice*. With a goal to balance the supply and demand by 2019, Korea plans to implement a range of policy measures. The area of rice paddies is to be reduced while encouraging crop diversification and the use of high quality seeds instead of high yield seeds. To expand rice consumption, the government intends to strengthen research and development investment in rice food processing industries and reinforce dietary education on the nutritional value of rice. The release of public rice stocks for the use as feed is to increase from 90 000 tonnes in 2016 to 470 000 tonnes in 2017. A new five-year (2016-20) *promotion plan for environmentally friendly agriculture* has been implemented. Aiming to expand the market size for environmentally friendly agricultural products, the government plans to increase the share of pesticide-free (including organic) cultivation area and more generally to reduce the input of chemical fertilisers and pesticides in crop production.

In December 2016, a co-operation fund was created to support the agriculture and fisheries sectors that could be adversely affected by trade liberalisation through free trade agreements (FTAs). This fund is created and will be financed by industries that are likely to benefit from it. The Special Act on Assistance to Farmers and Fishermen following the Conclusion of Free Trade Agreements aims to raise fund up to KRW 100 billion (USD 86 million) annually through voluntary contributions of private companies. The fund will be used to provide education to youths from farm households and to improve rural welfare and development.

Within the Golden Seed Project, KRW 491 billion (USD 423 million) are to be invested from public and private funds during the ten years from 2012 to 2021 in order to develop domestic seeds and promote seed export. By 2016, 300 new varieties have been developed. A private breeding research complex, upholding seed companies' research of varieties and industrialisation, was completed in October 2016. In 2017, it is to promote the development of small automated farm machinery, an upgrade of the farmland observation system by

using drones, and the development of a big data-based model to predict the supply and demand of crops.

The *Korea national food cluster* (Foodpolis), an R&D-focused and export-oriented platform established with an area of 2.32 square kilometres, is scheduled to be completed by 2017. In order to support food companies that purchased or rented land, the government has been operating R&D facilities from 2017.

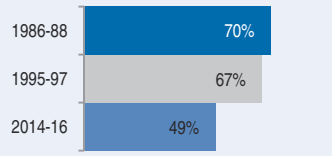
Assessment and recommendations

- The share of support through budgetary payment schemes has gradually increased in most recent years with the introduction of new payment schemes and an increase of payment rates. However, market price support still dominates, and more than 90% of producer support is commodity specific and concentrates on a limited number of products. Border protection and commodity-specific support should be eliminated in a gradual and predictable process to allow markets to play their role in allocating production resources and to reduce the implicit taxation of consumers.
- Reforms of the rice production system should be a policy priority as distortive support for rice has led to significant efficiency losses. The plan to balance the supply and demand of rice is a first step towards more efficient and sustainable system. Efforts to change production and trade distortive measures that prevent producers from receiving market signals should be strengthened to realise rice reform.
- Direct payment schemes should be decoupled from production decisions and reoriented toward measures to target explicit societal objectives, such as the provision of environmental services including water management, flood buffering and biodiversity.
- Greater consideration should be given to the promotion of environmentally friendly agriculture and preservation of the ecosystem. So far, Korea has implemented its long-term plans to improve agricultural environment mainly through producer incentives such as input subsidies and direct payment schemes. However, there remains room for improving the environmental performance of the sector, such as high surplus levels of nitrogen and phosphate and the water use intensity in agricultural production. Environmental policies should increasingly build on the polluter-pays principle.

Development of support to agriculture

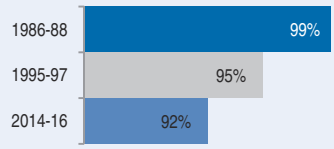
PSE as % of receipts (%PSE)

Korea has gradually reduced its support to agriculture since 1986-88. Despite this reduction, the overall support remains relatively high (2.5 times the OECD average). After a sharp drop in the %PSE to 45% in 2010, the %PSE increased to 49% in 2014-16.



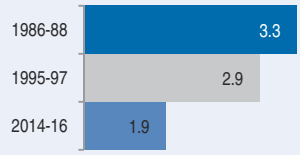
Potentially most distorting support as % of PSE

The potentially most distorting support (based on output and variable input use – without input constraints) is decreasing gradually but still dominates at around 90% of total support to farmers in 2014-16.



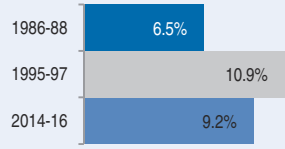
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

The ratio of producer prices to border prices has been gradually reduced. Overall, the prices paid to farmers were almost 2 times higher than world market prices as measured by the NPC in 2014-16. The highest NPCs are for soybeans, pig meat and barley.



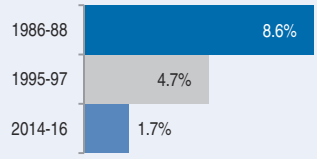
GSSE relative to agricultural value added

Expenditures for general services were equivalent to 9% of the agricultural value added in 2014-16, slightly below the value in the mid-1990s but almost 2 times higher than the OECD average. More than half of general service expenditures were spent on the development and maintenance of infrastructure.

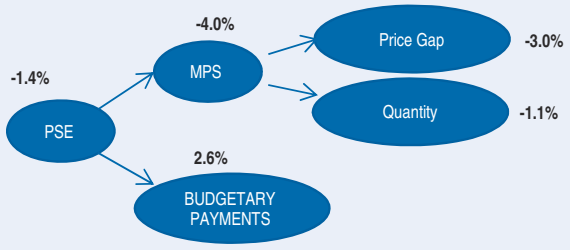


TSE as % of GDP

Total support as % of GDP was substantially reduced, mainly due to fast growth outside the agricultural sector, and was 1.7% in 2014-16. However, it still remains 3 times higher than the OECD average.

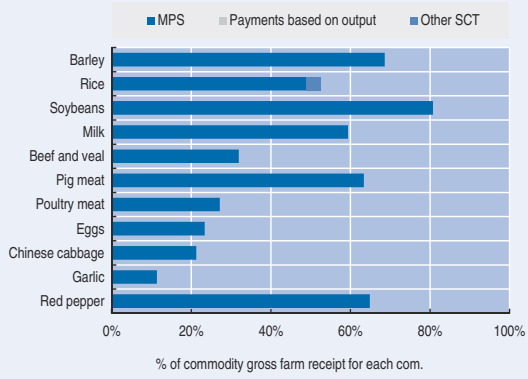


Decomposition of change in PSE, 2015 to 2016



The level of support slightly decreased in 2016 mainly due to a decline of the gap between domestic and border prices (MPS) which was partly offset by a moderate rise of budgetary payments. The decrease in MPS was mainly driven by lower domestic prices of rice.

Transfer to specific commodities (SCT), 2014-16



Transfers to specific commodities represented 93% of total support to farms in 2014-16. The share of the SCT in the commodity gross farm receipt is highest for soybeans, red pepper, barley, pig meat and milk at 60% and above.

Table 2.14. **Korea: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**16 985**	**33 089**	**40 178**	**42 653**	**39 352**	**38 530**
of which: *share of MPS commodities (%)*	72.0	64.3	63.2	64.8	64.6	60.1
Total value of consumption (at farm gate)	**17 930**	**36 779**	**48 375**	**49 933**	**45 937**	**49 254**
Producer Support Estimate (PSE)	**12 040**	**23 080**	**20 688**	**21 177**	**20 847**	**20 039**
Support based on commodity output	11 920	21 794	18 894	19 702	19 140	17 840
Market Price Support[1]	11 920	21 794	18 894	19 702	19 140	17 840
Payments based on output	0	0	0	0	0	0
Payments based on input use	90	1 037	483	465	474	511
Based on variable input use	29	159	198	195	178	221
with input constraints	4	12	58	61	57	55
Based on fixed capital formation	57	866	180	195	168	177
with input constraints	0	83	38	39	30	44
Based on on-farm services	4	12	105	76	128	112
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	29	250	544	251	450	931
Based on Receipts / Income	29	237	234	208	232	263
Based on Area planted / Animal numbers	0	13	310	43	218	668
with input constraints	0	0	44	43	47	43
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	766	758	783	758
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	766	758	783	758
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 (%)	**70.0**	**66.9**	**49.3**	**48.0**	**50.8**	**49.2**
Producer NPC (coeff.)	**3.31**	**2.91**	**1.89**	**1.86**	**1.95**	**1.86**
Producer NAC (coeff.)	**3.34**	**3.02**	**1.97**	**1.92**	**2.03**	**1.97**
General Services Support Estimate (GSSE)	**1 066**	**3 351**	**2 863**	**2 860**	**2 871**	**2 859**
Agricultural knowledge and innovation system	67	378	799	727	820	851
Inspection and control	26	75	211	185	220	229
Development and maintenance of infrastructure	467	2 501	1 563	1 678	1 515	1 494
Marketing and promotion	0	14	48	65	33	45
Cost of public stockholding	505	383	243	205	283	240
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**8.0**	**12.7**	**12.1**	**11.9**	**12.1**	**12.5**
Consumer Support Estimate (CSE)	**-11 786**	**-23 777**	**-21 857**	**-22 467**	**-21 466**	**-21 638**
Transfers to producers from consumers	-11 638	-21 424	-18 052	-19 141	-18 190	-16 826
Other transfers from consumers	-221	-2 662	-3 841	-3 369	-3 311	-4 843
Transfers to consumers from taxpayers	73	309	36	43	35	32
Excess feed cost	0	0	0	0	0	0
Percentage CSE (%)	**-65.9**	**-64.9**	**-45.2**	**-45.0**	**-46.8**	**-44.0**
Consumer NPC (coeff.)	**2.94**	**2.87**	**1.83**	**1.82**	**1.88**	**1.79**
Consumer NAC (coeff.)	**2.93**	**2.85**	**1.83**	**1.82**	**1.88**	**1.78**
Total Support Estimate (TSE)	**13 179**	**26 740**	**23 588**	**24 079**	**23 753**	**22 930**
Transfers from consumers	11 859	24 086	21 893	22 509	21 501	21 669
Transfers from taxpayers	1 541	5 316	5 536	4 939	5 563	6 104
Budget revenues	-221	-2 662	-3 841	-3 369	-3 311	-4 843
Percentage TSE (% of GDP)	**8.6**	**4.7**	**1.7**	**1.7**	**1.7**	**1.6**
GDP deflator (1986-88=100)	**100**	**187**	**280**	**274**	**280**	**285**
Exchange rate (national currency per USD)	**812.03**	**842.11**	**1 114.99**	**1 053.06**	**1 131.31**	**1 160.59**

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, cabbage, rice, soybean, milk, beef and veal, pig meat, poultry and eggs.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933508849

2.15. Mexico

Support to agriculture

Transfers to producers (PSE) accounted for 80% of total support to the agricultural sector (TSE) in 2014-16, with the remaining 12% directed to general services and 8% to provide direct budgetary subsidies to low-income food consumers. General services are focussed on infrastructure and agricultural knowledge systems – these areas absorbed nearly 90% of total allocations for general services in 2014-16. Relative to agricultural value added, the financing for general services has remained almost unchanged since the mid-1990s.

Following trade liberalisation and domestic policy reforms in the 1990s, the share of farm gross receipts due to agricultural support (% PSE) decreased from 29% in 1991-93 to 10% in 2014-16. The reforms led to a considerable reduction in the most distorting support, such as that based on output and unconstrained use of variable inputs. However, the shift away from the most distorting support was reversed in recent years, with its share in producer support almost doubling since the mid-1990s.

Total support to agriculture was equal to 0.6% of Mexican GDP in 2014-16 (% TSE) – this percentage has significantly declined over time and is currently at the average level across the OECD area. Taxpayers provide 87% of these transfers, the remaining 13% coming from consumers. Consumer contribution to agricultural support is due to agricultural prices supported slightly above the international levels (by 2% on average). Net of budgetary food subsidies, this increased the expenditures of agricultural commodity buyers by 1% (% CSE) in 2014-16.

Main policy changes

Mexico's Agricultural Development Plan for 2013-18 seeks to boost agricultural production, achieve greater self-sufficiency in principal grains and oilseeds, and reach a positive balance in agro-food trade. The implementation of the main programmes under this Plan continued with no major changes. *Ad hoc* support to crop growers whose incomes were affected by a fall in international prices continued. In the context of input price rises, decisions to increase support to producers were announced: the refunds to farmers on special tax for diesel are to restart in 2017, while per hectare payments (PROAGRO) and per animal payments (PROGAN) will cover additional beneficiaries. The streamlining of rural development and small farmer support programmes continued to improve programmes' administration and the efficiency and transparency of budgetary spending. An inter-ministerial agreement to limit the penetration of agricultural frontiers into protected forest areas was reached in 2016 and is likely to have most significant effects on avocado and palm oil plantations. Decrees were promulgated on the establishment of new protected natural areas and buffer zones in view of the Strategic Plan for Biodiversity for 2011-20 adopted by the Conference of Parties (COPs) in Aichi, Japan. The temporary restriction on imports of poultry and poultry meat from several US states was removed, while duty-free tariff rate quotas (TRQs) for imports from third countries maintained. Unilateral zero-duty TRQs were also legislated for beef and rice, intended to be opened in the case of reduced domestic supplies.

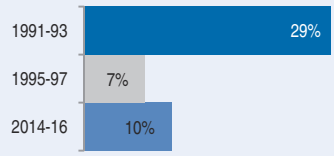
Assessment and recommendations

- Mexico undertook significant agricultural policy reforms in the 1990s. Border protection was reduced following commitments within WTO, NAFTA and other trade agreements and direct payment programmes were implemented. These reforms considerably reduced policy distortions.
- However, the shift away from most distorting support has been partly reversed since 2000. Support linked to variable inputs – subsidies for electricity, insurance and purchase of price hedging contracts – increased. A diesel subsidy is to be re-instated in 2017 in the context of energy price rises. The programme Productive PROAGRO that succeeded PROCAMPO in 2014 re-coupled area payments to production – provided previously with no requirement to produce, these payments now should be used to cover production expenses incurred.
- A greater focus should be placed on strategic investments in the long-term productivity, sustainability and profitability of the agricultural sector. This implies a shift away from input and output-linked subsidies towards supporting the adoption of new technologies, knowledge transfer, in particular extension services, development of food safety systems, and infrastructure.
- The Productive-PROAGRO – re-coupling support to production and the use of inputs – requires an evaluation in terms of its environmental impacts and the extent to which it is effective in raising incomes of small farmers, which has been a rationale of these area payments.
- Phasing-out subsidies to electricity for pumping water would help a more efficient use of water – an issue of policy concern. Direct support could be considered to help farmers adopt the practices for more efficient and sustainable use of water, combined with training in good resource management practices.
- The recent decisions to increase protection of fragile forest lands and improve biodiversity are welcome. Strict enforcement of environmental regulations is a necessary basis to reduce undesirable environmental impacts of agricultural activity. A broader use of environmental conditionality in provision of input subsidies and per hectare support could further contribute to this goal. The environmental criteria for provision of support could be diversified depending on local environmental conditions, while local communities could be engaged in identification of issues and monitoring of compliance.
- Commercial farmers need to have diverse tools to manage normal business risks available, such as information, insurance, and adapted tax and social security mechanisms to go through difficult times. High subsidies for one specific risk management instrument, such as price hedging, should be avoided. Government support for catastrophic events beyond the capacity of individual farmers to manage the consequences of these events also needs to be available and based on a well-defined set of rules.
- Policy approaches should be differentiated to respond to the needs of commercial farms and small farmers producing largely for their own consumption. As the overall economy develops, poverty reduction should be pursued through place-based development policies and targeted social assistance, rather than through production-linked subsidies.

Development of support to agriculture

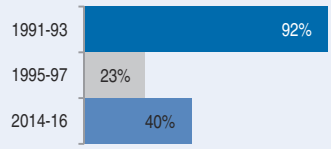
PSE as % of receipts (%PSE)

Support, as measured by the %PSE decreased from 29% in the reference period 1991-93 to 10% in 2014-16, well below the OECD average.



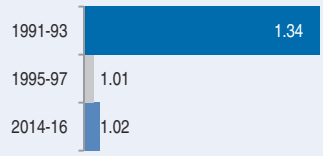
Potentially most distorting support as % of PSE

Market price support was reduced and partially replaced by direct payments based on non-current area and the number of animals. The potentially most distorting support – based on output and variable input use with no input constraints – fell from 92% of total producer support in 1991-93 to 23% in 1995-97, but rose to 40% in 2014-16. This reflects an increase in support based on input used since 2000.



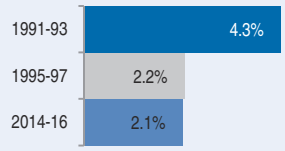
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Border protection and price interventions were significantly reduced due to trade liberalisation. Farmer prices were on aggregate 2% above border prices in 2014-16, compared with 34% in 1991-93. The commodities with the largest producer-to-border price ratio (nominal protection coefficient) in 2014-16 were sugar (1.15), dry beans (1.08), and milk (1.07).



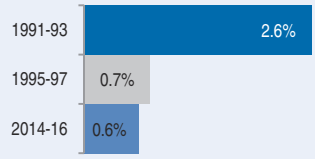
GSSE relative to agricultural value added

Increases in the spending for general services were less rapid than sector's overall growth: support to general services was equivalent to 2.1% of agricultural value added in 2014-16, nearly the same level in 1995-97, but almost half compared to 1991-93 (4.3%).

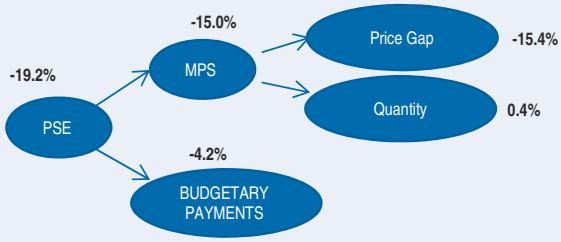


TSE as % of GDP

Total support to agriculture was 0.6% of GDP in 2014-16, or at the OECD average level. This percentage has dropped considerably since 1991-93, in part reflecting the falling share of agriculture in the overall economy.

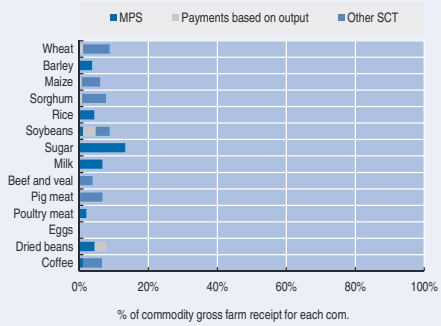


Decomposition of change in PSE, 2015 to 2016



The value of support to producers (PSE) decreased by 19%. This was largely due to a fall in market price support (MPS) as domestic prices rose less strongly than world prices denominated in national currency. A smaller amount of budgetary transfers in 2016 added to the overall reduction of the PSE.

Transfer to specific commodities (SCT), 2014-16



The Single Commodity Transfers (SCT) represented 35% of the total PSE in 2014-16. Products receiving the highest commodity-specific support relative to the total value of commodity (% SCT) were sugar (13%), wheat and soya beans (9% both), sorghum and dried beans (8% both).

Table 2.15. **Mexico: Estimates of support to agriculture**

Million USD

	1991-93	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**28 112**	**24 667**	**52 942**	**58 135**	**52 072**	**48 619**
of which: *share of MPS commodities (%)*	68.7	70.1	68.6	67.5	67.9	70.4
Total value of consumption (at farm gate)	**26 844**	**24 286**	**53 741**	**59 939**	**53 695**	**47 589**
Producer Support Estimate (PSE)	**8 437**	**1 645**	**5 694**	**6 686**	**6 203**	**4 195**
Support based on commodity output	6 990	-89	1 163	1 005	1 817	667
Market Price Support[1]	6 938	-101	1 066	908	1 664	627
Payments based on output	52	12	97	96	154	40
Payments based on input use	1 443	785	3 303	4 102	3 246	2 563
Based on variable input use	746	334	1 108	1 345	1 179	800
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	545	315	1 694	2 151	1 542	1 388
with input constraints	0	0	0	0	0	0
Based on on-farm services	152	136	502	606	525	375
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	3	35	252	317	188	250
Based on Receipts / Income	0	13	0	0	0	0
Based on Area planted / Animal numbers	3	22	252	317	188	250
with input constraints	0	0	0	0	0	0
Payments based on non-current A/An/R/I, production required	0	0	976	1 262	951	715
Payments based on non-current A/An/R/I, production not required	0	915	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	915	0	0	0	0
with commodity exceptions	0	1	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 (%)	**28.5**	**6.9**	**9.8**	**10.5**	**11.0**	**8.0**
Producer NPC (coeff.)	**1.34**	**1.01**	**1.02**	**1.02**	**1.04**	**1.02**
Producer NAC (coeff.)	**1.40**	**1.07**	**1.11**	**1.12**	**1.12**	**1.09**
General Services Support Estimate (GSSE)	**1 048**	**382**	**841**	**1 062**	**861**	**599**
Agricultural knowledge and innovation system	288	203	411	462	408	362
Inspection and control	0	20	81	88	80	76
Development and maintenance of infrastructure	284	62	335	491	353	161
Marketing and promotion	83	22	14	21	19	0
Cost of public stockholding	392	76	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**10.1**	**13.3**	**11.6**	**12.5**	**11.2**	**11.1**
Consumer Support Estimate (CSE)	**-6 363**	**234**	**-339**	**-90**	**-901**	**-27**
Transfers to producers from consumers	-7 099	-151	-952	-807	-1 507	-543
Other transfers from consumers	-315	-240	0	0	0	0
Transfers to consumers from taxpayers	852	610	612	718	606	511
Excess feed cost	199	15	2	0	0	5
Percentage CSE (%)	**-24.5**	**0.4**	**-0.6**	**-0.2**	**-1.7**	**-0.1**
Consumer NPC (coeff.)	**1.38**	**1.02**	**1.02**	**1.01**	**1.03**	**1.01**
Consumer NAC (coeff.)	**1.32**	**1.00**	**1.01**	**1.00**	**1.02**	**1.00**
Total Support Estimate (TSE)	**10 337**	**2 637**	**7 147**	**8 465**	**7 670**	**5 305**
Transfers from consumers	7 414	391	952	807	1 507	543
Transfers from taxpayers	3 238	2 486	6 220	7 658	6 163	4 840
Budget revenues	-315	-240	0	0	0	0
Percentage TSE (% of GDP)	**2.6**	**0.7**	**0.6**	**0.7**	**0.7**	**0.5**
GDP deflator (1991-93=100)	**100**	**201**	**741**	**720**	**738**	**765**
Exchange rate (national currency per USD)	**3.08**	**7.32**	**15.94**	**13.31**	**15.87**	**18.63**

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, beans, tomatoes, rice, soybean, sugar, milk, beef and veal, pig meat, poultry and eggs.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink *http://dx.doi.org/10.1787/888933508868*

2.16. New Zealand

Support to agriculture

Since its reforms of agricultural policies in the mid-1980s, production and trade distorting policies supporting the sector in New Zealand have virtually disappeared. For more than 25 years, the level of support to farmers has been the lowest among OECD countries. Almost all prices are aligned with world market prices due to open trade. Exceptions are due to New Zealand's sanitary import requirements: the absence of Import Health Standards for fresh poultry, table eggs and some bee products, a requirement for any risk product to be allowed for imports, means that these products cannot be imported, resulting in some market price support.

Prime instruments to support the sector include animal disease control, relief payments in the event of natural disasters, and the agricultural knowledge and information system. In recent years, three-quarters of all support was through these and other general services. New Zealand also provides support to large-scale off-farm investments in irrigation systems, and over the past decades has significantly increased its agricultural land under irrigation.

Main policy changes

New Zealand's recent policy changes focus on specific problems and thus comprise a set of detailed developments. These related to damage prevention, reparation and compensation, efforts to reduce and deal with biosecurity and food safety risks, improved environmental and animal welfare performance and resource management, and innovation for sustainable productivity growth.

In response to the November 2016 earthquake in the North of the South Island, the government provided relief funding to help with non-insurable assets such as tracks, on-farm bridges and water infrastructure. Research investments focused on nutrient management, GHG emissions, forage quality and productivity, and the improvement of M ori-owned land productivity.

An arrangement on developing an Agricultural Growth Partnership between New Zealand and China was signed in April 2016. The public-private partnership targets co-operation in education, training and research.

Assessment and recommendations

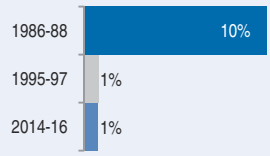
- New Zealand's low level of support, and in particular of potentially most distorting support, underlines the openness and focus of its agricultural sector towards foreign markets and trade.
- New Zealand's Import Health Standards (IHS) are a key tool to ensure the country's biosecurity vis-à-vis imported products. Required for all risk products to be importable, no IHS are in place for some livestock products including eggs, fresh chicken meat and honey. While these represent only a small share of New Zealand's agricultural output, the development of relevant IHS would allow consumers to benefit from additional variety and lower prices in these markets while ensuring the required biosecurity standards.
- Kiwifruit exports to markets other than Australia continue to be regulated by requiring authorisation by Kiwifruit New Zealand for third-country exports by groups other than Zespri. Planned changes in the Kiwifruit Export Regulations 1999 should be used to facilitate participation in Kiwifruit exports by all firms wishing to do so.

- New Zealand policies rightly focus on enhancing productivity in sustainable ways. Estimates suggest that total factor productivity growth has been comparatively low in the most recent decade for which data is available (2004-13), providing for additional justification for this policy focus. The positive development in the capitalisation of farms should form a good basis for future productivity growth.
- New Zealand's focus on lower GHG emissions, including from agricultural sources, is in line with its commitment in the context of the United Nations Framework Convention on Climate Change (UNFCCC). Linked to the importance of the dairy and cattle sectors, the country's agriculture is a key emitter of GHG emissions. In contrast to many other countries, New Zealand agricultural sectors, including meat and dairy processors, nitrogen fertiliser manufacturers and importers, and live animal exporters have reporting obligations. However, agricultural GHG emissions are neither constrained nor taxed.

Development of support to agriculture

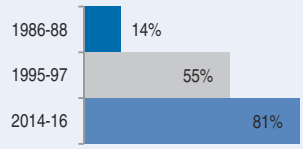
PSE as % of receipts (%PSE)

Producer support in New Zealand has been consistently the lowest in the OECD since the agricultural reforms in the mid-1980s, representing 0.75% of gross farm receipts in 2014-16; during 1986-88, the PSE stood at 10%.



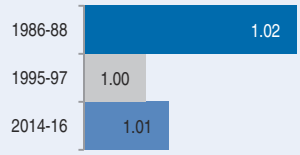
Potentially most distorting support as % of PSE

At 81% in 2014-16 compared to 14% in 1986-88, the majority of the (very low) support to producers is provided today as potentially most distorting support (based on output and variable input use without input constraints).



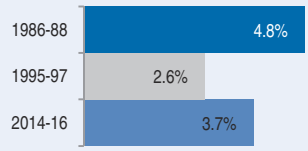
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Most domestic prices are aligned with international markets. Agricultural receipts were therefore almost identical to what they would have been at world prices in 2014-16. Due to sanitary import restrictions, poultry and eggs are exceptions.



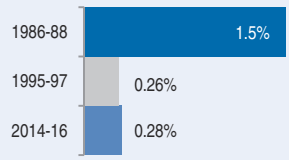
GSSE relative to agricultural value added

Expenditures for general services have increased from an equivalent of 2.6% of agricultural value added in 1995-97 to 3.7% in 2014-16. The agricultural knowledge and information system as well as the inspection and control services are prime areas of general service expenditures.

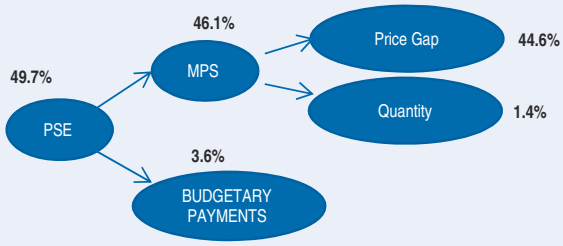


TSE as % of GDP

Total support to agriculture represented less than 0.3% of GDP in 2014-16, less than half the OECD average. Three-quarters of the total support are expenditures for general services.

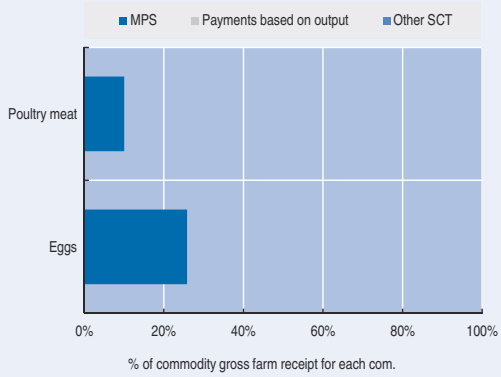


Decomposition of change in PSE, 2015 to 2016



The (low) level of support increased in 2016 following increased price gaps for poultry and eggs, for which there are sanitary import restrictions. Lower world market prices were the main contributors.

Transfer to specific commodities (SCT), 2014-16



Producer SCT by commodity was 26% of commodity gross farm receipts for eggs, 12% for poultry and zero for all other commodities in 2014-16.

Table 2.16. **New Zealand: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**4 067**	**6 463**	**16 536**	**18 235**	**14 854**	**16 519**
of which: *share of MPS commodities (%)*	72.1	72.1	72.7	74.7	70.8	72.7
Total value of consumption (at farm gate)	**985**	**1 557**	**2 767**	**3 046**	**2 649**	**2 607**
Producer Support Estimate (PSE)	**429**	**53**	**124**	**134**	**95**	**142**
Support based on commodity output	60	29	100	109	74	118
Market Price Support[1]	58	29	100	109	74	118
Payments based on output	1	0	0	0	0	0
Payments based on input use	179	24	23	25	21	23
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	24	23	25	21	23
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	26	0	1	0	0	2
Based on Receipts / Income	26	0	1	0	0	2
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 (%)	**10.3**	**0.8**	**0.8**	**0.7**	**0.6**	**0.9**
Producer NPC (coeff.)	**1.02**	**1.00**	**1.01**	**1.01**	**1.01**	**1.01**
Producer NAC (coeff.)	**1.11**	**1.01**	**1.01**	**1.01**	**1.01**	**1.01**
General Services Support Estimate (GSSE)	**119**	**120**	**393**	**430**	**374**	**375**
Agricultural knowledge and innovation system	60	78	194	213	183	185
Inspection and control	31	29	133	138	127	134
Development and maintenance of infrastructure	27	13	66	78	64	56
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)	**20.8**	**69.4**	**76.0**	**76.2**	**79.7**	**72.5**
Consumer Support Estimate (CSE)	**-53**	**-24**	**-85**	**-94**	**-61**	**-101**
Transfers to producers from consumers	-53	-24	-85	-94	-61	-101
Other transfers from consumers	0	0	0	0	0	0
Transfers to consumers from taxpayers	0	0	0	0	0	0
Excess feed cost	0	0	0	0	0	0
Percentage CSE (%)	**-5.6**	**-1.6**	**-3.1**	**-3.1**	**-2.3**	**-3.9**
Consumer NPC (coeff.)	**1.06**	**1.02**	**1.03**	**1.03**	**1.02**	**1.04**
Consumer NAC (coeff.)	**1.06**	**1.02**	**1.03**	**1.03**	**1.02**	**1.04**
Total Support Estimate (TSE)	**548**	**173**	**517**	**564**	**469**	**518**
Transfers from consumers	53	24	85	94	61	101
Transfers from taxpayers	495	149	431	470	408	416
Budget revenues	0	0	0	0	0	0
Percentage TSE (% of GDP)	**1.5**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**
GDP deflator (1986-88=100)	**100**	**128**	**191**	**189**	**190**	**193**
Exchange rate (national currency per USD)	**1.71**	**1.50**	**1.36**	**1.21**	**1.43**	**1.44**

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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933508887

2.17. Norway

Support to agriculture

In Norway, progress in reducing the level of support has been modest and it is amongst the countries with the highest and most distorting levels of support to the farming sector. The principal policy instruments supporting agriculture include border measures, budgetary payments and domestic market regulation.

The Total Support Estimate to agriculture (TSE) was slightly less than 1% of GDP in recent years. Support to farmers (PSE) accounts for 60% of gross farm receipts. Expenditures on general services for the sector as a whole (General Service Support Estimate – GSSE) are relatively small – around 5% of TSE – and mostly finance the agricultural knowledge and innovation system.

Market price support (MPS), mainly due to border protection, still remains the main component of support to farmers, and has been reduced by 2 percentage points between 1986-88 and 2014-16 – from 48% of PSE in 1986-88 to 46% in 2014-16. While the share of potentially most production and trade distorting support has declined, it still represented most of the support in recent years. Support that is based on individual commodities (mainly market price support) represents 60% of support to farmers and is relatively evenly distributed among commodities. Prices received by producers are on average 80% above world market prices.

Main policy changes

The strategic objectives of agricultural and food policies, as set out in the White Paper No. 11 (2016-17) are: food security; agriculture throughout the country; creating more added-value; and sustainable agriculture. The agricultural policy aims at safeguarding agricultural resources, developing know-how and contributing to the creation of employment and value added in farming and farm-based products throughout the country. Agricultural support policy is a substantial component of Norway's regional and rural policies.

In past decades, farm support has been reduced only modestly and remains three times higher than the OECD average. Notwithstanding some reforms, mainly in the area of introducing more flexibility in the dairy quota system, farm support remains substantial and market distorting and there remains considerable scope for accelerating the pace of reforms. Plans to reform agricultural policies are on the government's agenda and a new White Paper was presented to the Parliament in December 2016.

Assessment and recommendations

- Norway has made fairly modest progress towards reform and the level of agricultural support remains overly concentrated on maintaining the*status quo*. Despite the shift in the composition of support and the lower price distortions, Norway's agricultural sector remains among the most highly protected in the OECD area. Border protection should be reduced, by lowering import tariffs, preferably through a legislated multi-year programme of reductions in order to signal policy commitment and provide a planning horizon for producers.
- There remains considerable scope for further action to achieve goals at less cost to taxpayers and consumers. Progress is needed to reduce the potentially most distorting support in order to increase exposure to market signals and eliminate measures impeding structural shifts towards a more productive agricultural sector. The efficiency

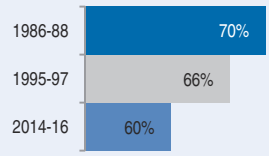
of agricultural support measures in achieving the various stated policy-objectives, such as food security, sustaining rural economies and landscape amenities at lower costs would be improved if intended beneficiaries of such measures are identified and policy measures are targeted to specific outcomes.

- Initiatives to reduce and streamline the number of support measures are steps towards enhancing the efficiency and reducing policy-related transaction costs.
- An assessment of the coherence of agricultural support policies with other economy-wide policies, such as competition policy, would be beneficial. The agricultural sector is exempt from standard competition law and farmer-controlled processing co-operatives provide special powers in market regulation. The market power of agri-cultural co-operatives (for instance a single co-operative dominates dairy production) could distort efficiency and competition in the supply chain as a whole.
- Pursuing productivity growth in tandem with environmental protection and sustainable natural resource management should be a policy priority. Re-orienting support towards general services, especially for the agricultural knowledge and innovation system is an avenue to be further explored.

Development of support to agriculture

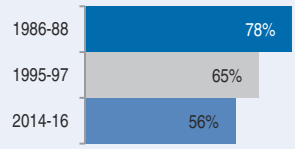
PSE as % of receipts (%PSE)

Support to farmers, measured as a share of gross farm receipts (%PSE) has been reduced by 10 percentage points, from 70% in 1986-88 to 60% in 2014-16. The %PSE has stayed stable in the last few years at around 60%. It remains more than three times higher than the OECD average.



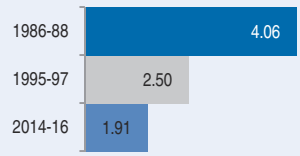
Potentially most distorting support as % of PSE

The share of the potentially most production and trade distorting forms of support (based on output and variable input use – without input constraints) in the PSE has decreased by 22 percentage points, but it is still more than half of total support. Market price support is the main component of the most distorting support.



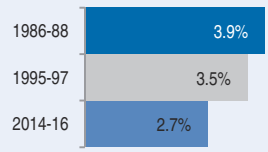
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers were 1.9 times higher than those on the world market in 2014-16. This is a significant reduction relative to 1986-88 when the prices were 4 times higher. NPCs are, on average, higher for livestock products.



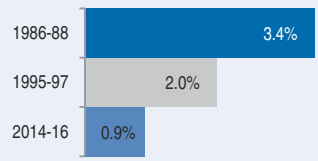
GSSE relative to agricultural value added

Expenditures on general services (GSSE) were equivalent to 2.7% of the agricultural value added in 2014-16, down from 3.9% in 1986-88. Expenditures on agricultural knowledge and innovation system accounted for 57% of GSSE in 2014-16, of which a fifth is allocated to education.

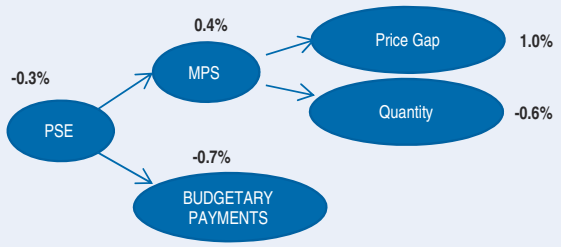


TSE as % of GDP

The share of total support to agriculture (TSE) in GDP decreased from 3.4% in 1986-88 to 0.9% in 2014-16.

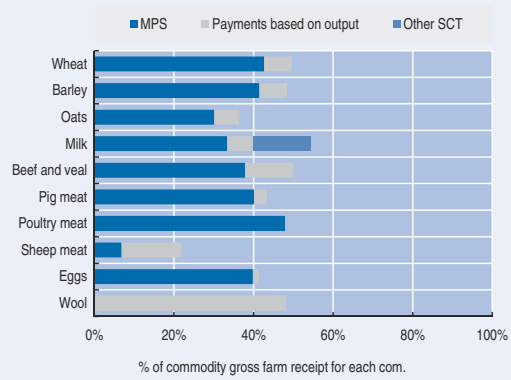


Decomposition of change in PSE, 2015 to 2016



The level of farm support slightly decreased in 2016, due to lower budgetary payments which more than offset the slight increase in market price support.

Transfer to specific commodities (SCT), 2014-16



Single Commodity Transfers accounted for 61% of the total PSE. The share of the SCT in the commodity gross receipts is higher than 40% for all commodities, exempt for sheep meat and oats.

Table 2.17. **Norway: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**2 533**	**2 760**	**3 935**	**4 515**	**3 752**	**3 538**
of which: *share of MPS commodities (%)*	73.3	77.5	76.0	76.9	75.3	75.9
Total value of consumption (at farm gate)	**2 610**	**2 746**	**4 129**	**4 729**	**3 886**	**3 772**
Producer Support Estimate (PSE)	**2 801**	**2 910**	**3 456**	**3 970**	**3 269**	**3 128**
Support based on commodity output	2 027	1 814	1 850	2 051	1 770	1 729
Market Price Support[1]	1 354	1 276	1 593	1 765	1 532	1 483
Payments based on output	673	539	257	286	238	246
Payments based on input use	250	145	180	217	163	161
Based on variable input use	149	83	95	114	88	83
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	91	51	73	89	64	67
with input constraints	0	0	0	0	0	0
Based on on-farm services	11	11	12	14	11	10
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	524	946	1 010	1 185	961	884
Based on Receipts / Income	0	0	115	134	115	96
Based on Area planted / Animal numbers	524	946	895	1 051	846	788
with input constraints	0	16	79	95	72	70
Payments based on non-current A/An/R/I, production required	0	0	407	506	368	347
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	5	9	11	8	8
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	5	9	11	8	8
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**70.4**	**66.3**	**59.7**	**59.1**	**59.5**	**60.4**
Producer NPC (coeff.)	**4.06**	**2.50**	**1.91**	**1.84**	**1.91**	**1.98**
Producer NAC (coeff.)	**3.37**	**2.97**	**2.48**	**2.44**	**2.47**	**2.52**
General Services Support Estimate (GSSE)	**129**	**148**	**182**	**218**	**164**	**162**
Agricultural knowledge and innovation system	74	84	104	123	95	94
Inspection and control	5	26	37	46	33	33
Development and maintenance of infrastructure	29	16	29	35	27	26
Marketing and promotion	21	18	11	13	9	9
Cost of public stockholding	0	3	0	0	0	0
Miscellaneous	0	0	0	0	0	0
Percentage GSSE (% of TSE)	**4.1**	**4.7**	**4.9**	**5.1**	**4.7**	**4.8**
Consumer Support Estimate (CSE)	**-1 333**	**-1 261**	**-1 712**	**-1 913**	**-1 595**	**-1 628**
Transfers to producers from consumers	-1 660	-1 366	-1 732	-1 934	-1 640	-1 623
Other transfers from consumers	-138	-84	-129	-125	-106	-156
Transfers to consumers from taxpayers	220	82	85	89	91	74
Excess feed cost	244	107	64	56	59	77
Percentage CSE (%)	**-55.8**	**-47.4**	**-42.5**	**-41.2**	**-42.0**	**-44.0**
Consumer NPC (coeff.)	**3.22**	**2.12**	**1.83**	**1.77**	**1.82**	**1.89**
Consumer NAC (coeff.)	**2.26**	**1.90**	**1.74**	**1.70**	**1.73**	**1.79**
Total Support Estimate (TSE)	**3 150**	**3 140**	**3 722**	**4 277**	**3 524**	**3 364**
Transfers from consumers	1 797	1 450	1 861	2 059	1 746	1 779
Transfers from taxpayers	1 490	1 774	1 990	2 343	1 885	1 742
Budget revenues	-138	-84	-129	-125	-106	-156
Percentage TSE (% of GDP)	**3.4**	**2.0**	**0.9**	**0.9**	**0.9**	**0.9**
GDP deflator (1986-88=100)	**100**	**128**	**265**	**271**	**264**	**260**
Exchange rate (national currency per USD)	**6.88**	**6.62**	**7.59**	**6.30**	**8.06**	**8.40**

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 Norway are: wheat, barley, oats, milk, beef and veal, sheep meat, wool, pig meat, poultry and eggs.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink *http://dx.doi.org/10.1787/888933508906*

2.18. Philippines

Support to agriculture

The level of support to agriculture as measured by the share of policy-driven transfers from consumers and taxpayers in gross farm revenues averaged 25% in 2014-16, higher than the OECD average of 18% and one of the highest among all emerging economies covered by the OECD support indicators.

Market price support (MPS) is the dominant form of support to Philippine producers. It is strongly focused on rice producers. The estimated value of MPS for rice producers accounted for about three-fourths of the total value of MPS and 70% of the total value of Producer Support Estimate in 2016. In addition to rice, substantial levels of support are provided to sugarcane and animal products, in particular through high import tariffs. The high level of MPS is an implicit tax on consumers and the food processing industry, at 25% of the value of consumption on average in 2014-16.

Expenditures for general services as a ratio of agricultural value added increased. These mainly focus on the development of infrastructure, in particular on investment in irrigation systems, but expenditures financing construction and upgrading of farm-to-market roads increased in recent years.

The overall cost of support, through market price support and budgetary transfers, to the Philippine agricultural sector was high at 3.1% of GDP in 2014-16. It was five times the OECD average of 0.6% and one of the highest across all countries measured.

Main policy changes

To increase support for rice producers, the government decided to abolish, as from 2017, the Irrigation Service Fee paid by farmers to cover operational and maintenance costs of the irrigations systems.

According to the agreement with the WTO, the Philippines is committed to discontinue quantitative restrictions on rice imports in mid-2017. In March 2017, the Philippines notified the WTO of its intention to convert the quantitative restrictions on rice imports to tariffs, but such tariffication would need to be preceded by amending the existing local law, the Agricultural Tariffication Act of 1996.

Assessment and recommendations

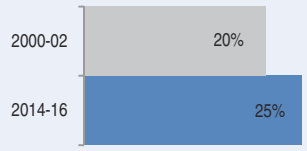
- The Philippines' key agricultural policy objectives have focused on food security and poverty alleviation through guaranteeing a stable supply of staple food at affordable prices. The goal of self-sufficiency in rice has driven a range of policy measures supporting rice producers and an increased share of rice in total production – in contrast to diversification towards higher value commodities typical of other countries in the region. Analysis suggests that, as 72% of all Philippine households and 34% of rice producing households are net rice consumers, price support for rice increases undernourishment in the Philippines by 3.2 percentage points, that is, by 3.2 million people. The Philippines could consider a set of policies which could improve the country's food security such as: diversification of production, consumption and income by removing commodity specific incentives; gradual removal of restrictions on rice imports; replacement of the National Food Authority's (NFA) subsidised rice sales with conditional cash transfers and food vouchers; transformation of the NFA into a market-neutral agency managing emergency stocks.

- In 1988, the Philippines undertook an ambitious agrarian reform that covered close to three quarters of the country's total agricultural land. By end-2015, the redistribution of land was almost complete, but property rights remain to be settled, with almost half of the reform beneficiaries still covered by collective ownership certificates. Various restrictions on land-market transactions and insecure property rights have limited on-farm investment and undermined the expected economic benefits of the reform. Over this period the total number of farms increased and the average farm size fell from 2.8 ha to 1.3 ha. At the current stage of the reform, the Philippines could re-focus agrarian land policies from land distribution to securing property rights through land governance reforms, including through strengthening confidence in land ownership rights; enhancing post-reform consolidation of farm operations and development of a long-term strategy for farm restructuring.
- The Philippines' greater susceptibility to typhoons, tropical storms and flooding than its regional neighbours partially accounts for its relatively poor agricultural growth performance. The severity and intensity of typhoons have increased in recent years. Climate models indicate that the future climate of the Philippines is likely to be warmer and wetter, but climatic impacts will vary regionally and across commodities. In such a context, the Philippines should assess the effectiveness of current risk management tools and of alternatives to them; adopt a holistic approach to risk management with a policy focus on catastrophic risks and assess insurance and cash-transfer schemes that can encourage farmers' adaptive decisions. To improve the agricultural sector's capacity to adapt to climate change the government should make climate-adaptation policy objectives consistent across programmes and institutions.
- One of the weaknesses of the Philippines agriculture is slow total factor productivity growth, slower than the world average and slower than in most countries in the region. This is the result of decades of underinvestment (or mis-directed investment in some cases), policy distortions, uncertainties linked with the implementation of agrarian reform and periodic extreme weather conditions. In addition to policy reforms discussed above, the government could focus budgetary support on long-term structural reform through the re-allocation of budgetary transfers from variable input subsidies to investment in infrastructure and through the re-orientation of agricultural knowledge systems. The latter could include improvements in the institutional design of agricultural research and development, agricultural education and extension services through diminished institutional complexity, stronger vertical and horizontal collaboration and reduced focus on rice.
- Agricultural policies in the Philippines are designed and implemented by a complex system of institutions. To address this issue the government could strengthen institutional co-ordination between the DA and other relevant departments and institutions that implement programmes supporting agriculture; strengthen transparency and accountability of publicly-funded programmes; accelerate efforts to build a solid policy-relevant statistical system and integrate monitoring and evaluation mechanisms into the policy process.

Development of support to agriculture

PSE as % of receipts (%PSE)

Support to producers (%PSE) was 25% in 2014-16, implying that one-fourth of gross farm revenues were generated by policies. Compared to 2000-02, the level of support has grown. A dominant part of support is provided through market price support with a strong focus on rice.



Potentially most distorting support as % of PSE

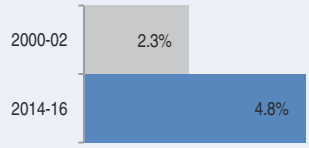
Market price support and input subsidies without input constraints, both considered as potentially most distorting forms of support, explain almost the total value of support to producers.

Ratio of producer price to border price (Producer Nominal Protection Coefficient)

On average, prices received by farmers were 33% higher than world prices in 2014-16 compared to 29% in 2002-02.

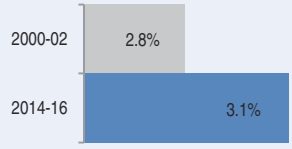
GSSE relative to agricultural value added

Expenditures for general services relative to agricultural value added more than doubled in 2014-16 compared to 2002-02. A dominant part of these expenditures has been allocated on the development of infrastructure, in particular on investment in irrigation systems, but allocations on construction and upgrading of farm-to-market roads increased in recent years.

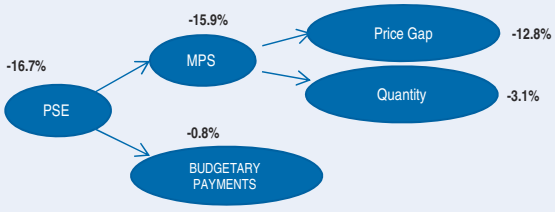


TSE as % of GDP

Total cost of supporting agriculture as a share of GDP tends to increase and at 3.1% in 2014-16 was one of the highest across all countries covered by the OECD support indicators.

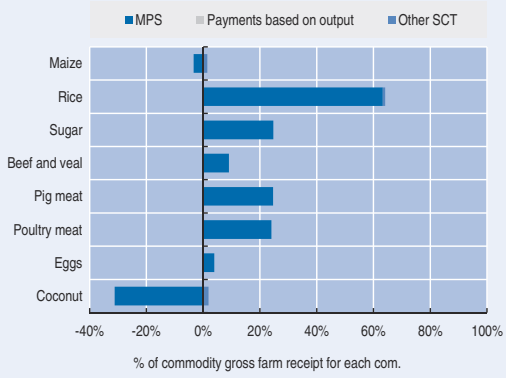


Decomposition of change in PSE, 2015 to 2016



The value of budgetary support to agriculture in 2016 remained at almost the same level as in 2015, but as market price support declined, the value of Producer Support Estimate declined by about 17%.

Transfer to specific commodities (SCT), 2014-16



Transfers to specific commodities represented 97% of support to farms in 2014-16. Rice is by far the most supported commodity, both in absolute and relative terms, followed by sugar, pig meat and poultry meat. In turn, coconut and maize producers are implicitly taxed.

Table 2.18. **Philippines: Estimates of support to agriculture**

Million USD

	2000-02	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**9 727**	**30 554**	**32 270**	**30 114**	**29 278**
of which: *share of MPS commodities (%)*	89.2	89.1	88.7	88.8	89.8
Total value of consumption (at farm gate)	**9 951**	**31 691**	**33 176**	**31 322**	**30 575**
Producer Support Estimate (PSE)	**2 011**	**7 593**	**8 668**	**7 847**	**6 264**
Support based on commodity output	1 937	7 239	8 418	7 401	5 897
Market Price Support[1]	1 937	7 239	8 418	7 401	5 897
Payments based on output	0	0	0	0	0
Payments based on input use	67	320	217	413	329
Based on variable input use	35	118	95	160	100
with input constraints	0	0	0	0	0
Based on fixed capital formation	32	201	122	253	229
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	1	30	27	29	34
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	1	30	27	29	34
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	5	6	4	4
Percentage PSE (%)	**20.5**	**24.5**	**26.7**	**25.7**	**21.1**
Producer NPC (coeff.)	**1.29**	**1.33**	**1.38**	**1.34**	**1.27**
Producer NAC (coeff.)	**1.26**	**1.32**	**1.36**	**1.35**	**1.27**
General Services Support Estimate (GSSE)	**244**	**1 436**	**1 489**	**1 432**	**1 386**
Agricultural knowledge and innovation system	56	264	295	239	258
Inspection and control	14	37	34	34	41
Development and maintenance of infrastructure	155	964	993	976	922
Marketing and promotion	6	45	22	62	52
Cost of public stockholding	12	93	96	93	89
Miscellaneous	1	33	50	27	23
Percentage GSSE (% of TSE)	**10.8**	**15.9**	**14.7**	**15.4**	**18.1**
Consumer Support Estimate (CSE)	**-2 109**	**-7 940**	**-9 070**	**-8 016**	**-6 735**
Transfers to producers from consumers	-2 163	-7 530	-8 852	-7 569	-6 170
Other transfers from consumers	-147	-669	-602	-596	-810
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	201	259	384	148	245
Percentage CSE (%)	**-21.2**	**-25.0**	**-27.3**	**-25.6**	**-22.0**
Consumer NPC (coeff.)	**1.30**	**1.35**	**1.40**	**1.35**	**1.30**
Consumer NAC (coeff.)	**1.27**	**1.33**	**1.38**	**1.34**	**1.28**
Total Support Estimate (TSE)	**2 255**	**9 029**	**10 157**	**9 279**	**7 650**
Transfers from consumers	2 310	8 199	9 454	8 164	6 980
Transfers from taxpayers	92	1 498	1 305	1 710	1 480
Budget revenues	-147	-669	-602	-596	-810
Percentage TSE (% of GDP)	**2.8**	**3.1**	**3.6**	**3.2**	**2.5**
GDP deflator (2000-02=100)	**100**	**167**	**168**	**167**	**..**
Exchange rate (national currency per USD)	**48.96**	**45.80**	**44.39**	**45.51**	**47.49**

.. 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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933509134

2.19. Russian Federation

Support to agriculture

Around 84% of total support to agriculture (TSE) in 2014-16 was provided to producers individually (PSE), with the rest directed to general services for agriculture (13%) and to support agricultural commodity buyers (3%).

Support to producers fluctuated over the long-term, but in the 2010s remained within a band between 12% and 16% of gross farm receipts (% PSE). The largest part of support to producers (76%) derives from the most distorting types of support, such as market price support and subsidies based on output and variable input use. The aggregate market price support, however, disguises strong variations in support across commodities: it represents a mix between the border protection for imported livestock products and sugar, and the taxation of exported grains and oilseeds. Livestock producers additionally benefit from domestic grain prices being below the world levels. Within support to general services, the agricultural knowledge system and the inspection and control system absorb the largest shares of funding.

Total support to agriculture (TSE) was equal to 0.9% of GDP in 2014-16. This percentage has more than halved since the mid-1990s, largely reflecting GDP growth. Taxpayers provide 43% of total support transfers, the remaining 57% coming from consumers. Consumer contribution to agricultural support is due to agricultural prices supported on average 10% above the international levels. Net of the budgetary support to agricultural commodity buyers, this increased their expenditures by 12% (%CSE) in 2014-16.

Main policy changes

In 2017, further amendments were made to the on-going State Programme for the Development of Agriculture for 2013-20. A new sub-programme was created for the development of agricultural export potential. Previous sub-programmes were regrouped under broader headings to provide greater flexibility to the regions in prioritising the use of funds. The scope of investment co-financing, which began in 2015, was broadened to include pig production in addition to the dairy, beef and horticulture sectors. For the first time, a list of regions with unfavourable conditions for agricultural production was published. The government announced the intention to carry out intervention purchases of dry milk and butter, previously implemented only for grain. In view of high carry-over public stocks of grain, producers were given the opportunity to buy back the grain delivered to the state intervention fund, while the wheat export duty was temporarily waived. The preparations for the launch of food cards for low-income groups continued. The ban on agro-food imports from a number of countries imposed in 2014 was extended until end-2017. As one of the parties to the Treaty on the Eurasian Economic Union (EAEU), the Russian Federation ratified the EAEU-Viet Nam Free Trade Agreement and has engaged in talks on free trade with a number of other countries in Asia and North Africa.

Assessment and recommendations

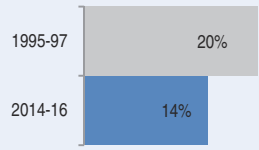
- Agricultural policy formulated at the inception of the State Programme for Development of Agriculture for 2013-20 aimed at boosting the agricultural production and agro-food import substitution. The political context of recent years has intensified the country's import substitution orientation into a long-lasting self-sufficiency policy in the agro-food area. Most recently, the policy orientation was broadened to also include the development of agricultural export potential.

- The government continued to focus on cushioning the effects of economic recession on the agro-food sector, although macroeconomic conditions have improved more recently. Domestic policy has concentrated on increasing the flows of financial resources into agriculture, in particular to support investments in import competing sectors.
- Non-tariff border protection based on sanitary and phytosanitary and technical regulation grounds remained an active policy, in certain cases raising concerns among trading partners about the Russian Federation applying undue trade restrictions.
- A new emphasis has been put on the development of domestic seed production and pedigree livestock breeding to reduce dependence on imports of these agricultural inputs, as well as on the improvements in the agro-marketing and food distribution infrastructure.
- Overall, distorting subsidies and import protection continue to prevail as policy instruments to achieve the stated goals. Substantial and sustained improvements in the competitiveness of agriculture are more likely to be achieved through prioritising investments in the sector's long-term productivity, such as R&D, knowledge transfer, infrastructure, plant and livestock health systems, and also through improving living conditions in rural areas.

Development of support to agriculture

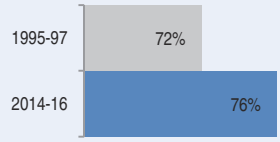
PSE as % of receipts (%PSE)

Percentage PSE was at 14% of producer gross receipts in 2014-16, below the OECD average and below the level observed in 1995-97 (20%). %PSE changed from 13% in 2014 to 12% in 2015 and 16% in 2016.



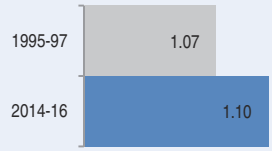
Potentially most distorting support as % of PSE

The share of the potentially most production and trade distorting support – based on output and unconstrained input use – increased from 72% to 76% of the total PSE between 1995-97 and 2014-16, due to higher market price support.



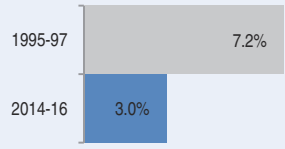
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers were on average 10% above those observed on world markets in 2014-16, compared to 7% in 1995-97. The aggregate NPC, however, disguises border protection for livestock products and sugar and taxation of exported grains and oilseeds.



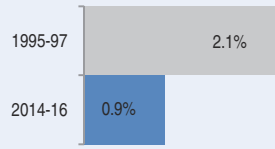
GSSE relative to agricultural value added

The spending for general services fell relative to the sector's value added – it was equivalent to 3.0% of the value added in 2014-16, less than half that percentage in 1995-97 (7.2%). This partly reflects the growth of agricultural output value as production has been recovering from low levels in the mid-1990s.

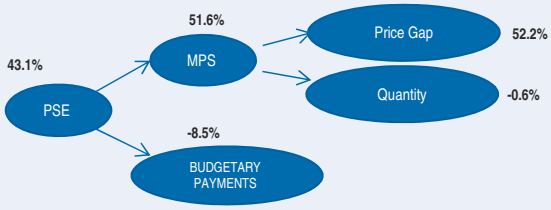


TSE as % of GDP

Total support to agriculture (TSE) as a % of GDP decreased from 2.1% in 1995-97 to 0.9% in 2014-16, largely being a result of the growth in GDP.

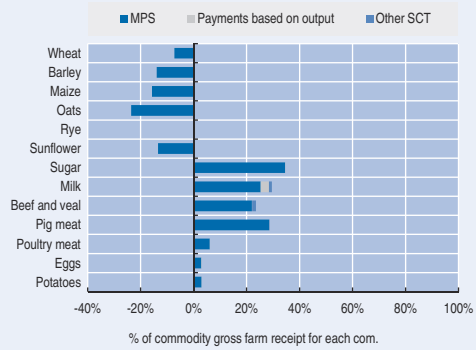


Decomposition of change in PSE, 2015 to 2016



The total value of producer support rose by 43%, due to the increase in market price support. Domestic prices increased more strongly than border prices as dollar values of border prices fell. The effect of increased market price support on the PSE was partly offset by some reduction in budgetary transfers.

Transfer to specific commodities (SCT), 2014-16



The share of *Single Commodity Transfers (SCT) in the PSE was 71% in 2014-16. Products receiving the highest commodity-specific support relative to the value of commodity (% SCT) are sugar (34%), milk and pig meat (each 29%), and beef and veal (23%). Grains and oilseeds are implicitly taxed.*

Table 2.19. **Russia: Estimates of support to agriculture**

Million USD

	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**28 736**	**77 650**	**90 899**	**70 729**	**71 322**
of which: *share of MPS commodities (%)*	114.6	79.0	81.2	79.3	76.4
Total value of consumption (at farm gate)	**35 024**	**83 726**	**101 403**	**74 830**	**74 946**
Producer Support Estimate (PSE)	**6 522**	**11 262**	**12 733**	**9 125**	**11 928**
Support based on commodity output	2 200	7 560	7 815	5 494	9 370
Market Price Support[1]	1 277	7 119	7 208	5 146	9 004
Payments based on output	923	440	607	348	366
Payments based on input use	4 002	2 916	3 823	2 844	2 081
Based on variable input use	2 417	883	1 196	1 068	385
with input constraints	0	0	0	0	0
Based on fixed capital formation	1 555	1 962	2 526	1 711	1 648
with input constraints	0	0	0	0	0
Based on on-farm services	30	71	101	65	47
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	649	829	641	477
Based on Receipts / Income	0	20	2	55	2
Based on Area planted / Animal numbers	0	629	827	586	475
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	320	137	266	146	0
Percentage PSE (%)	**19.6**	**13.9**	**13.2**	**12.2**	**16.1**
Producer NPC (coeff.)	**1.07**	**1.10**	**1.08**	**1.07**	**1.14**
Producer NAC (coeff.)	**1.24**	**1.16**	**1.15**	**1.14**	**1.19**
General Services Support Estimate (GSSE)	**1 844**	**1 772**	**2 027**	**1 559**	**1 730**
Agricultural knowledge and innovation system	241	516	680	556	310
Inspection and control	159	582	611	374	763
Development and maintenance of infrastructure	303	224	241	161	269
Marketing and promotion	23	16	14	13	22
Cost of public stockholding	0	72	51	64	102
Miscellaneous	1 118	361	431	390	264
Percentage GSSE (% of TSE)	**23.2**	**13.2**	**13.1**	**14.1**	**12.5**
Consumer Support Estimate (CSE)	**-1 561**	**-9 720**	**-10 454**	**-6 916**	**-11 790**
Transfers to producers from consumers	-859	-6 988	-7 281	-4 968	-8 717
Other transfers from consumers	-298	-2 753	-3 471	-1 875	-2 914
Transfers to consumers from taxpayers	3	404	673	358	181
Excess feed cost	-407	-382	-375	-431	-341
Percentage CSE (%)	**-5.4**	**-12.0**	**-10.4**	**-9.3**	**-15.8**
Consumer NPC (coeff.)	**1.05**	**1.14**	**1.12**	**1.10**	**1.18**
Consumer NAC (coeff.)	**1.06**	**1.14**	**1.12**	**1.10**	**1.19**
Total Support Estimate (TSE)	**8 369**	**13 438**	**15 433**	**11 042**	**13 839**
Transfers from consumers	1 157	9 742	10 752	6 842	11 630
Transfers from taxpayers	7 510	6 450	8 152	6 074	5 122
Budget revenues	-298	-2 753	-3 471	-1 875	-2 914
Percentage TSE (% of GDP)	**2.1**	**0.9**	**0.8**	**0.8**	**1.1**
GDP deflator (1995-97=100)	**100**	**2 090**	**1 949**	**2 098**	**2 222**
Exchange rate (national currency per USD)	**5.17**	**55.64**	**38.59**	**61.26**	**67.05**

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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933509153

2.20. South Africa

Support to agriculture

South Africa reduced its support to agriculture during the 1990s and support to farms has remained below 5% of gross farm receipts since 2010. In 2014-16, support to agriculture was around 3% of gross farm receipts. Total support estimate to agriculture (TSE) was around 0.3% of GDP in 2014-16 and direct support to farms (PSE) represented around 60% of the total support, the remaining 40% financing general services beneficial to the sector.

Market price support and input use are the most important components of support to farmers. The level of price distortions is low and domestic prices are almost aligned with world price levels, except for sugar and, in recent years, milk and wheat. Direct payments are mostly directed towards the small scale farming sector. As for the General Services Support Estimate (GSSE), the main elements are payments financing the Agricultural knowledge and innovation system and expenditure on infrastructure. Most of the support in these two GSSE categories is targeted towards creating an enabling environment for the small scale farming sector that has emerged following the land reform.

Main policy changes

Most of the policy measures and direct payments continue to be targeted to the smallholder sub-sector. The Government provides post settlement assistance, including production loans to new and upcoming farmers (mostly operating on redistributed or restituted land). Changes were made to policies related to land redistribution. Under the amended regulation, all the newly acquired land has been registered as state owned on the *Agricultural Land Holding Account* and provided to selected beneficiaries under lease contracts. The beneficiaries may dispose of the land after an agreed lease period, provided the project is economically viable.

In May 2016, South Africa passed a bill that allows the compulsory purchase of land in the public interest. The bill, approved by parliament, will enable the state to pay for land at a value determined by a government adjudicator[1] and then expropriate it for the "public interest", ending the willing-buyer, willing-seller approach to land reform. Another initiative of the government to accelerate the land reform is the new policy approach called *Strengthening the Relative Rights of People Working the Land*. This initiative is directed towards empowerment of farm workers through a model that positions farm workers to become part owners in agricultural operations alongside the existing farm owners.

To alleviate the consequences of severe consecutive droughts in 2014 and 2015, the Government (both central and provinces) reallocated the expenditure of some programmes to finance water provisioning, the provisioning of feed for livestock and its transport. For the 2016/17 FY, the Department of Agriculture requested further drought relief assistance from the National Treasury through the National Disaster Management Centre. The Land Bank has also made available ZAR 400 million for concessional loans to commercial farmers affected by the drought.

Assessment and recommendations

- The current relatively low level of Market Price Support for South African agriculture is the result of sharp policy reforms implemented in the mid-1990s. Policy changes included deregulating the marketing of agricultural products, liberalising domestic markets, and reducing barriers to agricultural trade. These reforms reduced market price

support and budgetary support to commercial farming, resulting in a substantial reduction of total support to agriculture and of its distortive effects.

- Increased budgetary spending is going to financing the land reform process and supporting its beneficiaries (subsistence, smallholders and commercial farmers). The main agricultural policy developments and the main challenges in most recent years are related to the implementation of the land reform programme and creating an enabling environment for new farmers. During 2014-16, policies that aimed to ensure the viability of new entrants and to restore and recapitalise failed projects continued to be implemented with increased budgetary spending.
- The main challenge continues to be implementing and effectively targeting support programmes that are tailored to the needs of emerging farmers. From the recent discussions around the land reform (land redistribution), stakeholders appear to disagree on which form of farming is to be targeted as the desired outcome of land reform (commercial farming, small scale farming for proximity markets, subsistence farming, etc.), and on the resulting adjustment of the relevant forms of support both through direct support to farms and in form of creation of enabling environment (general services).
- Concerning support programmes that are to focus more on incoming entrepreneurs in commercial farming, the early involvement of experienced commercial farmers in the development of support programmes is key. Private-public partnerships are an efficient tool for engaging the available resources and addressing the current weaknesses in supporting programmes and services from public authorities.
- In any case, the pace of land reform should be closely linked to the development of the enabling environment (education and training, adequate infrastructure, marketing channels, etc.) for the beneficiaries of land reform; otherwise land redistribution by itself cannot deliver the expected outcomes, such as improving the welfare of the black rural population, increasing food security in rural areas and developing a viable commercial sector.

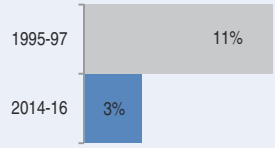
Note

1. The *Property Valuation Act* (act 17 of 2014) introduced the function of the *Office of the Valuer-General* within the structure of the Department of Rural Development and Land Reform. The intention is to introduce just and equitable valuation of land identified for restitution and provide valuations in support of offers to land purchase and expropriation.

Development of support to agriculture

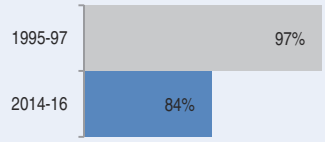
PSE as % of receipts (%PSE)

The level of support as measured by the percentage PSE has substantially declined since 1995-97 and at around 3% has been well below the OECD average in 2014-16. After an increase in 2015, the share of support in total farm receipts fell by 2.4 percentage points to reach 2.3% in 2016.



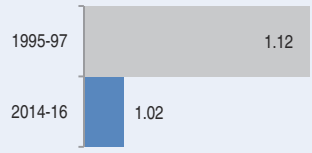
Potentially most distorting support as % of PSE

The share of potentially most production and trade distorting forms of support (based on output and unconstrained input use) has declined but remains relatively high at 84% in 2014-16. However, this relatively high share is to be interpreted in the context of the low overall level of support.



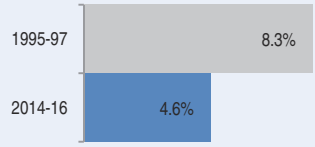
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

The relatively low level of price distortions is maintained and the level of domestic prices was almost aligned to world price levels in 2014-16, as measured by the Nominal Protection Coefficient. The NPC was highest for sugar, followed by wheat and milk.



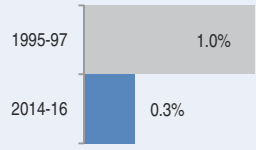
GSSE relative to agricultural value added

Although increasing in nominal terms, the share of expenditures financing general services to the sector (GSSE) declined in the long term when expressed relative to agricultural value added. In most recent years, most GSSE expenditures are financing agricultural knowledge and innovation, and infrastructure.

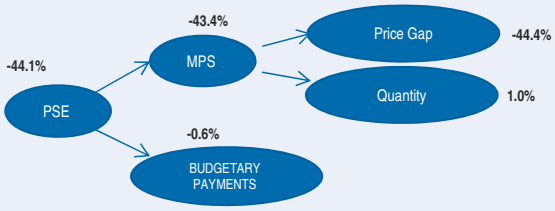


TSE as % of GDP

The total support represented 0.3% of GDP in 2014-16 (half the OECD average). The share of the general services in the total support estimate was around 40% over the same period.

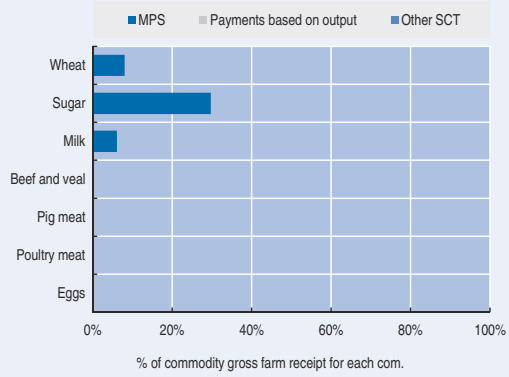


Decomposition of change in PSE, 2015 to 2016



The decline of support 2016 mainly reflects a reduction in the market price support. This was mostly due to a smaller price gap reflecting both an increase of world prices in USD and the weakening of the ZAF against USD.

Transfer to specific commodities (SCT), 2014-16



In 2014-16, Single Commodity Transfers (SCT) represented 61% of support to farmers. The share of the SCT in the commodity gross farm receipts was highest for sugar 30%, 8% for wheat and 6% for milk. It was close to zero for the remaining commodities.

Table 2.20. **South Africa: Estimates of support to agriculture**

Million USD

	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**8 900**	**17 826**	**19 038**	**17 452**	**16 987**
of which: *share of MPS commodities (%)*	74.0	75.2	75.9	75.6	74.0
Total value of consumption (at farm gate)	**8 351**	**17 710**	**18 284**	**17 656**	**17 191**
Producer Support Estimate (PSE)	**970**	**585**	**530**	**825**	**401**
Support based on commodity output	930	374	311	601	211
Market Price Support[1]	930	374	311	601	211
Payments based on output	0	0	0	0	0
Payments based on input use	15	175	173	183	170
Based on variable input use	8	119	125	119	114
with input constraints	0	0	0	0	0
Based on fixed capital formation	7	55	47	62	54
with input constraints	1	0	0	0	0
Based on on-farm services	0	2	1	2	2
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	25	35	46	41	20
Based on Receipts / Income	23	35	46	41	20
Based on Area planted / Animal numbers	3	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 (%)	**10.6**	**3.2**	**2.8**	**4.7**	**2.3**
Producer NPC (coeff.)	**1.12**	**1.02**	**1.02**	**1.04**	**1.01**
Producer NAC (coeff.)	**1.12**	**1.03**	**1.03**	**1.05**	**1.02**
General Services Support Estimate (GSSE)	**518**	**328**	**369**	**337**	**278**
Agricultural knowledge and innovation system	443	128	162	118	105
Inspection and control	34	59	64	68	44
Development and maintenance of infrastructure	41	114	117	119	106
Marketing and promotion	0	27	26	31	24
Cost of public stockholding	0	0	0	0	0
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**34.7**	**35.8**	**41.0**	**29.0**	**41.0**
Consumer Support Estimate (CSE)	**-965**	**-402**	**-296**	**-666**	**-243**
Transfers to producers from consumers	-906	-352	-255	-593	-207
Other transfers from consumers	-97	-51	-43	-73	-36
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	38	1	2	0	0
Percentage CSE (%)	**-11.3**	**-2.3**	**-1.6**	**-3.8**	**-1.4**
Consumer NPC (coeff.)	**1.13**	**1.02**	**1.02**	**1.04**	**1.01**
Consumer NAC (coeff.)	**1.13**	**1.02**	**1.02**	**1.04**	**1.01**
Total Support Estimate (TSE)	**1 488**	**913**	**899**	**1 162**	**679**
Transfers from consumers	1 003	402	298	666	243
Transfers from taxpayers	582	561	644	568	472
Budget revenues	-97	-51	-43	-73	-36
Percentage TSE (% of GDP)	**1.0**	**0.3**	**0.3**	**0.4**	**0.2**
GDP deflator (1995-97=100)	**100**	**372**	**352**	**369**	**394**
Exchange rate (national currency per USD)	**4.18**	**12.77**	**10.85**	**12.76**	**14.70**

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, peanuts, grapes, oranges and apples.

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933509172

2.21. Switzerland

Support to agriculture

Switzerland has progressively reduced its support to agriculture but the change is relatively moderate and support to farms (PSE) remains high in terms of its share on gross farm receipts, which is three times above the OECD average. Total support estimate to agriculture (TSE) was around 1% of GDP in the most recent years. The direct support to farms (PSE) is the dominant part of the TSE. Support based on output (including MPS) and input use is the most important element of the support. The main element of the General Services Support Estimate (GSSE) is to finance the agricultural knowledge and innovation system, which represents almost half of the GSSE expenditure.

One of the main components of support provided to Swiss farming is market price support (MPS) resulting from important trade barriers applied at the border. Over the analysed period the MPS has been reduced from 80% to around 50% of total support to farmers. Also the level of price distortions has been significantly reduced, although domestic prices were on average 68% above world prices in 2014-16. Switzerland also provides significant direct payments to farms (all subject to environmental cross-compliance) in the form of payments per area to secure food supplies, payments to maintain farming in less favoured conditions and in the form of payments to farmers who voluntarily apply stricter farming practices related to environmental and animal welfare objectives. The role of the direct payments has been increasing over time and while it represented around 20% of support to farmers in the 1980s it has increased to around 50% in current years.

Main policy changes

Switzerland adopted a new policy framework for the period 2014-17 (*Politique Agricole* 2014-17 – PA 14-17). The main change is the suppression of general area payments and reallocation of payments more closely related to specific objectives (agricultural practices), complemented by a system of transition payments to make the reform socially acceptable. Although the set of the programmes providing direct payments is set for the whole period 2014-17 and the total yearly budgeted amount is stable, there were important shifts within those payments in 2015 while the changes were smaller in 2016 (third year of the implementation of AP 2017). The transitional payments were reduced in 2015 but remained roughly stable in 2016. On the other side, there were no further reforms to the border measures and the protection remains relatively high. The export subsidies for selected processed products were increased in 2015 (to compensate for a sharp strengthening of the CHF related to the end of intervention of the Swiss Central Bank) from the budgeted CHF 70 million to CHF 95.6 million and remained at this level in 2016.

From 2017 on, the Ordinance on Swissness (HasLV) will come into force. It defines the regulations which have to be fulfilled in order to use the Label "Swiss" and the use of the label of the Swiss cross. It will better inform the consumers on the origin of the products.

Assessment and recommendations

- Security of food supply should be sought through a more competitive agriculture rather than by direct payments. Much, but not all, of Swiss farming occurs in difficult natural conditions and support policies maintain production where it would not otherwise occur. A better distinction could be made, though, between policies that address market

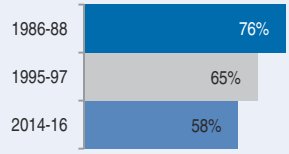
failures (the provision of positive externalities and public goods as well as the avoidance of negative externalities), and those that address income problems.

- The recent removal of milk price controls and milk quotas, together with the elimination of export subsidies on primary agricultural products and the reduction of some tariff barriers have a potential to increase competitiveness and better allocate resources. Continued reductions of import barriers and the elimination of the export subsidies to processed products should be considered to further reduce the burden to consumers and interference with markets.
- Switzerland has made some progress in reducing environmental pressures from agriculture. However, with the current system of support measures it fails to meet some environmental objectives and nutrient surpluses remain comparatively high.
- For some objectives such as sustainable use of resources and animal welfare the existing regulations could be made more stringent. In practical terms current cross compliance requirements can be incorporated into mandatory regulation, which then provides a new baseline for more stringent cross-compliance requirements linked to support payments.
- As far as payments to farmers are concerned, for developing the post 2017 policies, focus should be put on further developing a set of better targeted direct payments to meet the various societal concerns and to further reduce border protection in order to meet the declared (and sometimes conflicting) objectives at the lowest costs to consumers and taxpayers. Further development of the consumer information system related to issues such as environment and animal welfare should also contribute to address some market failures. This may result in a reduced amount of total direct payments to farms. Instead some of those payments may be redirected to general services type support (e.g. knowledge transfer) in order to strengthen the productivity of the sector.

Development of support to agriculture

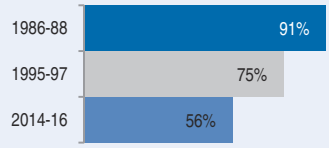
PSE as % of receipts (%PSE)

Switzerland has reduced its support to farmers by 18 percentage points between 1986-88 and 2014-16. Despite this gradual reduction, overall support remains more than three times higher than the OECD average. After an increase in 2015, the %PSE fell slightly to 58% in 2016.



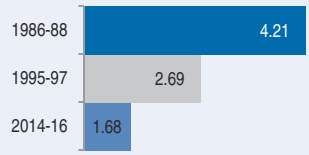
Potentially most distorting support as % of PSE

Due to the changes in the form of support introduced during consecutive policy reforms, the potentially most production and trade distorting support (based on output and variable input use – without constraints) decreased from 91% in 1986-88 to 56% of support to farms in 2014-16.



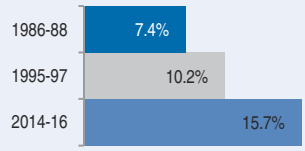
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

The ratio of producer price to border price was substantially reduced over time. Overall, the prices paid to the farming sector were 68% above world prices in 2014-16 as measured by the NPC, a contrast with the 4.2 times higher domestic prices in 1986-88. The highest NPCs are for poultry and eggs.



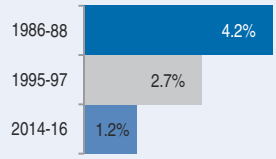
GSSE relative to agricultural value added

Expenditures for general services were equivalent to 16% of the agricultural value added in 2014-16, twice as much as in 1986-88. This is partly due to the increase of these expenditures but also reflects the shrinking of the value added by the sector. Most expenditure is financing agricultural knowledge and innovation.

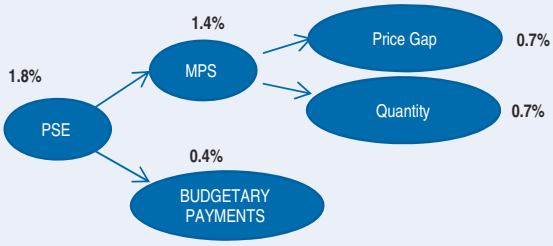


TSE as % of GDP

Total support was 1.2% of GDP in 2014-16 and the expenditure on general services was around 10% of the Total Support Estimate.

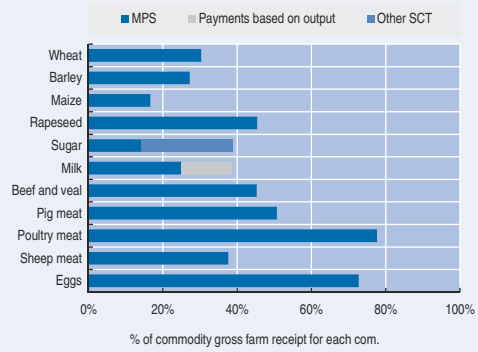


Decomposition of change in PSE, 2015 to 2016



The level of support increased slightly in 2016, due mostly to an increase of the MPS. The MPS increase reflects equally marginal changes in the price gap and quantity produced.

Transfer to specific commodities (SCT), 2014-16



The Single Commodity Transfers (SCT) represented around 55% of the total PSE in 2014-16. The share of the SCT in the commodity gross farm receipt was the lowest for grains (around 30%) and the highest for poultry and eggs (around 75%).

Table 2.21. **Switzerland: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**7 966**	**9 086**	**9 020**	**9 163**	**8 873**	**9 024**
of which: *share of MPS commodities (%)*	63.2	59.6	57.9	63.7	56.5	53.7
Total value of consumption (at farm gate)	**9 379**	**10 312**	**10 348**	**10 341**	**10 166**	**10 538**
Producer Support Estimate (PSE)	**6 739**	**7 175**	**7 272**	**7 201**	**7 328**	**7 288**
Support based on commodity output	5 834	5 280	3 978	3 753	4 088	4 094
Market Price Support[1]	5 807	5 215	3 671	3 432	3 784	3 797
Payments based on output	27	64	307	320	304	297
Payments based on input use	358	319	140	140	137	142
Based on variable input use	289	242	70	73	69	68
with input constraints	0	140	0	0	0	0
Based on fixed capital formation	46	61	70	67	68	75
with input constraints	0	0	17	7	18	25
Based on on-farm services	23	16	0	0	0	0
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	392	929	953	981	945	934
Based on Receipts / Income	10	0	0	0	0	0
Based on Area planted / Animal numbers	382	929	953	981	945	934
with input constraints	217	809	907	932	900	888
Payments based on non-current A/An/R/I, production required	18	444	1 101	1 144	1 092	1 067
Payments based on non-current A/An/R/I, production not required	0	0	234	336	185	182
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	234	336	185	182
with commodity exceptions	0	0	0	0	0	0
Payments based on non-commodity criteria	0	47	665	629	680	687
Based on long-term resource retirement	0	0	0	0	0	0
Based on a specific non-commodity output	0	47	665	629	680	687
Based on other non-commodity criteria	0	0	0	0	0	0
Miscellaneous payments	137	156	201	218	201	183
Percentage PSE (%)	**75.6**	**65.1**	**57.7**	**55.7**	**59.0**	**58.2**
Producer NPC (coeff.)	**4.21**	**2.69**	**1.68**	**1.60**	**1.73**	**1.70**
Producer NAC (coeff.)	**4.10**	**2.86**	**2.36**	**2.26**	**2.44**	**2.39**
General Services Support Estimate (GSSE)	**431**	**461**	**760**	**786**	**760**	**735**
Agricultural knowledge and innovation system	110	129	373	385	371	364
Inspection and control	9	11	13	15	13	12
Development and maintenance of infrastructure	80	65	94	97	98	85
Marketing and promotion	29	35	64	64	64	64
Cost of public stockholding	66	65	40	42	39	39
Miscellaneous	137	156	176	184	174	170
Percentage GSSE (% of TSE)	**5.5**	**5.4**	**9.4**	**9.8**	**9.4**	**9.1**
Consumer Support Estimate (CSE)	**-6 459**	**-5 763**	**-4 172**	**-3 874**	**-4 254**	**-4 390**
Transfers to producers from consumers	-5 843	-5 452	-3 414	-3 208	-3 523	-3 510
Other transfers from consumers	-1 458	-1 318	-791	-703	-763	-908
Transfers to consumers from taxpayers	700	829	8	8	7	8
Excess feed cost	141	178	25	29	25	20
Percentage CSE (%)	**-74.3**	**-60.8**	**-40.4**	**-37.5**	**-41.9**	**-41.7**
Consumer NPC (coeff.)	**4.49**	**2.91**	**1.69**	**1.61**	**1.73**	**1.72**
Consumer NAC (coeff.)	**3.89**	**2.55**	**1.68**	**1.60**	**1.72**	**1.71**
Total Support Estimate (TSE)	**7 870**	**8 465**	**8 040**	**7 995**	**8 095**	**8 031**
Transfers from consumers	7 301	6 770	4 205	3 911	4 286	4 418
Transfers from taxpayers	2 027	3 013	4 627	4 787	4 572	4 521
Budget revenues	-1 458	-1 318	-791	-703	-763	-908
Percentage TSE (% of GDP)	**4.2**	**2.7**	**1.2**	**1.1**	**1.2**	**1.2**
GDP deflator (1986-88=100)	**100**	**125**	**137**	**138**	**137**	**136**
Exchange rate (national currency per USD)	**1.58**	**1.29**	**0.95**	**0.92**	**0.96**	**0.99**

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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink *http://dx.doi.org/10.1787/888933508925*

2.22. Turkey

Support to agriculture

Despite a series of ambitious reforms since the late 1990s, the level of support in Turkey, while varying from year to year, has remained higher than the average for the OECD area and stood at 27% during 2014-16. The most distorting forms of support prevail as Market Price Support (MPS) accounts for more than three-fourths of the producer support. The level of price distortions has been reduced only slightly: domestic prices remain on average 31% above world prices in 2014-16.

The other important elements of producer support are payments based on output and variable input use, which account for 9% of producer support. Payments based on commodity output have doubled since the decoupled direct payments were abolished in 2009. The main instrument of direct payments to farms in Turkey is deficiency payments ("premium payments"), which is designed to cover the difference between the target price and market price of the product. The target price is calculated based on production and marketing costs. These payments are provided for the products that are in short domestic supply, such as oilseeds and grains. Payments based on current area and animal number, such as agricultural insurance programmes, have increased in recent years and the share of such payments reached 8% of producer support in 2014-16.

As for the General Services Support Estimate (GSSE) the main element is financing the development and maintenance of infrastructure, which accounts for approximately 80% of the GSSE expenditure. While expenditure for the agricultural knowledge and innovation system grew in the last decade, the share in GSSE expenditure remains around 6% in 2014-16. Total support estimate to agriculture (TSE) averaged 2.4% of GDP in those most recent years.

Main policy changes

In 2016, Turkey introduced a reform of the "basin-based support programme", differentiating between crops eligible for deficiency payments in order to rationalise the production structure based on the most suitable ecological conditions. Furthermore, Turkey announced that from 2017, output based deficiency payments would be replaced by an area payment for specific crops.

Turkey also introduced two other payment schemes in 2016. The Young Farmers Project provides up to TRY 30 000 (USD 9 931) per applicant who are literate and unemployed farmers under 41 years old with the objective to attract the young generation to agriculture and to increase employment in rural areas. A new area based payment was introduced for small family farms cultivating less than 0.5 hectare of land.

Assessment and recommendations

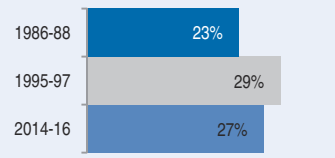
- Turkey has made remarkable progress in the last decade towards strengthening the agricultural sector's legal and institutional framework. However, greater efforts need to be made to transform the state economic enterprises into economically viable entities operating under competitive market conditions.
- Since 1986-88 policy efforts aimed at improving market orientation have been variable. There have been ad hoc changes to policy settings within a macro-economic context of high inflation and volatile exchange rates. The share of producer support in gross farm receipts (%PSE) in 2014-16 remained at around 27%, which is higher than the OECD average.

- Agricultural policy should be reoriented from supporting production towards improving agricultural productivity and adding more value while considering sustainable use of natural resources.
- A re-orientation of agricultural policies, should allow producers to react flexibly to market conditions. Producer support is granted mainly through the most market distorting measures, altering the prices farmers face on output and input markets. Although the announcement of converting major support programmes based on output to area bases payment is a step forward in this direction, further efforts are required to reduce the share of the most distorting type of support.
- Programmes such as payments for supporting organic agriculture, good farming practices and land conservation are more targeted to the policy objective to develop an environmentally-friendly agricultural sector. The role of policies targeted to environmental policy objective should be increased.
- Turkey should increase investments on education and skills, critical physical infrastructure and the innovation system. The support directed to the agricultural knowledge and innovation system has increased in recent years, but still accounts for less than 1% of total support to agriculture.

Development of support to agriculture

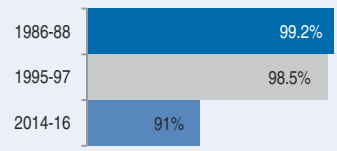
PSE as % of receipts (%PSE)

Support to producers (% PSE) increased by four percentage points to 27% in 2014-16, compared to 1986-88, and is higher than the OECD average (18%). The %PSE in 2016 increased by two percentage points from 2015 at 28% of gross farm receipts.



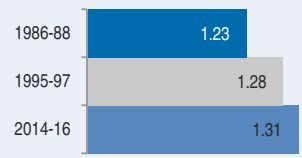
Potentially most distorting support as % of PSE

While the most production- and trade-distorting policies (based on commodity output and variable input use – without input constraints) accounted for almost all producer support in 1986-88, in 2014-16 it still holds the most important part with 91%, higher than the OECD average (51%).



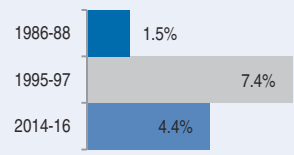
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers in 2014-16 were about 31% higher than those received on the world market and is higher than the OECD average (10%). They were 23% higher during 1986-88.



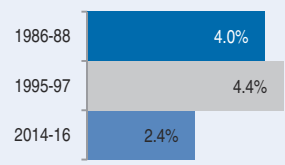
GSSE relative to agricultural value added

Budgetary expenditure for general services (GSSE), equivalent to 1.5% of agricultural value added in 1986-88, increased to 4.4% in 2004-16. Expenditure on hydrological infrastructure accounts for 74% of the GSSE. The share of general services in the total support estimate was around 14%.

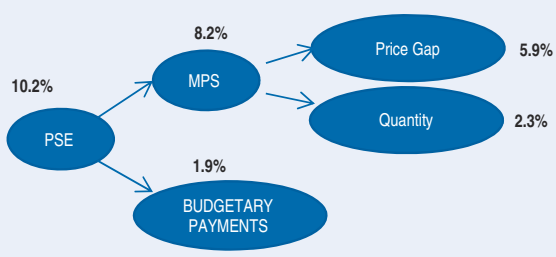


TSE as % of GDP

The share of total support to agriculture in GDP over 2014-16 was 2.4%, down from 4% in 1986-88

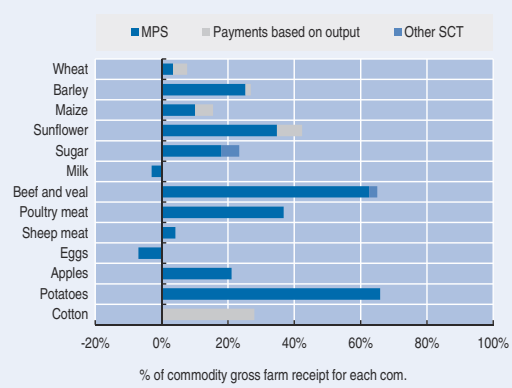


Decomposition of change in PSE, 2015 to 2016



The level of support increased in 2016 mainly due to growing market price support to beef, driven by higher domestic prices.

Transfer to specific commodities (SCT), 2014-16



The share of single commodity transfers increased from 80% of producer support in 1986-88 to 91% in 2014-16. SCT were higher than 40% for potatoes, beef and sunflower.

Table 2.22. **Turkey: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**18 343**	**26 585**	**61 976**	**63 991**	**63 277**	**58 660**
of which: *share of MPS commodities (%)*	55.0	73.6	71.9	72.9	71.8	71.0
Total value of consumption (at farm gate)	**14 003**	**22 587**	**48 090**	**51 498**	**48 873**	**43 898**
Producer Support Estimate (PSE)	**4 326**	**8 079**	**17 159**	**16 983**	**17 312**	**17 182**
Support based on commodity output	3 441	5 992	15 215	14 944	15 409	15 291
Market Price Support[1]	3 430	5 900	14 105	13 691	14 383	14 240
Payments based on output	11	92	1 110	1 253	1 026	1 051
Payments based on input use	885	2 035	589	615	587	564
Based on variable input use	850	1 962	459	489	458	430
with input constraints	0	0	0	0	0	0
Based on fixed capital formation	19	63	121	116	121	126
with input constraints	0	0	0	0	0	0
Based on on-farm services	16	10	9	10	8	7
with input constraints	0	0	0	0	0	0
Payments based on current A/An/R/I, production required	0	52	1 356	1 423	1 317	1 328
Based on Receipts / Income	0	0	197	163	194	233
Based on Area planted / Animal numbers	0	52	1 159	1 260	1 123	1 095
with input constraints	0	0	140	126	149	144
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	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 (%)	**22.8**	**29.0**	**26.5**	**25.2**	**26.1**	**27.9**
Producer NPC (coeff.)	**1.23**	**1.28**	**1.31**	**1.28**	**1.30**	**1.33**
Producer NAC (coeff.)	**1.30**	**1.41**	**1.36**	**1.34**	**1.35**	**1.39**
General Services Support Estimate (GSSE)	**313**	**2 856**	**2 887**	**3 038**	**2 903**	**2 719**
Agricultural knowledge and innovation system	46	46	171	170	188	155
Inspection and control	51	73	44	53	41	38
Development and maintenance of infrastructure	22	572	2 149	2 345	1 937	2 164
Marketing and promotion	95	2 069	523	470	737	362
Cost of public stockholding	0	0	0	0	0	0
Miscellaneous	99	96	0	0	0	0
Percentage GSSE (% of TSE)	**7.0**	**26.6**	**14.3**	**15.2**	**14.4**	**13.7**
Consumer Support Estimate (CSE)	**-3 125**	**-5 552**	**-10 685**	**-11 079**	**-11 172**	**-9 804**
Transfers to producers from consumers	-3 114	-5 401	-10 740	-11 092	-11 250	-9 877
Other transfers from consumers	-54	-238	-88	-180	-77	-7
Transfers to consumers from taxpayers	0	0	0	0	0	0
Excess feed cost	43	86	143	193	155	80
Percentage CSE (%)	**-22.8**	**-25.4**	**-22.3**	**-21.5**	**-22.9**	**-22.3**
Consumer NPC (coeff.)	**1.30**	**1.35**	**1.29**	**1.28**	**1.30**	**1.29**
Consumer NAC (coeff.)	**1.30**	**1.34**	**1.29**	**1.27**	**1.30**	**1.29**
Total Support Estimate (TSE)	**4 638**	**10 935**	**20 046**	**20 021**	**20 215**	**19 902**
Transfers from consumers	3 168	5 638	10 828	11 272	11 327	9 884
Transfers from taxpayers	1 524	5 535	9 306	8 929	8 965	10 024
Budget revenues	-54	-238	-88	-180	-77	-7
Percentage TSE (% of GDP)	**4.0**	**4.4**	**2.4**	**2.1**	**2.4**	**2.8**
GDP deflator (1986-88=100)	**100**	**13 840**	**583 027**	**542 801**	**583 127**	**623 154**
Exchange rate (national currency per USD)	**0.00**	**0.09**	**2.64**	**2.19**	**2.72**	**3.02**

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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933508944

2.23. Ukraine

Support to agriculture

Over the long term, support to agricultural producers has been quite variable, largely reflecting fluctuations in market price support. The support to farmers expressed as a share of gross farm receipts (%PSE) has been negative since 2013, as budgetary payments and price protection for imported commodities only partly offset negative market price support on exported ones. On average, producer prices are below world price levels, but price protection across commodities differs widely, with prices for most meat commodities and for sugar above reference price levels.

Most of the budgetary support is used for general services and, within that group, for agricultural schools and for inspection and control services. The overall budget has been substantially lower than in the late 2000s and early 2010s, and the GSSE has fallen both in absolute terms and relative to the agricultural value added.

Main policy changes

While in 2016 the main domestic policies remained unchanged, several budgetary support measures where reduced in size, in line with the tightened budget of the Ministry of Agrarian Policy and Food. This in particular included interest rate concessions on commercial bank credits, the share of VAT agricultural producers could accumulate for the purchase of inputs and for other production purposes, and expenditures for agricultural schools, research and development. With effect from 1 January 2017, the VAT accumulation system for agricultural producers was abolished.

As of January 2016, the newly established State Service of Ukraine for Food Safety and Consumer Protection became operational and funded from the state budget. It replaces three previously existing state agencies. However, the funding for the country's veterinary and phytosanitary services remains low compared to expenditures in previous years.

Since the beginning of 2016, the European Union-Ukraine Deep and Comprehensive Free Trade Area has been fully implemented. At the same time, Ukraine's free trade regime with the Russian Federation has been suspended. The ban by the Russian Federation on agro-food products from the European Union was extended to imports from Ukraine. In turn, Ukraine has placed embargos on a wide range of Russian Federation agricultural products.

In 2016, Ukraine and Canada also signed the Canada-Ukraine Free Trade Agreement by which both countries will eliminate tariffs on the vast majority of bilateral trade (including agricultural trade) either immediately or within seven years after its entry into force.

Assessment and recommendations

- Producer prices in most of Ukraine's export oriented crop sectors, as well as for milk, continue to be substantially below reference price levels, reducing domestic producers' opportunities to participate in international markets. The European Union-Ukraine DCFTA should reduce the resulting negative market price support to some degree, but the country should take additional steps to reduce export barriers. Such restrictions are trade distorting and reduce the profitability of the country's most competitive commodities and, hence, the international competitiveness of the sector overall.
- The re-implementation of the normal VAT regime for exporting companies can be a step in the right direction provided additional steps are taken to ensure transparency and

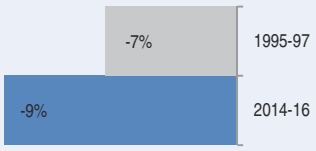
systematic implementation. However, the current VAT refunds on export sales are a non-transparent measure harming the business environment. In addition, in combination with the existing export barriers, the system of export regulation overall is incoherent and should be reviewed.

- Financial constraints have led to a significant decline in expenditures for general services, most importantly for the country's inspection and control services as well as for research and development. Sanitary and phytosanitary inspection and control is a key service to the sector particularly in light of its strong export focus. Lack of compliance with EU food safety, veterinary and phytosanitary requirements remains a major barrier for Ukraine's exports to the EU market. A well-functioning and sufficiently funded inspection and control service therefore is a prerequisite to fully benefit from the DCFTA.
- In difficult economic conditions, the government has focused on deregulation. While such a policy deserves attention, adequate levels of basic general services should remain a priority.
- The deteriorating capital stock in agriculture is a concern, threatening continued growth in total factor productivity which reached impressive levels in 2004-13. Significant economic and political uncertainties are likely to be key factors behind the effective disinvestment in agriculture. Maintaining and developing a productive agricultural sector will critically depend on a return to macroeconomic and political stability.
- Ukraine's agricultural sector is highly dependent on weather variability which could be further exacerbated by climate change. The country should work towards an effective risk management system involving all relevant stakeholders. Adaptation of agricultural production to climate change will also be vital, requiring a well-functioning and sufficiently funded knowledge and innovation system.
- To enhance food security for poor consumers, the government relies on maintaining food prices at low levels and on sales of flour produced from state grain stocks to bakeries. Such measures are untargeted and therefore inefficient, and should be replaced by more specific support for poor households, including through the general social security system. The temporary suspension of price regulation for sales of food products, announced by the government in August 2016, should be an opportunity to develop more targeted and efficient assistance for poor consumers.

Development of support to agriculture

PSE as % of receipts (%PSE)

Support to producers (%PSE) was -9% in 2014-16, implying an implicit overall taxation. Compared to 1995-97, the level of this taxation has grown. In 2016, the estimated %PSE has been more negative still with -9.5%. Strongly negative market price support could not be offset by budgetary support, funding of which is difficult due to the tight budgetary situation.



Potentially most distorting support as % of PSE

Due to strongly negative market price support for most products, the value of potentially most distorting support was negative as well. Its share in total PSE therefore is not shown.

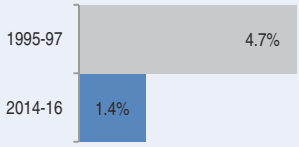
Not applicable.

Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Prices received by farmers were 12% lower than world prices on average in 2014-16. This represents a minimal change relative to the 1995-97 situation.

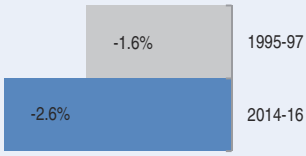
GSSE relative to agricultural value added

Expenditures for general services have fallen strongly since 1995-97. In 2014-16, they were equivalent to 1.4% of agricultural value added, compared to 4.7% in 1995-97. Funding of agricultural schools and of inspection and control services represented the main expenditures in this group.

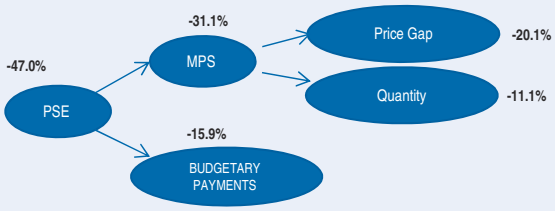


TSE as % of GDP

Due to the strong negative market price support, total support was negative in 2014-16, with a %TSE at -2.6%, compared to –1.6% in 1995-97.

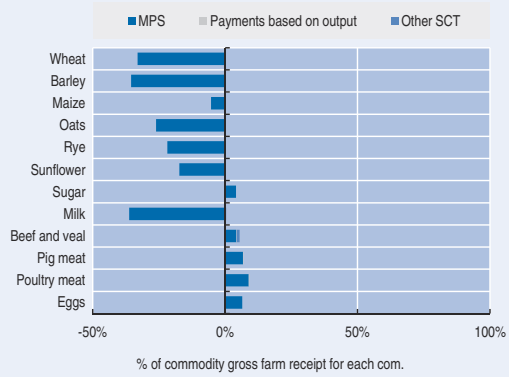


Decomposition of change in PSE, 2015 to 2016



Producer support continued to fall to more negative levels in 2016, driven by both more negative MPS and a drop in budgetary support. The price gap between domestic and world prices widened further and applies to a larger production volume.

Transfer to specific commodities (SCT), 2014-16



Transfers to single commodities vary, with meat, eggs and sugar being supported while grains, oilseeds and milk are strongly taxed.

Table 2.23. **Ukraine: Estimates of support to agriculture**

Million USD

	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**13 085**	**28 487**	**33 626**	**25 701**	**26 134**
of which: *share of MPS commodities (%)*	87.7	82.2	83.0	81.4	82.3
Total value of consumption (at farm gate)	**9 090**	**16 589**	**19 239**	**16 008**	**14 519**
Producer Support Estimate (PSE)	**-1 169**	**-2 552**	**-3 101**	**-2 018**	**-2 536**
Support based on commodity output	-1 814	-3 663	-4 646	-3 131	-3 214
Market Price Support[1]	-1 823	-3 685	-4 711	-3 131	-3 214
Payments based on output	9	22	65	0	0
Payments based on input use	324	879	1 187	930	521
Based on variable input use	232	876	1 178	929	520
with input constraints	0	0	0	0	0
Based on fixed capital formation	79	4	9	1	1
with input constraints	0	0	0	0	0
Based on on-farm services	12	0	0	0	0
with input constraints	0	0	0	0	0
Payments based on current A/An/R/I, production required	322	233	359	183	157
Based on Receipts / Income	322	220	320	183	157
Based on Area planted / Animal numbers	0	13	39	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**	**-8.6**	**-8.8**	**-7.5**	**-9.5**
Producer NPC (coeff.)	**0.87**	**0.88**	**0.86**	**0.88**	**0.89**
Producer NAC (coeff.)	**0.93**	**0.92**	**0.92**	**0.93**	**0.91**
General Services Support Estimate (GSSE)	**303**	**173**	**293**	**115**	**110**
Agricultural knowledge and innovation system	76	103	164	80	66
Inspection and control	24	57	109	27	35
Development and maintenance of infrastructure	190	2	1	2	2
Marketing and promotion	3	1	1	1	1
Cost of public stockholding	0	6	15	1	2
Miscellaneous	10	3	3	3	4
Percentage GSSE (% of TSE)	**..**	**..**	**..**	**..**	**..**
Consumer Support Estimate (CSE)	**1 950**	**2 302**	**2 980**	**1 815**	**2 111**
Transfers to producers from consumers	2 010	2 722	3 621	2 217	2 326
Other transfers from consumers	148	1	2	-1	1
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	-209	-420	-643	-401	-216
Percentage CSE (%)	**19.6**	**13.6**	**15.5**	**11.3**	**14.5**
Consumer NPC (coeff.)	**0.82**	**0.86**	**0.84**	**0.88**	**0.86**
Consumer NAC (coeff.)	**0.84**	**0.88**	**0.87**	**0.90**	**0.87**
Total Support Estimate (TSE)	**-866**	**-2 379**	**-2 808**	**-1 903**	**-2 426**
Transfers from consumers	-2 158	-2 722	-3 623	-2 216	-2 327
Transfers from taxpayers	1 144	342	813	314	-100
Budget revenues	148	1	2	-1	1
Percentage TSE (% of GDP)	**-1.6**	**-2.6**	**-2.1**	**-2.1**	**..**
GDP deflator (1995-97=100)	**100**	**1 656**	**1 389**	**1 922**	**..**
Exchange rate (national currency per USD)	**1.72**	**19.76**	**11.89**	**21.84**	**25.55**

.. 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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink http://dx.doi.org/10.1787/888933509191

2.24. United States

Support to agriculture

The level of support provided to agricultural producers in the United States has been consistently below the OECD average and shows a declining trend over time. Market price support has become a progressively smaller share of US support to agriculture in recent decades. Budgetary support has increased in importance over time, mainly due to increases in payments that do not require production and, to a lesser extent, increases in input payments. Nevertheless, producer support as a share of receipts has varied widely over time and across commodities. Reflecting the fact that many agricultural policies are counter-cyclical to market prices, the level of support is inversely related to market prices. As a result, support has peaked when world commodity prices were depressed (in terms of USD), while high commodity prices since 2007-08 have contributed to low levels of support.

The United States' producer support estimate (PSE) has declined from 21% of gross farm receipts in 1986-88 to 9% in 2014-16. The share of potentially most distorting support (based on output and variable input use – without input constraints) has fallen to 33% in 2014-16, well below the OECD average and much lower than levels in 1996-97. Payments requiring production that are based on area, animal numbers, receipts or income, primarily insurance programmes, accounted for around 21% of the PSE in 2014-16. Insurance programmes provide indemnities based on the difference between the insured level of coverage, mostly yield or revenue, and actual outcomes. On average, prices received by farmers in 2014-16 were 3% higher than those observed in world markets. This largely resulted from MPS for milk, sugar, and to a lesser extent sheep meat, as producer prices of other commodities are mostly aligned with border prices. Support to consumers accounts for close to half of total support to US agriculture as a result of US domestic food assistance programmes. The share of the General Services Support Estimate (GSSE) has increased in total support to agriculture (TSE), from 6.4% of the TSE in 1986-88 to 9.9% in 2014-16.

Main policy changes

While most of the provisions of the 2014 Farm Bill were fully implemented by 2015, several programmes have seen adjustments or expansions in 2016. These include changes to the *Margin Protection Program* (MPP) for dairy producers, and changes to programmes that facilitate farm access to credit for beginning, small, and underserved farmers, and specialty crop producers, among others, including the *Microloan Program* and the *Farm Storage Facility Loan*. USDA's Farm Service Agency (FSA) introduced the *EZ guaranteed loans* programme to streamline applications for farm operating and ownership loans. The United States also provided one-off, cost-shared assistance to cotton producers to help with anticipated ginning costs under the *Cotton Ginning Cost Share* (CGCS) programme.

The United States signed the Trans-Pacific Partnership (TPP) agreement on 4 February 2016 to create a regional trading bloc with 11 other countries (Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, and Viet Nam). However, the agreement was never ratified by Congress and the United States withdrew from the agreement on 23 January 2017.

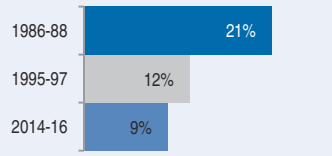
Assessment and recommendations

- Levels of producer support and border protection have decreased substantially since 1986-88. However, low levels of support since 2002 are due, in part, to higher world commodity prices, as many of the agricultural support programmes are counter-cyclical to market prices. Overall, support represented 9% of gross farm receipts in 2014-16.
- The increasing emphasis on insurance and risk management policy tools is, in principle, a good approach to providing support to farmers when they are in need. However, risk management instruments should be evaluated to ensure that they do not transfer risk to the public budget that should be borne by farmers.
- While agri-environmental programmes are targeted to specific objectives and tailored to the most effective means of reaching those objectives, they face challenges including slippage effects, declining participation, and climate change. These challenges could be addressed by relying more on the polluter-pays principle and market-based approaches to reduce agri-environmental pressure from agriculture, and by developing environmental service markets, such as carbon offsets and water quality credit markets.
- Farm programmes continue to support farm incomes. However, the long-term effects on incentives to make sustainable improvements in agricultural productivity and efficiency brought about by the 2014 Farm Act are unclear and require continued assessment.

Development of support to agriculture

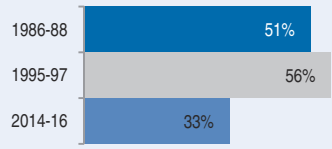
PSE as % of receipts (%PSE)

The level of support as measured by the percentage PSE has more than halved since 1986-88, from 21% to 9% in 2014-16. Support to producers in 2016 declined by 1 percentage point to 9%, compared with 10% in 2015.



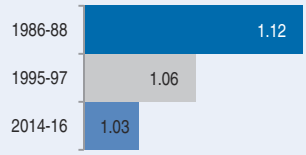
Potentially most distorting support as % of PSE

The share of potentially most distorting support (based on output and variable input use – without input constraints) has fallen to 33% in 2014-16, well below the OECD average and much lower than levels in 1996-97.



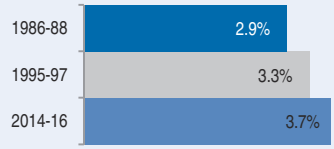
Ratio of producer price to border price (Producer Nominal Protection Coefficient)

On average, prices received by farmers were 3% higher in 2014-16 than those observed in world markets. This has largely resulted from market price support for milk, sugar, and sheep meat, as producer prices of other commodities are mostly aligned with border prices.



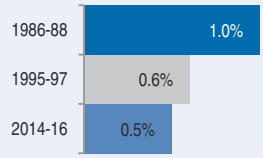
GSSE relative to agricultural value added

Expenditures for general services are increasing and were equivalent to 3.7% of the agricultural value added in 2014-16, up from 2.9% in 1986-88

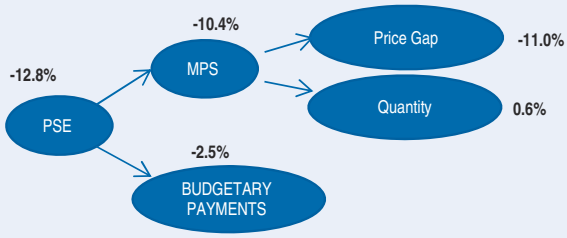


TSE as % of GDP

Total support to agriculture represented 0.5% of GDP in 2014-16. The share of General Services Support in total support has increased from 6.4% of the TSE in 1986-88 to 9.9% in 2014-16.

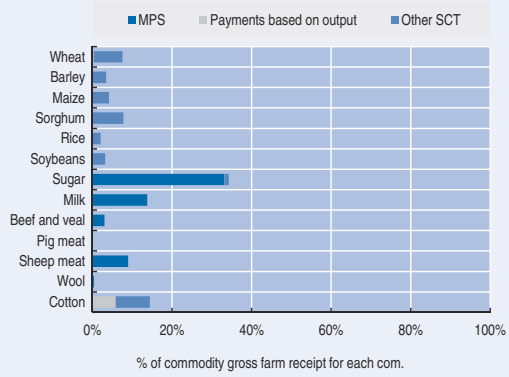


Decomposition of change in PSE, 2015 to 2016



The decline in the level of support in 2016 is mainly due to lower market price support, as a result of a smaller gap between domestic and border prices for beef, milk and sugar. Budgetary payments were also lower in 2016.

Transfer to specific commodities (SCT), 2014-16



The share of Single commodity transfers (SCT) decreased from 70% of PSE in 1986-88 to 44% in 2014-16. SCT accounted for the highest share of farm receipts for sugar, milk, cotton, and sheep meat.

Table 2.24. **United States: Estimates of support to agriculture**

Million USD

	1986-88	1995-97	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**143 469**	**200 325**	**377 544**	**406 355**	**370 647**	**355 629**
of which: *share of MPS commodities (%)*	78.3	76.5	78.2	79.0	77.8	77.7
Total value of consumption (at farm gate)	**121 087**	**162 235**	**296 511**	**320 467**	**296 171**	**272 894**
Producer Support Estimate (PSE)	**35 337**	**25 617**	**38 413**	**43 784**	**38 177**	**33 277**
Support based on commodity output	15 114	11 487	10 885	14 117	11 285	7 253
Market Price Support[1]	12 003	11 336	10 443	13 572	10 856	6 900
Payments based on output	3 111	151	443	545	429	353
Payments based on input use	7 061	6 641	8 406	8 376	8 673	8 168
Based on variable input use	3 697	3 088	2 389	2 719	2 402	2 045
with input constraints	739	264	626	606	664	607
Based on fixed capital formation	1 233	554	1 620	1 641	1 673	1 545
with input constraints	1 233	537	1 581	1 602	1 610	1 532
Based on on-farm services	2 131	2 999	4 397	4 015	4 598	4 577
with input constraints	349	543	1 284	1 264	1 176	1 412
Payments based on current A/An/R/I, production required	12 231	1 825	7 922	8 030	7 978	7 757
Based on Receipts / Income	912	721	1 802	1 693	1 833	1 880
Based on Area planted / Animal numbers	11 319	1 104	6 120	6 337	6 145	5 877
with input constraints	2 565	595	6 114	6 328	6 138	5 876
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	338	3 824	9 346	11 334	8 327	8 377
With variable payment rates	0	0	7 125	5 191	7 808	8 375
with commodity exceptions	0	0	7 125	5 191	7 808	8 375
With fixed payment rates	338	3 824	2 222	6 144	519	3
with commodity exceptions	0	3 824	1 575	4 726	0	0
Payments based on non-commodity criteria	592	1 839	1 853	1 927	1 912	1 722
Based on long-term resource retirement	592	1 839	1 833	1 903	1 897	1 700
Based on a specific non-commodity output	0	0	0	0	0	0
Based on other non-commodity criteria	0	0	20	24	16	22
Miscellaneous payments	0	0	0	0	0	0
Percentage PSE (%)	**21.2**	**11.9**	**9.5**	**10.0**	**9.6**	**8.7**
Producer NPC (coeff.)	**1.12**	**1.06**	**1.03**	**1.04**	**1.03**	**1.02**
Producer NAC (coeff.)	**1.27**	**1.14**	**1.10**	**1.11**	**1.11**	**1.10**
General Services Support Estimate (GSSE)	**3 108**	**4 239**	**8 713**	**7 823**	**8 747**	**9 568**
Agricultural knowledge and innovation system	1 129	1 479	2 271	2 233	2 283	2 297
Inspection and control	372	559	1 372	1 328	1 360	1 428
Development and maintenance of infrastructure	13	27	2 653	2 017	2 590	3 351
Marketing and promotion	495	654	1 178	1 020	1 279	1 235
Cost of public stockholding	0	52	13	-1	8	31
Miscellaneous	1 100	1 468	1 226	1 226	1 227	1 226
Percentage GSSE (% of TSE)	**6.4**	**8.8**	**9.9**	**8.0**	**11.5**	**10.5**
Consumer Support Estimate (CSE)	**-2 630**	**6 157**	**29 648**	**32 167**	**16 888**	**39 888**
Transfers to producers from consumers	-11 699	-11 146	-10 215	-13 199	-10 652	-6 793
Other transfers from consumers	-1 314	-1 143	-1 461	-1 268	-1 794	-1 322
Transfers to consumers from taxpayers	10 089	18 437	41 324	46 633	29 334	48 004
Excess feed cost	294	8	0	0	0	0
Percentage CSE (%)	**-2.4**	**4.3**	**11.6**	**11.7**	**6.3**	**17.7**
Consumer NPC (coeff.)	**1.12**	**1.08**	**1.04**	**1.05**	**1.04**	**1.03**
Consumer NAC (coeff.)	**1.02**	**0.96**	**0.90**	**0.89**	**0.94**	**0.85**
Total Support Estimate (TSE)	**48 534**	**48 292**	**88 449**	**98 241**	**76 258**	**90 849**
Transfers from consumers	13 013	12 288	11 676	14 467	12 446	8 115
Transfers from taxpayers	36 835	37 147	78 234	85 041	65 606	84 056
Budget revenues	-1 314	-1 143	-1 461	-1 268	-1 794	-1 322
Percentage TSE (% of GDP)	**1.0**	**0.6**	**0.5**	**0.6**	**0.4**	**0.5**
GDP deflator (1986-88=100)	**100**	**128**	**183**	**181**	**183**	**185**
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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

StatLink *http://dx.doi.org/10.1787/888933508963*

2.25. Viet Nam

Support to agriculture

The level of support to Viet Nam's farming sector fluctuates at very low levels, largely driven by changes in market price support (MPS). An average Producer Support Estimate (%PSE) for 2014-16 was slightly negative at -2.4%, but it hides varied results across commodities. While producers of import-competing commodities, such as maize, sugar cane and beef, benefit from tariff protection, producers of several exported commodities are implicitly taxed.

Rice producers benefit from a price support system based on target prices designed to provide farmers with a profit of 30% above production cost and from direct payments per hectare, tied to maintaining land in rice production. But, as domestic prices declined below international levels, slight implicit taxation of rice growers has been registered in recent years.

Within the General Services Estimate, the development and maintenance of infrastructure, in particular irrigation, is by far the most important component. Development of irrigation infrastructure alone accounts for more than half of the total. As the negative MPS has not been compensated by budgetary transfers, the Total Support Estimate (TSE) turned to negative values in 2015 and 2016.

Main policy changes

In 2016, basic domestic policy instruments remained unchanged, but Viet Nam continued to be active in pursuing trade liberalisation through regional and bilateral trade agreements.

The government continues to protect paddy fields and new penalties were introduced in 2016 for paddy growers if they convert paddy fields to non-agricultural uses. But, some flexibility has been allowed or even promoted to encourage crop diversification, thus to make farmers more resistant and adaptive to negative climate change effects.

In January 2017, the Vietnamese government abolished the Decision No. 6139/QD-BCT that stipulated strict conditions for becoming a rice exporter. The government has pledged to abolish 15 legal documents and simplify 108 administrative procedures in 2017, thus easing restrictions on rice exporters. This was in response to the Investment Law voted in 2014, stipulating improvements in investment environment and competitiveness, and to respond to rice exporters' complaints that rigid rice export regulations undermine their competitiveness and discourage them from developing high-quality rice.

Assessment and recommendations

Viet Nam's agricultural policy seeks to achieve high quality output and competitiveness, raise rural incomes and maintain food self-sufficiency. Results of economic reforms undertaken by Viet Nam since the mid-1980s have been impressive. Strong economic growth has lifted real incomes in both urban and rural areas, reducing poverty and contributing to a remarkable fall in the rate of undernourishment. Agricultural production more than tripled in volume terms between 1990 and 2015, with agro-food exports soaring. Viet Nam is now one of the world's largest exporters of a wide range of commodities, including cashews, black pepper, coffee, cassava, rice and fisheries.

Over the next ten years, both domestic and international conditions will be more challenging for Viet Nam's agricultural sector than they were over the previous two decades. Prices of many commodities exported by Viet Nam declined over recent years from the peaks seen in 2007-08 and are projected to fall further in real terms over the medium term. Most of the easy sources of lifting production, e.g. expanding land area, employing more cheap labour and using higher rates of fertilisers, have been fully exploited and negative environmental impacts are increasingly seen. These will become major challenges for Viet Nam, but will also open opportunities to adopt new technologies, to give incentives for larger farms and to focus attention on quality and higher value added products.

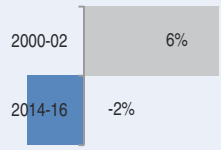
There are a number of reforms that could improve the competitiveness and sustainability of Viet Nam's agro-food sector:

- To improve the enabling environment for agriculture, the re-allocation of factors of production across sectors should be eased and constraints on investment alleviated. Likewise, agricultural institutions and governance systems should be improved by: strengthening of institutional co-ordination between the Ministry of Agriculture and Rural Development (MARD) and other relevant ministries implementing programmes supporting agriculture; reinforcing the transparency and accountability of publicly-funded programmes; founding policy decision on adequate and accurate information; and integrating monitoring and review mechanisms into the policy process.
- To improve the allocation of scarce land resources, farm consolidation could be encouraged, including through various forms of co-operation between farmers, and restrictions on crop choice should be removed. Moreover, the scope of compulsory land conversions should be limited and compensations for such conversions should be based on open market land prices. To limit the scope of social conflicts and corruption in the land administration, participatory land use plans could be encouraged and direct transactions between land users without state involvement should be allowed.
- While the waiver of irrigation service fees has increased farmer income, it has several negative side effects. It has reduced the incentive for farmers to save water; it has made the national budget fully responsible for financing operation and maintenance costs in addition to capital investment; and it has diminished incentives for irrigation and drainage management companies to provide quality irrigation services. While the government could remain responsible for all capital investment in the irrigation systems, farmers should cover operation and maintenance costs. Re-establishing a water fee based on a per unit of water charge rather than a per hectare charge, as previously applied, would encourage greater water use efficiency.
- While the decision of easing restrictions on rice exporters will improve competitiveness of the Vietnamese rice exports and will help improve the quality of exported rice, some further steps could be considered, in particular discontinuation of the pre-determined minimum export price for rice. The current system risks to cut off part of potentially profitable rice exports and adds uncertainty in engaging in export transactions if the minimum export price is likely to be changed.

Development of support to agriculture

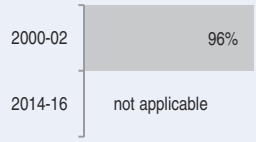
PSE as % of receipts (%PSE)

Support to producers (%PSE) was -2% in 2014-16, implying an implicit overall taxation, compared to a relatively low, but positive support in 2000-02. Negative market price support was not compensated by relatively low budgetary allocations.



Potentially most distorting support as % of PSE

Due to a negative market price support for the majority of commodities, the value of potentially most distorting support was negative as well in 2014-16. Therefore, its share in total PSE is not shown.

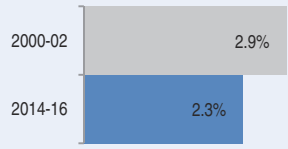


Ratio of producer price to border price (Producer Nominal Protection Coefficient)

Ratio of producer prices to border prices fluctuates over time and declined from 1.07 in 2000-02 to 0.99 in 2014-16, meaning that, on average, prices received by farmers were 1% lower than world prices in the latter period.

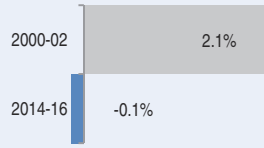
GSSE relative to agricultural value added

Expenditures for general services were equivalent to 2.3% in 2014-16, down from 2.9% in 2000-02. Expenditures on irrigation systems are by far the most important component of GSSE.

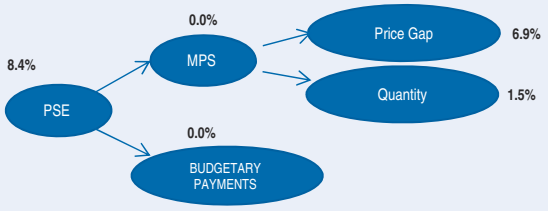


TSE as % of GDP

Due to fluctuations in the value of market price support around zero and relatively low values of budgetary support to agriculture, total support as percentage of GDP changes back and forth from positive to negative values as shown by a fall from 2.1% in 2000-02 to slightly negative value at -0.1% in 2014-16.

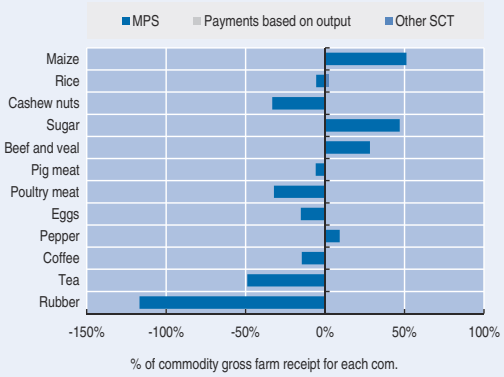


Decomposition of change in PSE, 2015 to 2016



Producer support in 2016 became less negative than in 2015 due to a narrower negative price gap between domestic and world prices. Budgetary support remained unchanged.

Transfer to specific commodities (SCT), 2014-16



Transfers to single commodities vary widely, with maize, sugar, beef and veal, and pepper being supported while rice, cashew nuts, pig and poultry meats, eggs, coffee, tea and rubber being implicitly taxed.

Table 2.25. **Viet Nam: Estimates of support to agriculture**

Million USD

	2000-02	2014-16	2014	2015	2016p
Total value of production (at farm gate)	**8 570**	**39 854**	**37 731**	**40 588**	**41 244**
of which: *share of MPS commodities (%)*	82.3	75.6	82.8	72.2	71.9
Total value of consumption (at farm gate)	**7 483**	**35 694**	**32 188**	**36 686**	**38 207**
Producer Support Estimate (PSE)	**518**	**-992**	**-433**	**-1 340**	**-1 202**
Support based on commodity output	396	-1 538	-1 001	-1 880	-1 732
Market Price Support[1]	396	-1 538	-1 001	-1 880	-1 732
Payments based on output	0	0	0	0	0
Payments based on input use	101	329	344	324	318
Based on variable input use	101	328	344	324	317
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	217	224	216	212
Based on Receipts / Income	0	0	0	0	0
Based on Area planted / Animal numbers	0	217	224	216	212
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 (%)	**5.9**	**-2.5**	**-1.1**	**-3.3**	**-2.9**
Producer NPC (coeff.)	**1.07**	**0.99**	**0.98**	**0.98**	**0.99**
Producer NAC (coeff.)	**1.06**	**0.98**	**0.99**	**0.97**	**0.97**
General Services Support Estimate (GSSE)	**224**	**722**	**704**	**739**	**723**
Agricultural knowledge and innovation system	23	83	79	86	83
Inspection and control	4	3	4	3	3
Development and maintenance of infrastructure	190	595	582	607	595
Marketing and promotion	1	1	1	1	1
Cost of public stockholding	5	39	38	41	40
Miscellaneous	0	0	0	0	0
Percentage GSSE (% of TSE)	**30.4**	**..**	**..**	**..**	**..**
Consumer Support Estimate (CSE)	**-605**	**-1 746**	**-839**	**-1 729**	**-2 669**
Transfers to producers from consumers	-604	-591	-610	-404	-759
Other transfers from consumers	-22	-1 757	-544	-2 023	-2 704
Transfers to consumers from taxpayers	0	0	0	0	0
Excess feed cost	22	602	315	698	794
Percentage CSE (%)	**-8.0**	**-4.9**	**-2.6**	**-4.7**	**-7.0**
Consumer NPC (coeff.)	**1.09**	**1.07**	**1.04**	**1.07**	**1.10**
Consumer NAC (coeff.)	**1.09**	**1.05**	**1.03**	**1.05**	**1.08**
Total Support Estimate (TSE)	**742**	**-270**	**270**	**-600**	**-479**
Transfers from consumers	626	2 348	1 154	2 427	3 463
Transfers from taxpayers	137	-861	-340	-1 004	-1 238
Budget revenues	-22	-1 757	-544	-2 023	-2 704
Percentage TSE (% of GDP)	**2.1**	**-0.1**	**0.1**	**-0.3**	**-0.2**
GDP deflator (2000-02=100)	**100**	**337**	**337**	**336**	**..**
Exchange rate (national currency per USD)	**15 000.33**	**21 827.00**	**21 197.86**	**21 917.73**	**22 365.42**

.. 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 (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics* (database). doi: dx.doi.org/10.1787/agr-pcse-data-en

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This annual report is a unique source of up-to date estimates of support to agriculture and uses a comprehensive system for measuring and classifying support to agriculture - the Producer and Consumer Support Estimates (PSEs and CSEs) and related indicators. They provide insight into the increasingly complex nature of agricultural policy and serve as a basis for OECD's agricultural policy monitoring and evaluation. Detailed data and documentation for the calculation of support are available on line ***www.oecd.org/agriculture/PSE***.

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