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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT



AGRICULTURAL POLICIES IN EMERGING AND TRANSITION ECONOMIES



1999

CENTRE FOR CO-OPERATION WITH NON-MEMBERS

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AGRICULTURAL POLICIES IN EMERGING AND TRANSITION ECONOMIES 1999

Volume I

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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FOREWORD

This publication is the seventh in a series of annual evaluations of agricultural policies, markets, and trade developments in non-OECD countries. It was prepared as part of the programme of the OECD's Centre for Co-operation with Non-Members by the Directorate for Food, Agriculture and Fisheries. The 1999 report devotes special attention to three issues: impacts of the Asian crisis on agriculture, impacts of policy reforms on labour adjustment in agriculture, and land reform and the development of farmland markets. It reviews policy developments during 1998 in the agro-food sectors of Brazil, China, the central and eastern European region, India, and Russia and the main agricultural producers of the NIS region. In addition, for the first time, a comprehensive chapter on agricultural policy and trade policy developments in South Africa is included. Readers' attention is drawn to the supplementary, new volume, *Agriculture at a Glance in Emerging and Transition Economies 1999*, which provides highlights of 1998 policy developments in 18 countries.* Two annual companion reports have recently been published: *OECD Agricultural Outlook 1999-2004* and *Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999*.

Agricultural Policies in Emerging and Transition Economies 1999 highlights the slowdown in economic activity driven by several factors including the effects of the economic crises in Asia and Russia, as well as the general slowdown in global trade arising from slower growth in OECD countries. Commodity markets and prices of particular importance to emerging economies fell to historic lows for several products in 1998. The short to medium term outlook for a recovery is rather poor and will depend on the pace of economic recovery in the crisis countries of Asia and Russia, as well as the pace of growth in OECD countries. The policy response in several transition, and to a lesser extent, emerging economies, has been to raise import tariffs, intervention purchases and export subsidies as well as direct payments to the worst affected sectors. While there has been an increase in protectionism in transition and emerging economies in 1998, it should be noted that the level of support to agriculture, where measured, remains substantially below that in many OECD countries.

A review of agricultural policies in OECD countries is prepared each year in accordance with the mandate initiated by the OECD Council at Ministerial level in 1987. Since 1992 a separate, companion report has analysed developments in agricultural policies in transition economies and China, focussing principally on issues pertinent to the transition process – the establishment of property rights; the restitution and privatisation of land and agro-food enterprises; integration into regional and global trading systems; and the development of institutional and administrative capacities to implement open and transparent market-based policies in agriculture. (Special topics covered in past reports are listed at the back of *Agriculture at a Glance in Emerging and Transition Economies 1999*.) The scope of the report has recently been broadened to include analyses and assessment of policy and trade developments pertinent to the agro-food sector in other major agricultural producers such as Brazil, India and South Africa.

The report was submitted to the Working Party on Agricultural Policies and Markets of the Committee for Agriculture under the written procedure on 12 May 1999 with a view to its declassification. It is published under the responsibility of the Secretary-General.

Kumiharu Shigehara
Deputy Secretary-General

* The countries covered are: Albania, Argentina, Belarus, Brazil, Bulgaria, China, Croatia, Estonia, India, Kazakhstan, Latvia, Lithuania, Romania, Russia, the Slovak Republic, Slovenia, South Africa and Ukraine.

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Special appreciation is extended to the authorities of South Africa, especially Ms. Diana Callear, Deputy Director General, South African National Department of Agriculture, who contributed the introductory chapter on agricultural policies in their country and are responsible for its contents.

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EXECUTIVE SUMMARY

The 1999 report examines three policy issues in Part I: the impact of the Asian crisis on agriculture; impacts of policy reform on labour adjustment in agriculture; and land reform and the development of farmland markets. Part II evaluates recent developments in agricultural policies, markets and trade in Brazil, China, the central and eastern European countries (CEECs), India, Russia and other major New Independent States (NIS), and, for the first time, South Africa.

The first of the three special issues that receives in-depth coverage in this report is the impact of the Asian crisis on agriculture. The financial turmoil in East Asia, and subsequently in Russia and Brazil, has had a marked impact on their economic and social situation as well as on international trade flows. The crisis affected supply, demand and prices for agricultural goods in the same way as other tradeables: devalued exchange rates in affected countries made imports more expensive; consumption declined; farmgate prices, already low for many producers, fell further. Other impacts on the agricultural sector include the withdrawal of capital from agriculture, a sharp decline in the availability of credit and a fall in production and productivity. Although some exportable products benefited, food and agricultural markets were generally adversely affected.

In response to the market disruptions, many countries altered their farm, food and agricultural policies by raising protection against lower priced imports from countries that devalued. Programmes to support exports, including export subsidies and special credits, have been initiated by others. In many countries, policy measures taken in response to the crisis have weakened the general trend toward more open and freer markets that had been evolving over the last decade. The prospects for recovery depend on several factors including the implementation of policy reforms and structural changes, as well as the ability of agro-food importers to absorb the increase in international supplies.

The second issue concerns the impacts of policy reform on labour adjustment in agriculture. Adjustments in the agricultural labour markets are essential in order to improve labour productivity and consequently farm incomes and welfare in rural areas. Surplus labour in agriculture impedes necessary adjustment and compounds the problems of low incomes and disguised unemployment in rural areas. Furthermore, it increases the political pressure on governments to address the symptoms of the problem through subsidies and market distorting interventions. Several factors have been identified which impede the outflow of labour from agriculture into alternative employment, such as imbalances in labour skills and high intersectoral mobility costs. The basic need is to develop a policy strategy targeted at removing these impediments. Such a strategy should include: general economic liberalisation and reforms, investments in rural infrastructure and education, and the stimulation of rural non-farming activities. Overall liberalisation not only stimulates growth and inflows of FDI, but it also lowers intersectoral mobility costs and facilitates labour adjustment in agriculture. Lowering intersectoral mobility costs by improving the availability of education and training is the key condition for improved access by the rural workforce to employment in off-farm activities.

The third issue considered is the role of land reform and the development of farmland markets in the transition countries and in the emerging economies of Brazil, China and India. The main focus is on the effects that land reform programmes have had on farm structures and economic efficiency. The principal conclusion of the analysis is that more efficient farm structures are likely to emerge under market conditions, if the prerequisites for market efficiency exist. The policy challenge is therefore one of making sure that these conditions are satisfied. This means ensuring that a strong system of land rights exists that is both transparent and enforceable, that macroeconomic stability is maintained, and that national institutions are sufficiently strong to support competitive markets. By contrast, the use of land policy as an instrument for directing which types of farm structure are allowed to emerge would appear to be a more

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dangerous strategy, primarily because there is no clear consensus on which types of farm structure have the best potential to be economically efficient.

Part II begins the country and regional coverage with developments in Brazil. Economic developments in Brazil in 1998 were dominated by the spill-over effects of the Asian crisis. The crisis was characterised by a sharp increase in interest rates, rising net outflows of capital and growing pressure on the exchange rate. On 15 January 1999, the real was floated. The resulting devaluation is expected to boost domestic prices, production and exports, and to reduce imports of agricultural products. Domestically, the prospects for higher food prices and booming exports have raised concerns about possible food shortages and reinforced public pressure to reinstate a tax on exports of basic foodstuffs. As regards international markets, the increase in exports is likely to lead to lower prices, in particular for soyabeans and soyabean meal.

In 1998 agriculture's share of GDP rose slightly to about 11 per cent. While the production of grains fell, soyabean and sugar production rose sharply in response to rising export opportunities. As regards the livestock sector, while domestic demand for livestock products slowed due to lower income growth, meat exports benefited from the devaluation of the real, as well as from domestic difficulties in Argentina's beef export sector. In contrast to the strong markets for beef and pork, the poultry industry experienced severe production problems but also a weaker export demand due to the crises in Asia and Russia. In the second half of 1998, the government reinstated the PEP programme (Premio de Escoamento da Producao) to support the domestic wheat market. In an attempt to protect the dairy sector from unfair competition from dairy imports, the government increased tariffs on imports of dairy products. Rural credit programmes remained the backbone of agricultural support policies, with loans provided for both the short-term financing of production and marketing as well as for long term investments. Implementation of the new land reform programme continued in 1998 with the new land tax system and credit schemes contributing to the process of farm restructuring.

In China, economic growth declined for the third consecutive year. Growth in GDP slowed to 7.6 per cent in 1998, reflecting both a cyclical contraction as well as the impacts of the Asian crisis on the export markets. A further moderation in price inflation was evident in 1998 with the rate of inflation falling to -2.5 per cent. In response to the deflationary pressures, the government eased monetary policy by lowering interest rates and increasing banks' liquidity. In addition, the government stimulated economic growth through further fiscal spending, which helped to prevent a surge in unemployment. The main policy challenges are to stimulate growth and to reduce the upward trend in the rate of unemployment, while at the same time continuing with the reforms of state-owned enterprises, to address the growing social problems and to maintain the current exchange rate level.

Agricultural output increased strongly in 1998, due to an increase in the production of all the major commodities, with the exception of oilseeds. Total grain production, for instance, exceeded 378 million tonnes. The third consecutive bumper harvest has added to high public and private grain stocks and is expected to result in grain exports of about two million tonnes in 1998-99. The basic features of China's livestock sector remained unchanged, with pork remaining the preferred meat, and accounting for more than 80 per cent of total meat consumption. On the supply side, there is a shift towards larger and more efficient production units, with a growing share of output coming from specialised households or industrial operations, which benefit from scale economies and modern production techniques. Concerning agricultural policy objectives and measures, the government continues to place strong emphasis on food security issues through the "governors' grain responsibility system". In April 1998, the central government announced a new policy package aimed at reforming the grain storage and distribution system. These reforms are aimed at addressing the growing concerns about the inefficiencies and fraud in the grain storage, administration and distribution system.

In the central and eastern European countries* (CEECs), the overall economic performance in 1998 was mixed, with GDP growth increasing in four CEECs, but declining in the remainder. Implementation of

* For the purpose of this report the term central and eastern European countries (CEECs) is taken to include Albania, Bulgaria, Croatia, Estonia, Latvia, Lithuania, Romania, the Slovak Republic and Slovenia. It should be noted that the Czech Republic, Hungary and Poland are Members of OECD. The assessment of agricultural policies in these countries is contained in *Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999*. Nonetheless, analysis of certain agricultural policy issues in central and eastern Europe includes information on these three OECD Member countries in order to provide comprehensive coverage of developments in the region.

structural reforms slowed appreciably in 1998 as the region faced the adverse spillover effects of the Russian economic crisis as well as a slowdown in demand in OECD countries. Prudent monetary and fiscal policies resulted in a continuation in the downward trend in the inflation rates in most CEECs, but the rising current account deficits, particularly in Estonia, Lithuania and the Slovak Republic continue to be a cause for concern. Inflows of foreign direct investment to the region fell in 1998, largely due to the increased uncertainties over economic growth in transition and emerging economies.

Overall, agricultural output declined in 1998. Nevertheless, the combination of large stock carryover as well as a surge in imports of subsidised exports from the European Union and displaced products from the Russian market led to a plunge in farmgate prices for the major agricultural products. The subsequent fall in farm incomes across the region has resulted in growing pressure on most governments to intervene in agricultural markets. Many CEECs have responded by increasing tariffs on selected agricultural imports, raising direct budgetary support to producers, as well as deferring further trade liberalisation under the CEFTA and BAFTA. The sharp increase in trade tensions between CEFTA members in 1998 raises serious concerns as to the scope for further liberalisation of trade in agricultural and food products under this Agreement. In an attempt to dampen the spillover effects of the financial crisis in Russia, a number of CEECs resorted to barter trade mainly with Russia. Across the region, agricultural policies continued to converge to those of the European Union in 1998, with several of the CEECs introducing direct payments to producers and intervention purchases, and structural, environmental and rural programmes compatible with EU policies. While agreement was reached on Agenda 2000 in March 1999, it is somewhat premature to predict its impacts on the 10 accession countries and the pace of eastward enlargement. With slower growth forecast for Western Europe, continuing economic difficulties in Russia, depressed world markets as well as large structural surpluses of the main agricultural commodities on world markets, the prospects of a recovery in the agricultural sector appear rather slim in 1999.

Despite the ongoing economic crisis in Asia, India managed to sustain reasonably strong GDP growth in 1998-99, estimated at 5.8 per cent. A 12 per cent devaluation of the rupee relative to the US dollar, gave a boost to exports, especially to countries outside the region. While some slowdown was recorded in industrial output and capital inflows in 1998-99, the service sector grew strongly, and the agricultural sector recovered from the sharp downturn experienced the previous year. The rate of inflation increased marginally in 1998-99, mainly due to an increase in food prices. Nonetheless, there are some signs that inflationary pressures are easing, which in turn will exert further downward pressure on interest rates. In response to the growing trade deficit, the government introduced several new measures in its February 1999 budget, including a reduction in non-priority spending and untargeted subsidies as well as a broadening of the tax base. However, with the fall of the government in April 1999, and new elections pending, it is unclear to what extent the new measures will be implemented. As many of India's trade difficulties appear to be structural, further cuts in tariffs accompanied by further liberalisation of small scale industries as well as improvements in infrastructure would help to overcome these difficulties.

Agricultural output increased in 1998-99 by about 5 per cent, due primarily to more favourable weather conditions. Production of foodgrains increased to almost 201 million tonnes, a new record level of production, while production of oilseeds, cotton, sugarcane, fruits and vegetables also increased substantially. As regards the livestock sector, the production of livestock products also increased, especially milk production. In general, India's agricultural policy objectives are aimed at: removing institutional bottlenecks to growth; ensuring food security; modernising agriculture and reducing regional inequalities. In 1998 the government drafted the first National Policy for Agriculture, which is aimed at promoting sustainable development, improving technical efficiency and management of natural resources including land, water, and animal and plant generic resources, expanding rural infrastructure, revitalising rural credit institutions and accelerating land reforms. India's system of trade protection has resulted in taxation of the agricultural sector, which has been partly offset by subsidisation of agricultural inputs, in particular, fertilisers, water, electricity and credit. Agricultural growth is also impeded by substantial State intervention in agricultural markets and trade through controls on the processing, movement and storage of agricultural products. Public sector investment in agriculture has fallen by about 25 per cent since the early 1990s, and although private investment in the sector has increased, it has not been sufficient to offset the overall decline. Growth and development in the

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agricultural sector continue to be hampered by several factors including the lack of market infrastructure as well as imperfections in agricultural and credit markets and lack of investment.

The macroeconomic situation in Russia, Belarus, Kazakhstan and Ukraine remains highly uncertain. In Russia, GDP is expected to fall and the rate of inflation to accelerate in 1999, while a modest recovery is expected to start in 2000. The slow pace in implementing structural reforms largely contributed to the collapse of the rather impressive macroeconomic stabilisation that had been achieved prior to 1998. The effects of the Russian crisis on other NIS not only depends on the trade links with Russia, but also on the implementation of sound macroeconomic and structural policies.

The agricultural policy responses to the overall economic crisis have been mixed. These range from the continuation of the fairly liberal policy regime applied in Kazakhstan to the highly regulated policies in Belarus. In Ukraine administrative policy measures continue to be applied, while in Russia agricultural policies are becoming more regionalised, involving a wide variety of administrative measures applied at the local level. The short term prospects for agricultural production in the NIS differ for crop and livestock products. Crop production in all four countries is expected to recover from the extremely low harvest in 1998, with grain production expected to reach at least 110 million tonnes in 1999, or about 25 per cent higher than in 1998. On the other hand, livestock production is expected to continue to decline in Belarus, Kazakhstan and Ukraine in response to feed shortages and higher costs. While higher feed prices will increase livestock production costs in Russia, the devaluation of the rouble has raised the cost of imports and will increase the competitiveness of livestock producers. This may contribute to the stabilisation of livestock production in 1999, but improved marketing infrastructure is essential for a more sustained upturn in livestock production. However, recent macroeconomic developments and agricultural policy responses in the NIS are not conducive to a sustainable recovery in agricultural production in the medium term.

Agricultural policy developments in South Africa are presented for the first time in this report. The South African government in 1994 introduced the “Reconstruction and Development Programme” whose main objectives were to foster economic growth and the redistribution of wealth. A new macroeconomic strategy called Growth, Employment and Redistribution (GEAR) was implemented in 1996, and sets out the goals of developing a competitive, fast-growing economy to generate jobs, income redistribution with increased opportunities for the poor, and increased productivity and social stability. Gross domestic product accelerated by an annual average of 3 per cent between 1994 and 1996, but fell to 1.5 per cent in 1997 and 0.5 per cent in 1998. The slowdown in growth has been partly due to the spillover effects of the financial crisis in Asia, as well as the general slowdown in global trade and investment in emerging economies. In 1998, the rand depreciated by about 20 per cent, and this is expected to give a boost to exports in 1999. Following a small upturn in the inflation rate in 1997, the rate of inflation fell in 1998. One of the biggest problems facing the economy is the high rate of recorded unemployment, which was estimated at 38 per cent of the labour force in 1997. A new labour policy framework was introduced in 1998, and includes several programmes which target the creation of sustainable employment.

Of the 101 million hectares of agricultural land in South Africa, almost 85 per cent belongs to 60 000 commercial farmers, and the remainder to small and subsistence farmers. Agriculture and food processing accounts for almost 15 per cent of GDP. South Africa is a net exporter of agricultural products, which account for about 10 per cent of total merchandise exports. Agricultural output is dominated by livestock products (46 per cent), field crops (30 per cent) and horticultural crops (24 per cent). The 1995 White Paper on Agriculture set out the main objectives of agricultural policies and a policy reform process was initiated in 1997. The three major policy goals are: to build an efficient and internationally competitive agricultural sector, to support the emergence of a more diverse structure of production, and to promote sustainable development of agricultural resources. Concerning agricultural trade, South Africa is a member of the WTO and thus trade in agricultural products is subject to the commitments agreed under the Uruguay Round. The objective of agricultural trade policy is to enhance market access for agricultural products. The main elements of trade policy are export orientation and trade liberalisation, with protection afforded mainly through tariffs.

Box 1. Watch on support: large swings in PSEs in Russia and some CEECs

The estimates of support to agriculture presented in this report are based on a new approach. This includes changes in definitions, coverage and classification criteria of the main support indicators, adopted for the OECD member countries in 1998. In order to reflect as closely as possible the underlying definitions it was agreed to replace "subsidy equivalent" by "support estimate" in the names of indicators, and to use the following nomenclature: Producer Support Estimate (PSE), Consumer Support Estimate (CSE), General Services Support Estimate (GSSE) and Total Support Estimate (TSE).*

Historical evolution before 1998

Transition brought about large swings in support to agriculture. PSEs for Russia and the three Baltic states, for instance, turned from more than 70 per cent in the Soviet period to sharply negative levels in the first year of transition and within another two years back into positive territory. By 1997, support to producers had reached 32 per cent in Russia and between 4 and 7 per cent in the Baltic states (see Tables V.1, V.3, V.5, V.9 of the Statistical Annex). The percentage TSE (total support to agricultural sector as a percentage of GDP) changed from negative in the beginning of transition to positive levels over the recent period, ranging between 3.9 per cent in Russia and 0.8 per cent in Latvia in 1997. This reflected trends in the level of support to agriculture as well as in the growth of the general economy as measured by changes in GDP.

The evolution of producer support in the Slovak Republic was similar to that observed in the Czech Republic and to a large extent in Hungary (see Table V.7 of the Statistical Annex). High percentage PSE levels hovering at around 50 per cent in the pre-transition period, dropped to 35 per cent in 1991 (with the start of the market reform in Czechoslovakia); over the next five years producer support continued to decline, and fell to 11 per cent in 1996. From 1993 until 1996 the percentage TSE had also been decreasing, falling from 4.1 per cent to 1.6 per cent over this period. The decline in producer and total support to agriculture was interrupted in 1997 with the percentage PSE rising to 14 per cent and percentage TSE to 1.8 per cent, which was due to an increase in both price and direct support.

The evolution of support in the three Baltic states, Russia and the Slovak Republic largely reflected the developments in market price support. Of the total PSE, this element in particular should be interpreted with care. It should be noted that the domestic-to-international price gap for transition countries also reflects: *i)* poor development of physical and marketing infrastructure, resulting in a low transmission of price signals from international markets; *ii)* a strong influence from widespread macroeconomic instability in transition economies, in particular large swings in exchange rates; *iii)* in the case of Russia, biases that result from the use of a single domestic and reference price (due to a great variety of domestic market conditions and a spatial diversity of trade flows). Finally, support estimates for these countries also cover subsistence production, which is relatively isolated from market impacts, but accounts for an important share of total agricultural output.

Increase in the level of support in the three Baltic states and the Slovak Republic in 1998

According to preliminary estimates, substantial growth in producer support in the three Baltic states and the Slovak Republic took place in 1998. As measured by the percentage PSE, it increased to 10 per cent in Latvia, 14 per cent in Lithuania, 16 per cent in Estonia and 23 per cent in the Slovak Republic. A strong rise in estimated market price support largely explains these changes. A sharp fall in world prices for most PSE commodities that occurred in 1998 was generally not matched by a comparable reduction in domestic prices. The relatively weak reaction of domestic prices to world market signals is partly related to the existing market imperfections that curb price transmission to the domestic markets. Even in Estonia and Latvia, where there are no specific policies to prevent such transmission (due to liberal agricultural price and trade policies) notable misalignments in movements of domestic and world prices were observed.

In Lithuania and the Slovak Republic domestic agricultural markets are also isolated through substantial price support coupled with border protection. Altogether, this led to an increase in positive, or a reduction in negative price gaps between domestic and world reference prices for most PSE commodities, and resulted in higher overall market price support estimates for the four countries in 1998.

In the three Baltic states, the increase in market price support in 1998 was accompanied by a rise in direct budgetary support. In Estonia, direct per hectare payments were introduced for grain and oilseed producers, as well as headage payments in the milk sector. In Latvia, capital grants were substantially increased, leading to a rise in total direct producer support. Budgetary payments rose slightly also in Lithuania.

* An outline of the new methodology is contained in the Statistical Annex to this Report.

OECD 1999

Box 1. **Watch on support: large swings in PSEs in Russia and some CEECs** *(cont.)*

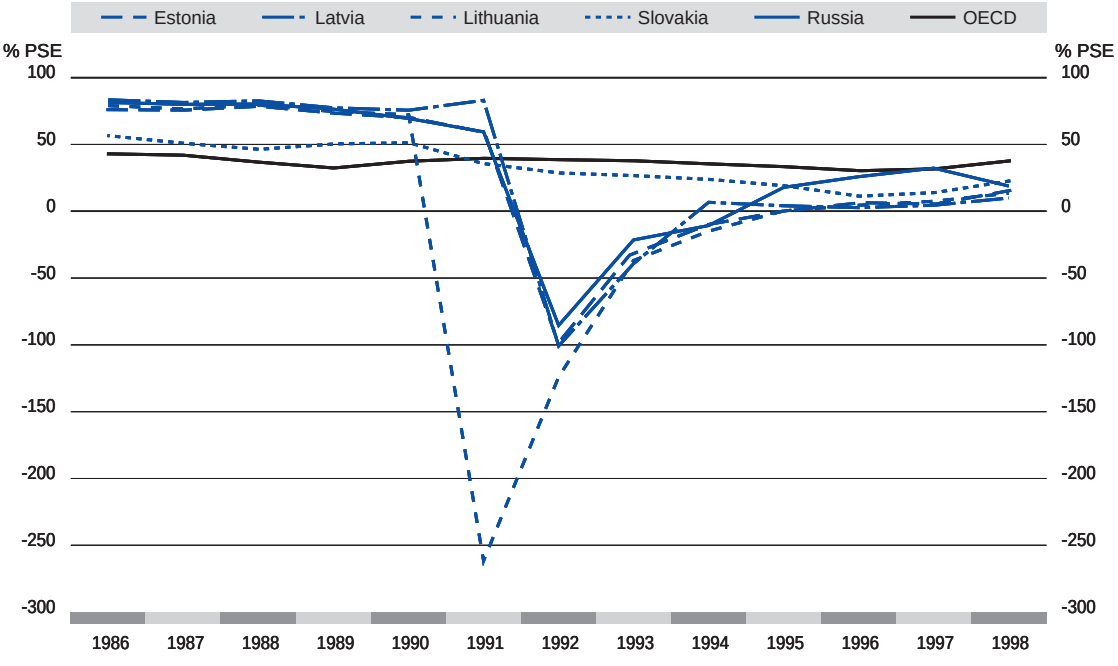
The distribution of producer support across sub-sectors in the three Baltic countries and the Slovak Republic is summarised in Tables V.2, V.4, V.6 and V.8 of the Statistical Annex. Percentage PSEs for both crop and livestock producers increased in Estonia, Lithuania and the Slovak Republic, with support being roughly at the same level for the two sub-sectors. In Latvia, a sharp fall in domestic prices for meat products caused a significant decline in the 1998 PSEs for the livestock sector, further shifting the balance of producer support to crops. An increase in the overall support to the agricultural sector as measured by the percentage TSE took place in all four countries, reaching 2.9 per cent in Lithuania, 1.9 per cent in Estonia, 1.2 per cent in Latvia and 2.5 per cent in the Slovak Republic.

A significant decline in support in Russia

After a four-year period of growth in producer support in Russia, PSEs fell to 19 per cent in 1998. As in the previous years, macroeconomic factors largely determined this shift. Strong devaluation of the rouble in the second half of the year led to a significant rise in rouble equivalents of international prices, despite lower international prices expressed in US dollars. The response of domestic prices was however relatively limited. Regional trade and price controls (particularly for grain and grain products) introduced shortly after the crisis, put a brake on food and agricultural product prices. In addition, a sharp decline in real incomes restrained growth in domestic prices. As a result, the positive gap between domestic and international prices narrowed significantly, leading to a substantial decrease in market price support and consequently in total producer support estimates for 1998.

For the crop sector, support turned into a tax on producers, with the percentage PSEs declining from a positive 14 per cent in 1997 to a negative 10 per cent in 1998. Livestock producers were affected as well. Although the support to this sector remained positive, it declined sharply from 43 per cent in 1997 to 27 per cent in 1998 (see Table V.10 of the Statistical Annex). The overall support to the agricultural sector as measured by the percentage TSE declined from the high levels reached in 1996 and 1997 to 2 per cent in 1998.

PSEs by country and OECD average, 1986-1998



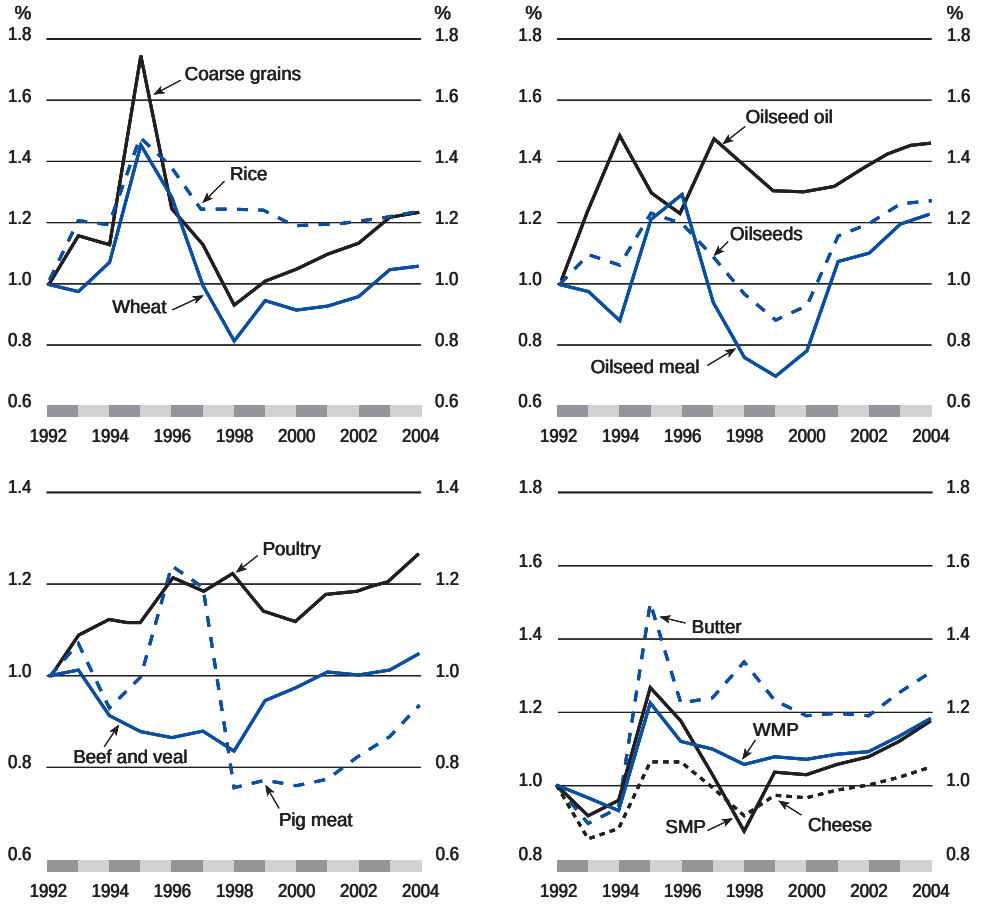
Source: OECD.

Box 2. The Outlook for agricultural markets in brief

The annual *OECD Agricultural Outlook** provides a medium term assessment of future trends and prospects of markets for the main temperate zone agricultural products traded by OECD countries. The publication this year of the fifth edition is particularly timely in that it coincides with one of the most severe and generalised post-war collapses in agricultural commodity markets.

A concurrence of large global supplies and weak demand due to the economic crisis embroiling parts of Asia, Russia and Latin America has led to a dramatic decline in world commodity prices at the beginning of the outlook period. Prices for certain agricultural products are at their lowest level since the early 1950s. A number of OECD Member countries have responded to the depressed market and farm income situation by providing additional support to their producers. Provided such interventions do not reverse policy reforms or impede necessary supply adjustment in OECD countries and crisis-affected economies recover as anticipated, the outlook is still for increasing trade and stronger world commodity prices between 1999

Graph 1. **World price prospects**
(Index 1992 = 1)



Source: OECD Secretariat.

* The *OECD Agricultural Outlook* 1999-2004, OECD, April 1999.

Box 2. **The Outlook for agricultural markets in brief** *(cont.)*

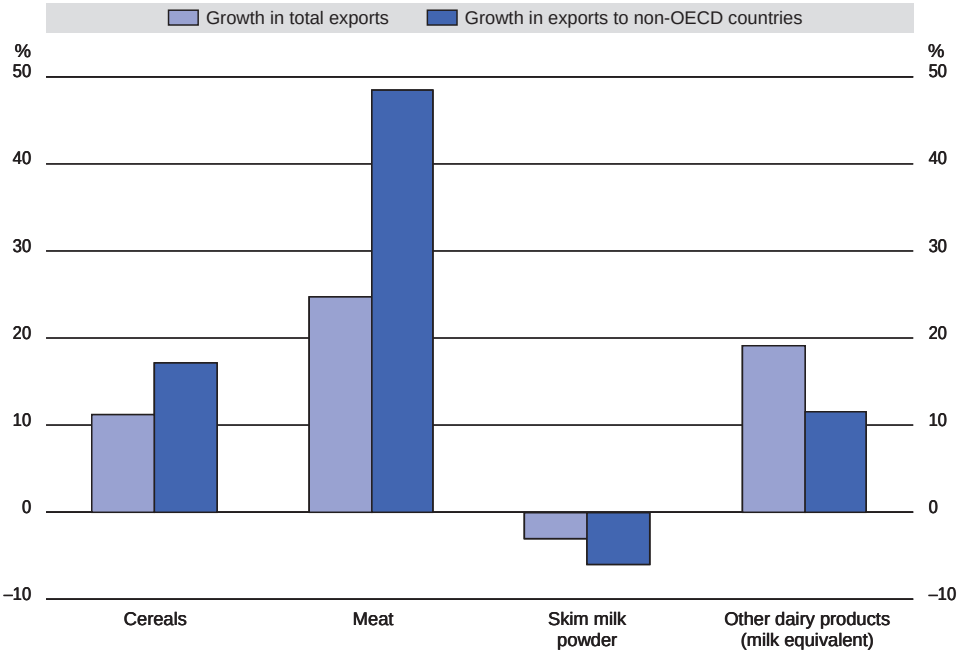
and 2004. But global levels of demand and world prices for agricultural products are unlikely to reach the levels projected in last year's *OECD Agricultural Outlook*. Even if economic growth in the non-OECD region recovers to pre-crisis rates, the levels of GDP and per capita income will be much less in 2004 than what they would have been in the absence of the financial crisis. This will affect the level and pattern of import demand and, hence, the outlook for the different agricultural products to varying degrees.

For **grains,** following some initial downward adjustment in OECD area production, continuing restraint in the use of export subsidies and recovery in import demand in the crisis-affected economies after 2000, world maize and wheat prices are projected to strengthen to around US$120 and US$153 per tonne, respectively, by 2004. Slightly faster growth in world rice production than consumption and increasing global stocks are expected to result in world rice prices of around US$303 per tonne in 2004. These projected price levels are all slightly below the average achieved in 1993-97. With the exception of the European Union where cereal stocks are projected to increase, the stocks-to-use ratio of the rest of the OECD area is expected to decline over the outlook period and this will help to underpin higher cereal prices.

World prices of **oilseeds** are currently at a 23 year low. With global oilseed production and consumption expected to expand at nearly 5 per cent a year, some strengthening of demand points to a gradual recovery in world prices of oilseeds and oilseed products (oils and meals) over the outlook period. The world price of soyabeans is expected to reach around US$301 per tonne in 2004, nearly 10 per cent above the average for 1993-97. The recovery in soyabean prices reflects a stronger projected price for soyabean oil of US$645 per tonne and for soyabean meal of US$258 per tonne in 2004, some 9 per cent and 15 per cent, respectively, above their average in 1993-97.

The downturn in the North American cattle cycle is expected to offset some production growth in Oceania and together with rising dePmand later in the outlook period, particularly as the Korean economy recovers and opens to imports, to result in an increase in **beef** prices, by more than 25 per cent, on the Pacific market between 1998 and 2004. While some improvement in export markets should lead to a

Graph 2. **OECD Trade with non-OECD area to expand**
(2004 compared with 1993-97 average)



Source: OECD Secretariat.

Box 2. **The Outlook for agricultural markets in brief** *(cont.)*

recovery in **pig meat** prices on the Pacific market from current depressed levels, they are expected to remain some 13 per cent below the average for 1993-97 as a result of further productivity increases and larger supplies. **Poultry meat** prices are projected to increase by around 20 per cent in 2004, when compared to 1993-97, as it continues to increase its share of the total meat market, albeit with some exceptions such as Japan and Korea. The outlook for sheep meat is for steady growth in demand in the major consuming countries, following the significant fluctuations in recent years. **Sheep meat** prices are projected to increase by around 25 per cent by 2004, when compared with the average price achieved for 1993-97.

Notwithstanding some increase in production, the reduced use of export subsidies and strengthening demand in the non-OECD region by the start of the new millennium will result in higher world prices for **dairy products** over the outlook period. World prices for most dairy products are expected to increase by 2004 when compared with 1998 and, with the exception of whey powder, they are projected to be above the average for 1993-97. World dairy product stock levels by 2004 are expected to be slightly lower for butter and cheese, but higher for skim milk powder than the average for 1993-97.

Despite a less buoyant outlook, trade by OECD Member countries with the non-OECD region is still expected to grow, particularly after the turn of the century, although prospects will vary for the different agricultural products. The strongest growth in net exports by 2004 is projected for meats, especially for pig meat (+183 per cent) and poultry (+63 per cent) when compared with the average volume of trade for 1993-97. This is followed by dairy products, mainly whole milk powder and cheese (+19 and 29 per cent respectively), and cereals (+17 per cent). Net exports of butter, skim milk powder and whey from the OECD area, however, are projected to fall slightly over the same period. The largest increase in net imports by 2004 from the non-OECD region to the OECD area is projected for oilseeds (+102 per cent), when compared with the average for 1993-97.

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Part I

SPECIAL AGRICULTURAL POLICY ISSUES

SPECIAL AGRICULTURAL POLICY ISSUES

1. Impact of the Asian financial crisis on agriculture

Introduction

The dimensions of the crisis: a contagious multi-country, multi-sector problem…

The crises in Asia and Russia affected the world economy in a number of ways. For the world economy as a whole, the crises brought about a slow-down in growth, large swings in asset and credit markets and, overall, tightening credit conditions. Many emerging and transition economies were particularly hard hit, experiencing sharp devaluations of their exchange rates and a marked slowdown in economic growth. In the most affected countries, the crisis resulted in outright contractions of national incomes. International commodity markets were also affected. After a short but pronounced boom period for many commodities in the mid 1990s, the expected cyclical price decline was aggravated by the effects of the crises. Lower incomes and devalued exchange rates reduced the ability to import, increased export supplies, and accelerated the downturn in prices. Agricultural commodities were no exception. International prices for many agricultural products fell to their lowest level in two decades. For commodity-dependent economies, lower export revenues turned out to be a channel of broader macroeconomic contagion, contributed to a deterioration of the current account, and added to the downward pressure on their exchange rates.

… with strong impacts on agricultural markets

The downward spiral of falling world economic growth, import demand, and commodity prices brought about growing concerns about deflationary developments and further GDP contractions in OECD and non-OECD countries alike. Policy makers around the world tried to address these problems. Their reactions ranged from firm commitments to open markets and free trade to more protectionism and full control over trade and capital flows. In agricultural markets, too, requests for greater shelter from the volatility in international markets re-emerged.

As in other markets, the high price environment of the mid-1990s helped establish new trade agreements or deepen existing ones. These conditions changed fundamentally with the financial and economic crises and gave rise to concerns that the momentum for future trade liberalisation could dissipate or disappear entirely. In some countries producers felt that the commitments towards freer trade taken during the high-price period of the mid 1990s made them more vulnerable to price swings in international markets and demanded greater protection.

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The macroeconomic dimensions

A period of long and robust income growth in Asia…

For several years before the crisis, many Asian economies enjoyed a period of remarkably high GDP growth. This was particularly true of the fastest growing Asian economies, the "Tiger" economies, including Indonesia, Malaysia, the Philippines, and Thailand (ASEAN-4) and Korea. Indonesia's GDP, for example, grew by an average of 7.2 per cent per year between 1990 and 1996. Malaysia's economy expanded by an average of 8.8 per cent per annum during the same period while Thailand and Korea attained GDP growth rates of 8.6 per cent and 7.7 per cent, respectively. By contrast, the average annual growth rate of the US during the same period was 3 per cent, the average rate for the European Union was 3.4 per cent, while that of Japan was as low as 0.9 per cent per annum. Vigorous income growth in Asian economies enabled these countries to increase their demand for imports (including agricultural commodities) to meet the changing consumption patterns of a growing and increasingly affluent middle class.

… came to an abrupt halt

The high growth rates fell substantially in 1997 with the onset of the financial and economic crisis in Asia, which began with the devaluation of Thailand's Baht. The currency problems quickly spread to other countries, hitting the other ASEAN-4 countries and Korea particularly hard. By January 1998, the Indonesian currency had lost almost 80 per cent of its value relative to the US dollar, while the Thai, Malaysian, Korean and Philippine currencies had lost 54, 44, 42, and 38 per cent of their value, respectively. After a volatile year in 1998 and another exchange rate shock resulting from the sharp devaluation of the Brazilian Real, currency markets began to stabilise. In the first quarter of 1999, the exchange rates of many crisis-stricken countries appreciated in nominal terms, and economic growth began to pick up again. Despite these recoveries, exchange rates as well as the economic growth rates are still below pre-crisis levels.

First signs of a possible crisis became visible in the early 1990s. They included:

Despite the sharp and sudden occurrence of the crisis in 1997, there were numerous signs that a major crisis could be unfolding. From 1995 onwards, GDP growth, in particular, had begun to slow in most of the crisis countries. In 1996, for instance, real economic growth declined in all Asian crisis countries: Indonesia, Malaysia, Philippines, Korea, and Thailand (Table I.1.1). Economic growth had also begun to slow in China, and continued to decline in Russia and the Ukraine. Although some of these countries still had high economic growth rates relative to the world average, economic growth was beginning to slow markedly compared with the rates attained over the previous decade.

… a slowdown in GDP growth…

… low and declining productivity (TFP)…

Even before growth began to slow, first caveats were raised that the pace of growth experienced in the Tiger economies was unlikely to be sustainable. In particular, the composition of growth had given rise to concerns that past GDP growth was unlikely to last. Much of the growth resulted from mobilising more resources (labour, capital), without using these resources more efficiently (higher growth in total factor productivity, TFP). Growth accountants warned repeatedly that TFP growth remained low or was even negative and overall GDP growth was exclusively based on putting more people and capital to work (see *e.g.* Krugman, 1994). While this pattern of growth was typical of many fast growing economies elsewhere, it turned out to be unsustainable.[1]

Table I.1.1. **Real GDP growth rates for selected countries**
Per cent change from previous year

Region/Country	1995	1996	1997	1998	1999[1]
World	2.8	3.6	3.5	2.0	2.0
OECD countries					
Australia	3.8	3.9	3.7	4.9	2.9
Canada	2.6	1.2	3.8	3.0	2.8
European Union 15	2.3	1.8	2.7	2.7	1.8
Japan	1.4	5.2	1.4	–2.9	–0.7
Korea	9.0	7.1	5.5	–5.8	3.0
Mexico	–6.2	5.1	7.0	4.6	2.3
New Zealand	3.9	3.1	2.3	0.3	2.9
United States	2.3	3.4	3.9	3.9	3.4
Non-OECD countries					
Asia					
East and Southeast Asia					
Indonesia	8.2	8.0	4.7	–14.7	–4.4
Malaysia	9.5	8.0	7.8	–7.2	1.2
Philippines	4.8	5.7	5.1	–0.4	–0.4
Thailand	9.2	6.4	–0.4	–7.3	1.6
China	10.5	9.6	8.8	7.8	8.0
Hong Kong, China	3.9	4.5	5.3	–5.1	0.2
Chinese Taipei	6.0	5.7	6.8	4.8	3.7
South Asia	6.9	7.1	5.1	3.7	3.6
India	7.3	7.5	5.4	4.0	4.0
Latin America					
Argentina	–4.6	4.4	8.6	4.3	–1.8
Brazil	3.0	2.9	3.5	0.2	–5.0
Middle East	3.5	4.5	3.9	0.9	1.3
Africa					
North Africa	2.8	4.7	2.7	2.8	3.1
Sub-Saharan Africa	3.2	4.0	3.0	0.8	2.0
Rep. South Africa	3.1	3.3	1.7	3.0	3.4
Transition economies	–1.5	–2.2	1.0	–2.4	–4.9
Eastern Europe[2]	5.5	3.1	1.7	1.9	1.5
CIS	–5.1	–5.1	1.6	–5.1	–9.1
Russia	–4.1	–4.9	0.8	–5.6	–9.6
Ukraine	–12.2	–10.0	–3.1	–2.1	–8.2

1. Forecast.
2. Includes OECD Members (Czech Republic, Hungary and Poland).
Source: The World Bank for 1995-1997; Oxford Economic Forecasting and the Economic Research Service for 1998 and 1999.

… over-investment, over-capacities, over-production, falling productivity, and a reversal in capital flows

Much of the capital that had contributed to growth in these countries came from abroad. It included foreign direct investment (FDI), loans, but also a considerable amount of volatile portfolio inflows ("hot money"). High returns on investments in the past reduced both the risk awareness and the risk aversion of foreign investors, and capital inflows accelerated. More and more funds were diverted to unprofitable investments and resulted in over-investment and over-capacity in many Asian economies. Growing over-capacities brought about over-production, growing competition, falling export prices and lower returns on investment. With rapidly slowing returns on investments, foreign capital flows dried up and eventually reversed. In 1996, for instance, net capital inflows to Asia still reached about US$ 300 billion. By 1998, net inflows had turned into net outflows of capital. A downward spiral of capital outflows started with a collapse in bond and equity markets and growing pressure on the currencies. The sharp devaluations increased competition in

Table I.1.2. **Changes in exchange rates against the US dollar**
In per cent

	From: 1 July 1997 To: 19 March 1999	Maximum loss in value Since 1 July 1997	Date of maximum devaluation
Thailand	–34	–56	12-Jan.-98
Indonesia	–72	–85	17-June-98
Philippines	–32	–42	23-Dec.-97
Malaysia	–34	–46	10-July-97
Korea	–27	–55	23-Dec.-97
Japan	–2	–22	11-Aug.-98
Pakistan	–20	–29	10-Nov.-98
India	–16	–18	19-Aug.-98
China, Hong Kong	0	< 1	21-Aug.-98
Chinese Taipei	–16	–20	15-June-98
China	0	< 1	28-Apr.-97
Australia	–16	–26	27-Aug.-98
New Zealand	–22	–28	9-Dec.-98
Russia	–75	–75	18-Mar.-99
Bulgaria	–2	–14	13-Feb.-97
Poland	–16	–18	4-Mar.-99
Brazil	–42	–51	3-Mar.-99
Venezuela	–16	–17	14-Sept.-98
Mexico	–18	–25	4-Jan.-99
Argentina	0	< 1	8-Nov.-97
South Africa	–27	–32	27-Aug.-98
Canada	–9	–12	27-Aug.-98
European Union 15	–3	–7	6-Aug.-97

Source: Pacific Exchange Rate Service, at http://pacific.commerce.ubc.ca/xr.

export markets and forced other countries – often starting from a sound macroeconomic environment – to join the vicious cycle of competitive devaluations.

Eventually, this resulted in a downward spiral of devaluations and further capital outflows

The magnitude of the devaluations that occurred was particularly high due to the fact that the currencies of many Asian economies were overvalued prior to the crisis. The exchange rates of all crisis countries were fixed relative to the US Dollar. Diminishing trade balances, slowing real economic activity, and rising capital outflows resulted in growing disequilibria and the high exchange rate levels became more and more detached from the macroeconomic fundamentals prevailing in these economies. This alerted domestic and foreign investors alike. They began to reduce their investments and their exposure in financial portfolios (stocks and bonds). Hedge funds, too, added to the pressure by taking short positions against these currencies. The combination of these factors helps explain the high tempo and magnitude of the devaluations. Table I.1.2 provides an overview of the extent of these currency realignments.

From financial turmoil to economic crisis

Devaluations and sharply lower income growth resulted in…

What started as a currency crisis turned out to be a banking crisis with serious economic and social effects in some countries. The sharp devaluation of the currencies resulted in an almost complete halt in foreign capital inflows, many domestic companies became unable to repay foreign loans, and the banking sector

collapsed. The resulting liquidity crunch led to a collapse in consumer demand and sharply lower income growth rates. In Indonesia, the country that has been hit the hardest, GDP fell by about 15 per cent in 1998, while Thailand's economy shrank by about 8 per cent, Korea's GDP declined by about 6.5 per cent, and Malaysia's by 6 per cent. The Philippines turned out to be more resilient to the shock waves of the crisis and GDP declined by only 0.5 per cent. For the world as a whole, GDP growth was down to 2.3 per cent in 1998 compared with 3.2 per cent the year before.

… declining import demand for commodities…

Due to sharply depreciating currencies and sharply lower incomes, demand, especially for imported commodities, fell precipitously. Consumer demand shifted away from relatively expensive imports towards more competitively priced domestic goods. For example, first quarter 1998 imports by Thailand and Indonesia contracted by 40 and 36 per cent respectively, relative to the same quarter in 1997. Korea's imports fell by 35 per cent compared with the same period in 1997, while imports by Malaysia and the Philippines declined more moderately by 19 and 8 per cent, respectively.

The effects of this relatively large fall in import demand on most OECD countries, however, remained limited. The ASEAN-4 countries account for only about 3 per cent of total OECD exports and about 1 per cent of total OECD GDP. Some OECD countries are, however, more vulnerable with exports to the ASEAN-4 representing a larger share of their exports. For instance, about 11 per cent of Japan's exports are destined to the ASEAN-4. Also Australia and Korea with 9 and 8 per cent of total exports, respectively, to this region are more vulnerable than other OECD countries.

Exports from the crisis countries have expanded less than expected in view of the extent of the currency depreciations. Export volumes have increased but export revenues fell as the decline in export prices outpaced the increase in volumes. The high downward pressure on export prices was particularly pronounced due to the high similarity of the export pattern across commodities and the growing need to earn foreign exchange and maintain market shares in countries abroad. In addition, exports declined due to the relatively high dependence on regional markets, as other Asian importers experienced sharp contractions in purchasing power and demand. The degree of regional trade dependence varied in 1996 from 38 per cent for Korea to 59 per cent for Malaysia.

There is also growing evidence that the crisis brought about a general shift in trading patterns. Exports by crisis-affected countries to other Asian markets declined while exports destined to the US and Europe increased. For the first two months of 1998, for instance, Korean exports to the European Union increased by 28 per cent relative to the same period in 1997. Similar shifts in exports have been reported for Thailand and the Philippines. Exports from Asia to the US increased in a similar way both with respect to trading partners and growth in trade flows. Whether these changes will continue to prevail depends on a commitment to investment in marketing strategies and marketing channels, particularly if a recovery from the crisis results in a re-valuation of the nominal exchange rates.

… while the benefits for exporters often remained limited

In parallel, the massive market contraction in Asia resulted in a re-direction of OECD exports. While overall export volumes remained largely unchanged, the exports shifted away from Asia into other markets. US exports, for instance, remained largely unchanged but shifted away from Asia to both OECD and non-OECD destinations. Overall EU exports in the first two months of 1998 even increased by 8 per cent while those to Indonesia, Korea and Thailand declined by 49 per cent, 42 per cent and 38 per cent, respectively.

Contagion

The crisis spilled over to Russia…

Russia has limited trade with the Asian crisis countries. Its devaluation resulted primarily from its own internal financial crisis. But as in Asia, Russia had attracted large amounts of foreign investment that was producing ever-declining returns. In addition, declining world prices for oil, gold and a number of metals diminished export earnings and a substantial trade surplus turned into a deficit. In parallel, declining profits, tax evasion, fraud and corruption resulted in a growing budget deficit. The dual deficits brought about a general loss of investors' confidence and resulted in a rapid and massive capital flight. In July 1998, the "crawling peg" gathered pace and the Russian Rouble began to fall. With the debt moratorium in August 1998, the Rouble was sharply devalued and even interest rates hiked up to more than 100 per cent could not stop the massive devaluation.

...and Brazil

The spill-over effects from the crises in Asia and Russia eventually reached the Latin American continent. After the Russian Federation declared a moratorium on its debt in August 1998, a rapid and massive capital flight out of emerging markets began. **Brazil** was particularly hard hit, because of its dual deficit on both the current account and the fiscal balance. The economy experienced a typical "credibility crisis" with sharply rising net outflows of capital and growing pressure on the exchange rate. To defend the exchange rate, interest rates were raised to 40 per cent and more in real terms.

The situation eased somewhat in November 1998, benefiting from the end of electoral uncertainties with the re-election of President Cardoso. In addition, the announcement of an ambitious fiscal consolidation programme, which aims to achieve a primary public sector surplus of 2.6 per cent of GDP for 1999, helped to calm the situation. Additional relief on the exchange rate came from the agreement with the International Monetary Fund (IMF). The agreement endorsing a comprehensive loan package, with credit lines expanded up to US$ 41.5 billion, provided an important buffer to fend off possible speculative attacks against the Real.

High real interest rates, set to defend the Real, caused a marked slowdown of the real economy. Growth in real GDP fell from 3.5 per cent in 1997 to a mere 0.2 per cent in 1998. While inflation fell to 3.8 per cent, largely due to the restraining effect of high real interest rates, the fiscal deficit continued to rise from 6.1 per cent in 1997 to 7.5 per cent in 1998. Containing inflation and the fiscal deficit will hold the key for economic

development in 1999. Even with persistently high interest rates, inflation is expected to rise from 3.8 per cent in 1998 to around 9 per cent in 1999. GDP growth is expected to fall to –2.5 per cent. Low growth and high interest rates suggest that the much-needed fiscal consolidation process will be difficult to maintain.

The crisis affects agriculture in many countries

The impacts of the crises on agriculture resembled those in other sectors, but…

The overall economic crisis affected markets for industrial goods, non-food commodities and agricultural products alike. For many agricultural commodities, the observed price reductions even outpaced those of industrial goods. A number of factors contributed to the strong price declines and the Asian crisis has to be distinguished from other factors affecting agricultural markets in parallel. In general, the devaluations affected agricultural markets in a similar way as other sectors: imports became more expensive for consumers and manufacturers, consumption declined – but less than for most non-agricultural products. Although exports became more competitive in world markets, credit and other production constraints limited the ability to increase exports in the short-run.

… were reinforced and aggravated by a cyclical correction underway in international commodity markets

The impacts of the Asian crisis added to other contracting forces that were under way. Most importantly, commodity markets had already entered a "normal", cyclical contraction that followed the 1994-96 price boom. This was true for almost all agricultural commodities. The emerging markets crises only pronounced and accelerated the cyclical price correction. It is estimated that about 50 per cent of this correction was due to cyclical adjustments (supply boost), 30-40 per cent due to the Asian crisis (income and exchange rate effects), and the rest due to other factors. The 1999 edition of the *OECD Agricultural Outlook* suggests that low international prices for agricultural commodities are likely to persist for at least another two years. A more favourable macroeconomic environment in conjunction with a cyclical upswing are expected to bring about a recovery of world prices from 2001/2 onwards (OECD, 1999). This scenario assumes that policy makers remain on the sidelines and refrain from additional export subsidies.

The international grain markets help demonstrate the importance of the cyclical correction. After the boom in wheat and coarse grain prices of 1995 and 1996, producers stepped up output by almost 10 per cent in the years following the price boom. Demand only rose by 5.5 per cent per annum. The production of major oilseeds also reached record levels, increasing by about 9 per cent over the same period. Stocks in turn increased. As a result, wheat prices in the third quarter of 1998 were about 46 per cent below the record levels attained in 1996. Similarly, prices for maize, soyabeans, and soyabean meal declined by 44, 27 and 45 per cent respectively. Interestingly, soyabean oil and palm oil prices increased by 10 and 27 per cent respectively, largely driven by robust demand. Table I.1.3 summarises the most important changes in world commodity prices.

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Table I.1.3. **Changes in world commodity prices**[1]

In per cent

From To	July 1, 1997 Dec. 31, 1998	July 1, 1997 Dec. 31, 1997	Dec. 31, 1997 Dec. 31, 1998	Countries most directly affected
	Per cent change			
Oil	–40	–9	–34	Indonesia, Russia, Mexico, Venezuela
Steel	–39	4	–41	Mexico, India, China
Copper	–41	–31	–14	Peru, Chile, Russia
Coffee	–83	–23	–78	Brazil, Colombia
Cocoa	–26	–3	–23	Côte d'Ivoire, Ghana, Nigeria
Sugar	–30	5	–33	Brazil, EU, Australia, Thailand
Wheat: Spring	–5	–1	–4	Canada
Wheat: SRW	–22	2	–24	Australia, EU, US
Wheat: HRW	–8	2	–10	Argentina, Australia, US
Wheat: SW	–18	–4	–14	Australia, US
Maize	–14	9	–21	China, Argentina, US,
Sorghum	–2	20	–18	US, Argentina, EU, Australia, China
Soyabeans	–27	–8	–21	Brazil, Argentina, Indonesia
Soyabean oil	7	16	–8	Argentina, EU, Brazil, US
Palm Oil	15	6	9	Malaysia, Indonesia
Beef	–3	2	–5	EU, Australia, US, New Zealand, Canada, Brazil
Broilers	–11	–24	17	Indonesia, Russia
Pork	–71	–44	–49	EU, US, Canada, Poland
Cotton	–21	–12	–10	EU, Uzbekistan, Australia, China, Egypt, India

1. Commodity definitions used in table 3: Oil = Light sweet crude, New York Mercantile Exchange. Steel = scrap steel, Chicago, USA. Copper = High grade, CMX spot price. Coffee = Brazilian coffee in New York. Cocoa = Ivory Coast. Sugar = Raw cane sugar, world price, f.o.b. Wheat: spring = US gulf port, f.o.b. Wheat: soft red winter = US gulf port, f.o.b. Wheat: hard red winter = US gulf port, f.o.b. Wheat: soft white = US Pacific Northwest ports, f.o.b. Maize = US gulf port, f.o.b. Sorghum = US gulf port, f.o.b. Soyabeans = US gulf port, f.o.b. Soyabean oil = Central Illinois, USA. Palm oil = refined, New Orleans, USA. Beef = Carcass equivalent value, USA. Broilers = Dressed "A", US Dept of Agriculture. Pork = Hogs, Iowa-Southem Minnesota, USA. Cotton = 1 1/16" str. lw-md, Memphis, USA.

Source: Wall Street Journal. USDA for information on broilers, pork and grain.

Large differences characterised the impacts on agriculture across countries due to different structures, responsiveness of supply and demand, as well as international trade exposures

The impacts of the financial crisis on the agricultural sector of individual countries varied considerably. The extent and the speed of the impacts depended on a number of factors. The most important difference came from the fact that agriculture in different countries was exposed to a varying magnitude of exogenous shocks coming from exchange rate adjustments and GDP contractions. Impacts also varied with the importance of agriculture relative to the rest of the economy, the responsiveness (elasticity) of supply and demand, the importance of trade relative to the domestic market, the share of imported inputs, openness of the borders, and lastly the policy response to the crisis. Table I.1.4 summarises the impacts on international trade flows.

In general, currency devaluation lowered imports and boosted exports of agricultural products. For some countries and commodities, however, the typical low (short-term) responsiveness of supply limited the ability to benefit from devaluation-driven increases in competitiveness. Given the seasonal nature of agricultural production, it can take up to a year to increase production in response to price signals received from the export market. In addition, tightening credit conditions in many crisis countries imposed constraints on the availability of inputs and credits to market the products. Not only did transportation costs increase, but the shift in sales from domestic consumers to foreign markets proved equally difficult in many cases, particularly where physical infrastructure and marketing channels differed. Even if these

Table I.1.4. **Changes in trade, 1998 compared with the respective period in 1997**

Imports by	Imports from	Product(s) imported	Change in imports (in per cent)	Period of comparison
Asia 5	China	Total agriculture	–9	Jan.-Dec.
Asia 5	Japan	Total agriculture	–8	Jan.-Dec.
Asia 5	US	Total agriculture	–26	Jan.-Dec.
Asia 5	US	Bulk commodities	–17	Jan.-Dec.
Asia 5	US	Intermediate products	–26	Jan.-Dec.
Asia 5	US	Consumer-oriented products	–47	Jan-Dec.
Korea	Japan	Total agriculture	–50	Jan.-Dec.
Thailand	China	Total agriculture	–40	Jan.-Dec.
Indonesia	US	Total agriculture	–46	Jan-Dec.
Korea	Asia	Total agriculture	–37	Jan.-Nov.
Korea	Asia	Bulk commodities	–22	Jan.-Nov.
Korea	Asia	Processed products	–46	Jan.-Nov.
ASEAN	Canada	Total agriculture	–50	Jan.-Dec.
ASEAN	US	Total agriculture	–30	Jan.-Dec.
ASEAN	US	Bulk commodities	–29	Jan.-Dec.
ASEAN	US	Intermediate products	–20	Jan.-Dec.
ASEAN	US	Consumer-oriented products	–41	Jan.-Dec.
East Asia	US	Total agriculture	–18	Jan.-Dec.
East Asia	China	Total agriculture	–12	Jan.-Dec.
East Asia	Japan	Total agriculture	–11	Jan.-Dec.
Asia	Brazil	Total agriculture	–15	Jan.-June
Russia	Bulgaria	Total agriculture	–21	Jan.-June
Russia	US	Total agriculture	–62	June-Dec.
Russia	US	Total agriculture	–31	Jan.-Dec.
Russia	Bulgaria	Total agriculture	–25	Jan.-June
Russia	Estonia	Milk	–19	Jan.-June
CIS	US	Total agriculture	–23	Jan.-Dec.
CIS	US	Total agriculture	–48	June-Dec.
CIS	Bulgaria	Total agriculture	–25	Jan.-June
E. Europe	US	Total agriculture	–17	Jan.-Dec.
E. Europe	US	Total agriculture	–32	June-Dec.
E. Europe	China	Total agriculture	–10	Jan.-Dec.
Bulgaria	Russia	Total economy	–23	Jan-June
World	India	Total agriculture	–7	Apr-June

"Asia 5" includes Indonesia, Malaysia, Philippines, Korea, and Thailand.

Sources: *I)* Global Trade Information Services, Inc. (GTI) for trade with Brazil, Canada, China and Japan. *II)* US Department of Commerce for the United States. *III)* OECD Forum on Agricultural Policies in Non-Member Countries for Bulgaria, Estonia, India, Russia and Korea.

constraints were overcome, the volume that could be sold to non-crisis countries sometimes remained limited, particularly given the increased competition in international markets.

Brazil

In the first wave, Brazil's agriculture was affected by sharply higher interest rates…

From the very beginning of the Asian crisis, Brazil had to cope first with strong indirect impacts on its economy. Its agricultural exports to Asia for instance dropped by 15 per cent between the first halves of 1997 and 1998. Plagued by a current account deficit of US$ 26.5 billion (by October 1997), the Brazilian government became increasingly concerned that the international financial crisis could trigger a major devaluation of the Real. In a first reaction in October 1997, interest rates were almost doubled. As the Asian crisis deepened, the government unveiled an additional package of measures in November 1997, aimed at achieving fiscal savings of about US$ 20 billion by the end of 1998. The package included tax increases, budget cuts, reductions in fiscal incentives, public sector layoffs, and other measures aimed at improving trade performance and reducing the budget deficit.

… and reduced competitiveness in export markets

Some studies suggest that the policy measures taken in response to this first wave of the crisis helped to offset the impacts on agriculture partially, but not completely. While interest rates for the agricultural sector were kept below market rates, the October hike in interest rates still boosted overall capital costs for the Brazilian farm sector. This added to the existing problems of large scale, capital intensive production. At the same time, farmers benefited from the measures aimed at reducing the trade deficit. A general policy package launched in response to the crisis included, for instance, increased funds for export credits and the option of borrowing money abroad for export crops. In conjunction with the Export Credit Advance mechanism (ACC), this resulted in a net increase in exports.

The Russian crisis resulted in direct losses in Brazil's export markets for coffee and sugar…

Brazilian exports of soluble coffee were also affected by the crisis in Russia. Estimates for the 1998 marketing year point at a significant decline in exports of soluble coffee to 1.6 million bags, 24 per cent down from the previous year. This decline is largely due to a virtual collapse of exports to Russia and other countries of the former Soviet Union. The Russian Federation had become the main export destination for Brazilian soluble coffee, followed by the United States, Ukraine and Japan. In 1997/98, 681 000 bags or approximately one third of soluble coffee exports were shipped to Russia. As a result of the Russian economic and financial crisis, exports of soluble coffee to Russia declined sharply from approximately 67 000 bags in July to only 2 000 bags in September 1998.

… but eased fertiliser imports

The sharp devaluation of the Real also made imported inputs more expensive. Fertiliser prices, in particular, shot up and offset to some extent the benefits on the output side. The devaluation also took away some of the windfall gains that arose in the fertiliser market after the devaluation of the Russian Rouble in August 1998. About 16 per cent of Brazil's fertiliser imports originate from Russia and imports rose in response to the devaluation. For fertilisers, the devaluation of the Real turned out to be an almost symmetrical exogenous shock that eliminated many of the benefits arising from the devaluation of the Rouble five months earlier.

Eventually, the devaluation of the Real reversed the losses in competitiveness…

In January 1999, the sharp devaluation of the Brazilian Real resulted in a major price boost for domestic producers. The low short-run responsiveness of supply and the limited elasticity of demand both in the domestic and international markets further strengthened prices. In addition, the government refrained from reinstating an export tax, a typical policy response after devaluations in the past. This buoyed prices of commodities with high trade shares like soyabeans. Over the medium-term, however, rising supplies are expected to dampen the effect on domestic prices. Moreover, given Brazil's dominant role in the international soyabean markets, the expected export boom is likely to keep a lid on world markets. In addition, the appreciation of the nominal exchange rate under way since February 1999 is likely to reverse some of the earlier gains in competitiveness.

… but brought about added downward pressure on international commodity prices

Indonesia

From the onset of the crisis, Indonesia was one of the most severely affected countries. This holds for financial markets, industrial goods

In Indonesia, the poultry sector was particularly hard hit

and agricultural commodities alike. In food and agriculture, the high-income/high-price segments were particularly hard hit. The poultry sector, for instance, almost collapsed. Benefiting from high income growth prior to the crisis, Indonesia's poultry industry had grown rapidly. Relatively low prices enabled a growing part of the population to expand consumption of the higher price food products. Poultry meat consumption benefited in particular. The emerging domestic poultry industry was largely dependent on imported feedstuffs, particularly maize and soyabean meal. With the dramatic devaluation of the Rupiah prices for imported maize skyrocketed, imports collapsed, and even maize in stocks, previously imported from China and Argentina, was re-exported to Malaysia and Thailand.

In a few cases, Indonesia's agricultural producers also benefited from the devaluation. Exports of coffee, cocoa and spices, all produced with almost no imported inputs, became more competitive in international markets. Exports rose. The expected increase in palm oil exports, however, did not materialise. With growing concerns about domestic food shortages, the government imposed an export tax on palm oil, resulting in lower rather than higher exports.

The rest of the ASEAN-4

In general, agriculture in the other ASEAN-4 countries was less affected by the crisis than the farm sector in Brazil or Indonesia. The main reason was the lower trade exposure in agriculture goods. Overall, agricultural trade in the ASEAN-4 countries accounts for about 6 per cent of global agricultural exports and 5 per cent of global imports. This is slightly above their share of overall trade in world markets. In addition, their imports tend to be temperate-zone products coming largely from developed countries, while their exports are largely tropical products, exported to rich developed countries, with inelastic demand structures. The commodity composition of trade and the composition of trading partners meant that the impacts on food and agriculture remained limited.

Russia and the NIS

The devaluation of the Rouble resulted in sharply lower imports of high-value food products

Russia's agricultural sector was affected by the crisis through different channels, with varying impacts on different commodities and at different stages of the various crises. As in other economies, the impacts on products with high income elasticities (*e.g.* livestock products) were greater than those on low-income elasticity products (basic staples). The drop in demand for meat and milk products, for instance, was particularly large and small processing plants suffered the most. Consumption of basic staples like bread and potatoes remained largely unchanged. Demand for staple food products with a long shelf life (sugar, flour, vegetable oil, tea, and coffee) actually increased, particularly at the beginning of the crisis. Imports declined sharply, and new opportunities for expanding the market share of domestic agriculture arose. Whether these emerging market opportunities can be secured or even enlarged over time will depend on a number of factors. It will require that food aid donations do not displace domestic produce, that the government releases agricultural price controls, and that the marketing channels built up to handle imported food can be adjusted for the marketing of domestic goods.

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Domestic agriculture in Russia is unlikely to benefit from the devaluation

There are already some indications that Russia's agricultural exports are unlikely to benefit significantly from the devaluation effect. Grain and sunflower exports are constrained by low output in 1998, and output will probably be low again in 1999, because of constraints on credit and inputs. Fish and seafood, and alcohol beverages are exported to higher income countries with stable markets and were already quite competitive prior to the devaluation.

The impacts on food imports were substantial and immediate. They affected all links in the food distribution and marketing chain. Importers delayed supplying wholesalers, and wholesalers delayed shipments to retailers. Imports already contracted were stopped at the border because tariffs had not been paid on time. Foreign companies and joint ventures stopped importing raw materials and slowed production. As concerns about growing inflation re-surfaced, and demand for selected food items that could be stored increased.

Traditional trading partners in eastern Europe and…

The crisis affected imports from all destinations, from regional and international markets alike. At the regional level, the drop in imports from Russia's close trading partners started even before the outbreak of the crisis and eventually became a general channel for contagion to Eastern Europe's agriculture. In the first six months of 1998, Bulgarian agricultural exports to Russia were down by 25 per cent from a year earlier. Exports of fruit, vegetables and beverages declined even more: by 68, 41 and 43 per cent, respectively. Estonia's dairy exports to Russia fell by 19 per cent in the first half of 1998, while production rose by 6 per cent. After the Rouble devaluation, dairy exports stopped entirely.

… the NIS were most severely affected by the crisis in Russia

The Russian crisis also affected trade with other NIS countries. Traditional grain and meat exports from **Kazakhstan** to Russia, for instance, virtually discontinued as a consequence of the devaluation of the Russian rouble. At the same time, food price controls (particularly for grain) applied shortly after the crisis, depressed domestic prices in Russia and made Russian exports to Kazakhstan profitable. Trade flows reversed. In December 1998 the two governments signed an agreement on a 6-month ban of agro-food exports from Russia to Kazakhstan. The ban related to 21 items, including wheat, maize, rice, flour, meat, milk and eggs. The Kazakh government was seeking to prevent "dumping" of Russian exports, while the Russian government was concerned about the food outflow from the country.

The Baltic countries

Lithuania is yet another example of how the impact of a devaluation spread to other countries of the region. With the outbreak of the crisis, Lithuanian exports to Russia dwindled and imports from Russia increased. In addition, competition with Russia in third country markets tightened. As Lithuania is strongly integrated into the markets of the former Soviet Union, it was difficult to redirect exports to other countries quickly. Moreover, many Lithuanian companies found themselves in a more complicated competitive situation as the Lithuanian market became a target for products from other exporters that were initially designated to be sold in the NIS. With Lithuania's continuing growth in agricultural output and small domestic absorption capacity, reductions in both domestic and foreign sales threaten to generate

losses for business firms. Food aid to Russia is another Lithuanian concern as it is for Poland and others. Although Russia's ability to finance imports had declined, food aid from donor countries could displace some remaining Lithuanian commercial exports.

India

Even India's largely insulated food sector experienced problems…

India has only been indirectly affected by the evolving crises in Asia, Russia, and Brazil. In 1997 and 1998 the Rupee gradually devalued against the US Dollar, but it appreciated in relative terms against the currencies of the crisis countries and those of other major trading partners. This, combined with slower growth in total world imports, put a brake on India's growth in total merchandise exports. Agricultural exports declined by 6.7 per cent in dollar terms in the April-June period of 1998 compared with a year earlier. Southeast Asia is a large market for oil meals, meat and meat preparations, groundnuts, spices, basmati rice, processed fruits, juices, sesame seeds, and cashew nuts. Exports from India, however, were increasingly restricted due to inadequate availability of credit for importers in Asian markets. At the same time, India competes with Southeast Asian suppliers in world markets for non-basmati rice, fruits, vegetables and marine products, especially in European and American markets. As many of these competitors devalued their exchange rates, India's competitiveness in markets abroad was adversely affected and market shares declined.

… mainly due to the loss in international competitiveness

How did countries respond to the crisis?

Numerous policy packages have been launched in response to the crises. In general, policy measures aimed at reversing or alleviating the adverse impacts of the crises on domestic producers and consumers. The policy response depended on whether a country was directly or indirectly affected, and varied with respect to target groups and the availability of finances. Some countries tried to respond primarily to concerns raised by agricultural producers and increased import protection, stepped-up export assistance and provided improved access to agricultural credit markets. In other countries, particularly where concerns of rising inflation, higher food prices and domestic food security dominated, policy makers responded with export taxes and opened the borders for low price food imports and food aid. Only in a few countries did policy makers remain at the sidelines and rely upon the market to strike a new balance in the fast changing market environment. The most common policy measures included:

Import protection

Lower border protection in some countries after currency devaluations were accompanied by…

Many countries responded to the currency swings with adjustments in border protection. Devaluations of their own currency often prompted lower tariff measures to offset some of the newly gained protection through the devaluation effect. Other countries introduced new measures or increased existing hurdles to compensate for increased competitiveness of their trading partners with devalued exchange rates. **Lithuania,** for instance, raised import tariffs to stem soaring imports

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that followed the devaluation of the Russian Rouble. Tariffs were raised on products important for domestic industries. This included meat and dairy products, grain and grain products, sugar, vegetable oil, and nitrogen fertilisers. **Poland** raised tariffs for some imported goods and introduced restrictions on the use of tariff rate quotas. As of February 1999, quotas were allocated on a quarterly basis to prevent a flood of imports at the beginning of the season. In addition, the validity of import licenses has been reduced to one month.

… higher import barriers in most countries which experienced relative exchange rate appreciations

Mercosur countries raised their common external tariff for all products by three percentage points to offset increased import competitiveness of Asian suppliers and other countries from abroad. In other countries, import tariffs were reduced in response to the increase in "natural protection" that arose from the devaluation of their currencies. Typically, these measures strove to mitigate the impact of the devaluation on rising food prices. **Russia,** for instance, lowered import duties by 25 per cent for some food products imported from developing countries. The list of products included meat and meat products, vegetables, fruits, oils, butter, coffee, tea, cocoa beans and raw sugar.

Export assistance

Some countries tried to offset the loss in competitiveness by higher export subsidies…

Export assistance, too, was stepped-up by a number of countries. In practice, countries typically increased finance available for their export promotion or export subsidy programmes. OECD countries were no exception. The US stepped-up its export credits for grain shipments to Korea, while the European Union raised the subsidies for exports of pig meat to eastern Europe and Russia. These initiatives were launched to dispose of internal surpluses, which accumulated as crisis-affected markets like Russia or Korea collapsed. **China,** too, tried to promote exports to offset the loss in relative competitiveness that arose from the exchange rate peg to the US dollar. Most importantly, the government offered tax rebates for exports for a whole range of industrial and agricultural products, including textiles.

Export subsidies to eastern Europe added to the downward pressure on prices in eastern Europe and brought about ripple effects on policy interventions in countries, which depend on these markets for their exports. **Hungary,** for instance, responded to lower export prices with aggressive export subsidies for pork and poultry. Export subsidies for poultry were raised from 55 000 Forint per tonne to 95 000 Forint per tonne, those for pork from 20 000 Forint per tonne to 70 000-75 000 Forint per tonne. Increased export assistance put a heavy burden on the budget and it is estimated that the Ministry of Agriculture has spent 50-64 per cent of its total budget in the first two months of 1999.

Lithuania established a "package of preventive measures" to offset the negative impact of the Russian crisis. The package includes subsidies on exports to Russia of butter, skim milk powder, casein, and fermented cheese. Other less direct assistance for exports includes enhanced export promotion, export insurance, soft loans, and enterprise support programs. New opportunities for barter trade have also been explored.

A formal Russian Crisis Monitoring and Analysis Centre, set up by Lithuania, underscored the seriousness of the situation.

Belarus is considering a package of policies and programmes destined to defend its domestic economy against increased competition, primarily from Russia. The provisions that have been introduced include: increasing export assistance for exportable commodities that are produced from domestic raw materials, the creation of an Export Bank, a State trading insurance company, and a fund to support export activities. It also plans to provide support for free economic zones, trade exhibitions, a national marketing Centre, and a state agency for advising investors.

Brazil, before its own devaluation, launched several policy initiatives to increase its competitiveness in foreign markets, where its currency had effectively re-valued against the Asian and Russian currencies. Brazil was trying to help companies involved in exports to shift to a more favourable composition of exportable products and to reduce high costs that affected the competitiveness of Brazilian products. It also established agencies for commercial promotion, a law on foreign trade, and export credit insurance.

Instead of trying to increase exports, **Russia** took measures to restrict exports of agricultural and food products. These measures were taken to help control inflation by keeping products at home even though the Rouble devaluation had made exports more competitive in foreign markets.

Domestic price support

… while other countries increased domestic support to their farm or food processing sector

Because of the chain of economic relationships that link devaluation to trade, and in turn, to domestic markets in other economies, some countries have modified their domestic policies affecting agricultural production and food distribution. **Lithuania's** policy package to deal with lower exports and depressed domestic prices provides domestic price support by increasing purchases of surplus dairy, meat, and grain products, in addition to the trade provisions. **Kazakhstan** also made provisions for the emergency procurement of one million tonnes of grain. Although it is unclear what is to be done with the resulting grain stocks, grain exporters are beginning to lobby for increased export subsidies.

Poland endorsed a number of measures to alleviate the pressure on its domestic pig meat producers. Most importantly, these include increased intervention purchases by the Agricultural Market Agency (AMA). Intervention purchases for hogs for instance were activated at a level of 3.2 Zloty per kilogram and farmers who already had their produce at lower prices were made eligible for an equalisation payment. In addition, intervention purchases for grain, butter, and powdered milk were increased, while the quality requirements for intervention payments for wheat and pork were reduced.

Although **Russia's** regional authorities took emergency measures to control consumer prices and to ration food, in other countries, food distribution and consumer subsidy mechanisms have been reduced in recent years. **Indonesia** had planned to dismantle its subsidised distribution of food through BULOG, but the plans were postponed

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due to the financial turmoil and the sharply reduced harvests caused by the El Niño weather phenomenon. In general, however, the room for increased domestic subsidies remained limited, essentially reflecting the tightening fiscal environment in many countries directly affected by the crisis.

Impacts on regional trade

The crises also distorted agricultural trade flows within many RTAs, notably within…

Over the 1990s, many countries moved toward a more open trade environment, either through commitments taken in multilateral trade negotiations of the Uruguay Round, through regional trade agreements (RTAs), or through unilateral trade concessions. Some other countries have continued with policies which, relatively speaking, isolate them from international markets.

… MERCOSUR…

Regional trade agreements were seen as a vehicle for encouraging and stabilising trade and general policy relations with neighbouring countries. NAFTA and Mercosur are the most important examples of successful RTAs in the Americas. ASEAN and APEC are the key agreements in Asia and the Pacific Rim. Similarly, new regional trade agreements were forged after the break-up of the Former Soviet Union. This includes the Baltic Agricultural Free Trade Agreement

… BAFTA…

(BAFTA) as well as a regional trading agreement between Russia, Kazakhstan, Belarus and Kyrgystan. In April 1998, this group agreed on unified tariffs within a range of 10-14 per cent. However, the sharp devaluation of the Rouble relative to the other countries of the RTA changed the relative competitiveness among RTA member countries. The Rouble devaluation is also said to have reduced the newly created transparency and stability in trade flows. Generally it raised concerns about the viability of the RTA.

… and CEFTA countries

CEFTA, the regional trade agreement between numerous central and eastern European countries was affected by both the spill-over effects from the Asian crisis and those from the crisis in Russia. Trade measures in response to the crisis are threatening to undermine the viability of the agreement. Poland, for instance, abolished most preferences previously granted to EU and CEFTA countries. The government raised the import tariff on durum wheat to 20 per cent, starting from 10 per cent for EU exports to 20 for CEFTA exports. Import duties for regular wheat went up to 70 per cent for all countries. Those on pork were raised from 25 per cent to 83.3 per cent, those on dairy products 9 to 35 per cent, and those on poultry from 28 to 60 per cent. Slovenia, Slovakia, and the Czech Republic have raised tariffs on Hungarian wheat and pork. Although talks have been launched to resolve the problems and to reinstate mutual trade preferences under the CEFTA agreement, the continuing pressure on both domestic and international agricultural prices make it unlikely that an accord will be reached.

India is an example of a country that has chosen to remain largely insulated from the international markets. Its pace of trade liberalisation has been slow, and it has followed relatively conservative monetary and fiscal policies. Isolating domestic producer and consumer prices from volatile world markets, and avoiding internal financial problems (budget deficits and lax banking regulation), may have helped India limit the impact of the Asian, Russian and Brazilian crises, at least in the short-

run. However, because India is a significant trader of industrial and some agricultural products, the lower world prices will eventually affect the Indian market. Insulation will not, in the long-term, foster the development of an efficient and productive economy.

So far, **China** has managed to remain largely immune to contagion from the crises in Asia and Russia. The Government maintains a managed exchange rate system, insulates China's currency from market forces and speculative pressure, and exercises full control over foreign trade. While these measures have helped to minimise the immediate and direct effects of the crises, there are growing concerns that China's agricultural exports may become less competitive *vis-à-vis* other Asian suppliers, who have benefited from exchange rate devaluations.

Prospects for recovery

There are first signs of a turnaround in Asia…

Particularly over the first months of 1999, there is growing confidence that the crisis has started to bottom out. In several Asian countries, trade and current account balances returned into positive territory at the end of 1998. Export volumes in Thailand, Indonesia, Korea and the Philippines have increased markedly, even though the effect of rising export volumes has been offset by lower world prices. Exchange rates in the Asian countries have started to appreciate in nominal terms, and interest rates have declined from their peaks. This has helped to ease the access to credit, although interest rates remained high by historical standards in many countries affected by the crisis.

… but much needs to be done to make the recovery sustainable

However, whether a general and fundamental recovery can be accomplished depends on whether a broader-based economic turn-around can materialise. Confidence in the economic future would have to be restored among both domestic and international investors. This would require stability in the foreign exchange markets, a reduction in interest rates, and renewed inflows of capital. Inflation would have to be prevented from extending beyond the immediate pressures created by the currency devaluations. Governments would have to carefully manage policy reform, prudently re-capitalise banks and other financial institutions to provide spending to cushion the effects of the crisis on their most severely affected citizens, and to support a general economic recovery. Governments also need to provide a policy environment, which facilitates restructuring of the private sector (Valdes, 1998). This could include incentives for negotiations between creditors and debtors to reschedule or resolve overdue debts; improvements in the process for bankruptcies, foreclosures, and mergers; and more effective regulation of the banking sector. Such policies can entail painful adjustments over time.

Given the complexities of debt restructuring and financial sector reform, combined with lower world commodity prices, further ripple effects on other countries, and slower economic growth in the OECD countries, recovery in the short-term is likely to be limited. However, in the longer-term, renewed strong economic growth is likely if the countries can effectively undertake the policy and structural reforms necessary to make their economies more efficient.

OECD 1999

Summary and conclusions

The crisis in Asia spilled over quickly into many emerging markets

The financial turmoil in Asian countries, and subsequently in Russia and Brazil, has had a marked impact on their economies and on world commodity markets. Initially, overvalued currencies caused their balance of trade to decline. Then, declining returns on investment combined with rising public and private sector debt contributed to a loss of confidence in the growth prospects of the afflicted economies and the sustainability of their exchange rate regimes. As capital flight increased, the governments raised interest rates in order to protect the currency and avoid the inflationary impacts of devaluation. This generated an added burden for the domestic economy and eventually worsened the overall economic fundamentals. Eventually, most countries failed to defend their exchange rates. Devaluations became inevitable to stem the loss of foreign reserves.

Devaluation and a slowdown in growth…

Devaluation caused prices to rise for products imported for either direct consumption, or for intermediate inputs used in manufactured products. In each country affected by the crisis, output, income and consumption declined and imports, now relatively more expensive, often dropped sharply.

… resulted in sharply lower import demand and increased export competition in agricultural commodity markets

The prospects for recovery in the crisis countries depend on policy reforms, structural adjustments, and the ability of the rest of the world to absorb an increase in exports. Renewing the confidence of domestic and foreign investors will require regulatory reform of the banking and financial markets. Overall, countries will have to establish a policy environment that promotes more efficient economic structures.

These factors aggravated the effects of a cyclical price contraction underway in parallel

The crisis affected supply, demand and prices for agricultural goods in the same way as other tradables: imports became more expensive, consumption declined, and prices fell. In addition to the effects of the crises in Asia and Russia, a general, cyclical contraction in commodity markets was under way in parallel. Most importantly, commodity markets had already entered a "normal", cyclical contraction that followed the 1994-96 price boom. This was true for almost all agricultural commodities. The emerging markets crises only pronounced and accelerated the cyclical price decline.

The crisis offers new opportunities for agriculture…

Other impacts on agriculture associated with the crisis also resembled those for all other sectors. Capital was withdrawn from agriculture, credit availability declined sharply, production and productivity decreased, and food prices rose. Although some exportable products benefited, those with no or limited exposure to imported inputs, food and agricultural markets were generally adversely affected.

In numerous countries, farm, food, and agricultural trade policies have been altered in response to the market disruptions. A few countries established currency and capital controls in an effort to stabilise exchange rates and foreign exchange flows. Protection against lower priced imports has been raised by a number of countries. Programmes to support exports, including export subsidies and special credit, have been initiated by others. In some cases, governments decided to subsidise consumers and producers of food, even in the presence of budget deficits. Many of the policy revisions reversed the movement toward more open and freer markets that had been evolving over the last decade.

The financial and economic crises could provide an opportunity for agricultural sectors in countries with devalued currencies. Devaluations made agricultural products more competitive in international markets and opened new markets abroad. But only a few governments promoted policies that help reap these benefits. In some cases, concerns about domestic food supplies, or rising inflation even triggered measures to tax production or to withhold exports.

… but a return to protectionist policies could prolong the adverse effects of the crisis for agricultural producers in many countries

In crisis affected countries, the prospects for a sustained recovery of agriculture will, inter alia, depend on the future policy environment. Providing a market environment that facilitates structural adjustments in the agricultural sector would enable countries to respond more effectively to new market signals. This is particularly important, as current exchange rate advantages are unlikely to last. To sustain a country's ability to grow, it will be critical to continue market liberalisation, rather than return to the market distortions caused by pervasive government intervention.

2. The impacts of policy reform on labour adjustment in agriculture

Introduction

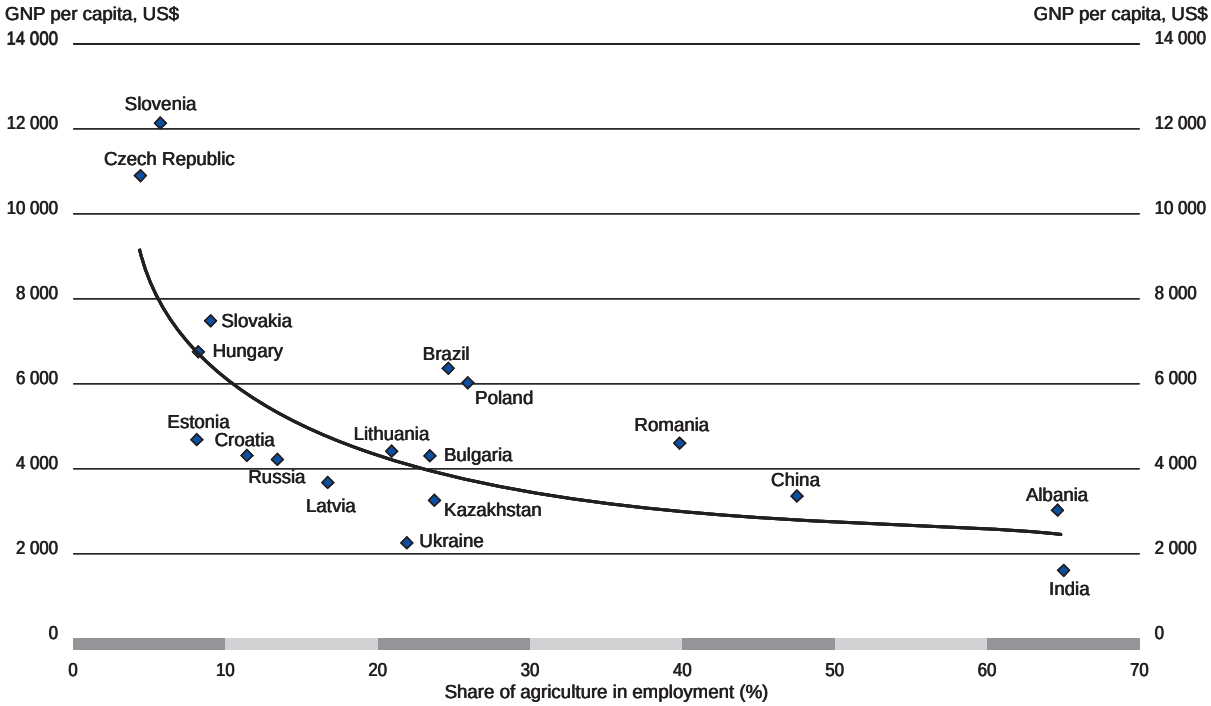
Labour adjustments in agriculture differ considerably across countries in transition

Pre-reform agriculture in transition economies was characterised by excess use of factors of production. Economic reforms induced important reductions in the use of inputs, in particular fertilisers and other chemicals in all transition countries. Also capital inputs were much reduced because of soaring interest rates and more market oriented credit rationing by the banking system. In contrast, land use changed relatively little. The factor for which adjustment differed most strongly across transition countries was labour, with a strong decline in agricultural employment in some countries and increases in others.

The main purpose of this chapter is to assess the process of agricultural labour adjustment in transition economies over the past decade and to explain what accounts for differences in the process of adjustment. The analysis draws on country reports presented to the Forum on Agricultural Policies in Non-Member Countries in October 1998. Where relevant, examples are provided for other major agricultural economies, notably those of China and Brazil that also participate in the Forum. The inclusion of these countries illustrates which results are exclusive to the process of transition and which apply to economic development in general. They are also of individual interest given the importance of these countries' agricultural economies. First, some background is provided on agricultural employment in transition countries concerning issues such as the size of the labour force and changes in the structure of employment. Some statistical problems with the data are identified. The main driving forces behind these changes are then discussed and the role of agricultural employment during periods of policy reform is assessed. Finally, some policy recommendations are presented aimed at facilitating structural adjustment.

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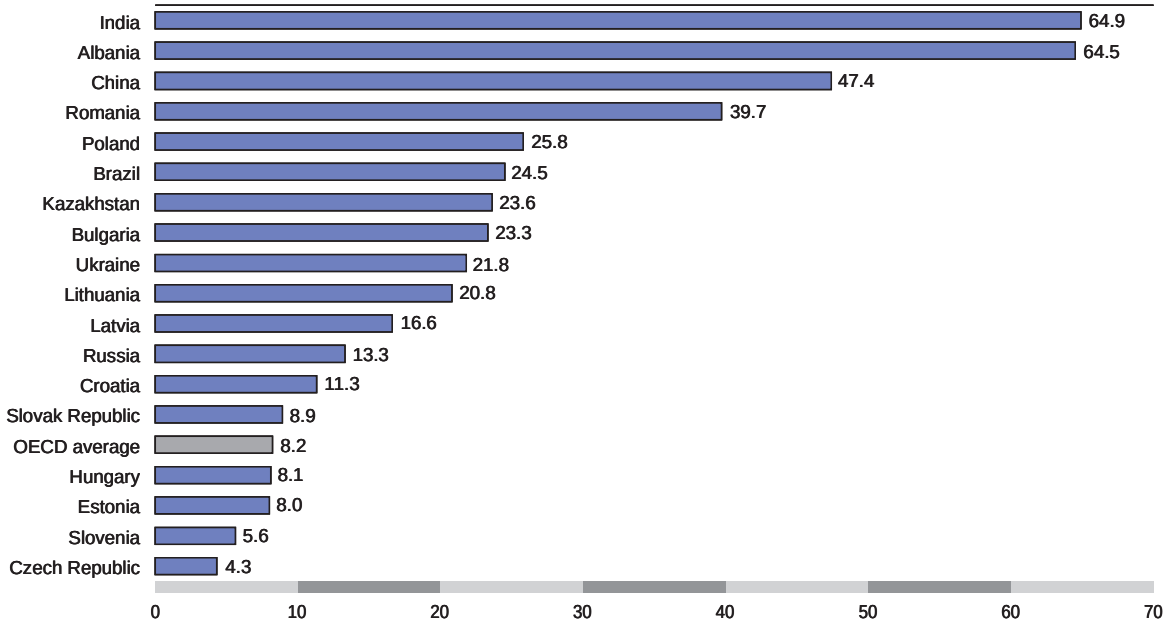
Graph I.2.1. **Share of agriculture in total employment (1997) and GNP per capita (PPP US$; 1996)**



Source: OECD; World Bank.

Graph I.2.2. **Share of agriculture in total employment, 1997**

Per cent



Source: OECD and Table I.2.1.

Changes in farm labour

The long-term inverse relationship between economic growth and the share of agriculture in employment…

A well-known "stylised fact" of economic development is a strong inverse relationship between economic growth and the share of agriculture in total employment. The increase in the demand for labour outside agriculture, the shift of comparative advantage from agriculture to other sectors of the economy, and the introduction of labour-saving technological change in agriculture – all of which are correlated with economic development – typically cause an outflow of labour from agriculture. This fundamental relationship can be observed in countries such as Brazil and China where economic growth over the past two decades has significantly reduced the share of agriculture in total employment. Its share fell from 49 per cent in 1980 to 25 per cent in 1997 in Brazil and from 69 per cent to 47 per cent over the same period in China.

… holds in the transition economies, but transitional adjustments affected this relationship in the last decade

In general, this long-run relationship holds in transition countries as well (Graphs I.2.1 and I.2.2), but the dramatic institutional and economic shocks caused by the shift from a socialist system to a market based economy have substantially affected this relationship in the last decade. Among the transition countries a wide variety of labour adjustments can be observed since 1990. In some countries, such as Romania and Albania, agricultural employment has increased significantly during transition. In others, such as Hungary, the Czech and Slovak Republics, Estonia and Kazakhstan, employment in agriculture has declined strongly. In countries such as Russia and Ukraine, agricultural employment increased between 1990 and 1995 but has since fallen slightly below the 1990 level, although in 1997 the share of agriculture in total employment was still higher than in 1990 (Table I.2.1).

Socio-economic characteristics of farm labour

Family labour and hired labour

The share of family labour in total farm labour varies from below 5 per cent to over 80 per cent

Total labour input comprises family labour and hired labour. In OECD countries family labour dominates on average, although some variation can be observed between countries (OECD, 1998; OECD, 1994). The variation is much wider in transition countries (Table I.2.2). For example, family labour accounts for over 80 per cent of total farm labour input in Poland and Slovenia, while it represents less than 15 per cent in Slovakia and less than 5 per cent in Kazakhstan. Large-scale farms employ the majority of hired workers.[2]

Gender distribution

The share of women in agricultural employment is large and stable

The share of women in total agricultural employment is large in all countries: women contribute more than 30 per cent of total labour in all countries, and around 50 per cent in Albania, Poland, Romania, and Ukraine (Table I.2.3). Although some expert opinions suggest that women in agriculture are particularly affected by the negative impacts of transition as they are typically less mobile than men, the available data do not confirm this. They show that in most countries the share of women in total agricultural employment has changed remarkably little over the past two decades, including the transition period.

OECD 1999

Table I.2.1. **Trends in farm employment, 1980-1997**

		1980	1990	1995	1997	80–90 % change	90–97 % change
Albania	Total number (000)	560	645	750	770	15.2	19.4
	Share in total employment (%)	50.0	49.0	64.6	64.5	–2.0	31.6
Bulgaria	Total number (000)	1 039	735	770	745	–29.2	1.3
	Share in total employment (%)	23.8	17.9	23.8	23.3	–24.8	30.2
Croatia[8]	Total number (000)						
	Share in total employment (%)		15.2	13.0	11.3		–25.7
Estonia	Total number (000)	143	100	55	51	–30.1	–49.5
	Share in total employment (%)	16.3	12.0	8.5	8.0	–26.4	–33.3
Latvia[5]	Total number (000)			143	183		
	Share in total employment (%)		15.5[3]	18.0	16.6		7.1
Lithuania	Total number (000)	394	344	376	348	–12.7	1.2
	Share in total employment (%)	22.2	17.8	22.9	20.8	–19.6	16.9
Romania	Total number (000)	3 023	3 055	3 187	3 322	1.1	8.7
	Share in total employment (%)	28.6	28.2	33.6	39.7	–1.3	40.9
Slovak Republic	Total number (000)	331	294[2]	172	143	–11.1	–51.4
	Share in total employment (%)	14.6	12.0	9.4	8.9	–17.8	–25.8
Slovenia[5]	Total number (000)	87[1]	72[2]	53	54	–17.4	–24.7
	Share in total employment (%)	9.7	8.4	6.4	5.6[4]	–13.4	–33.3
Czech Republic	Total number (000)	517	514	222	201	–0.6	–60.9
	Share in total employment (%)	10.1	9.6	4.4	4.3	–5.0	–55.2
Hungary[5]	Total number (000)		906	295	288		–68.2
	Share in total employment (%)		17.9[3]	8.5	8.1		–54.7
Poland[7]	Total number (000)	5 304	4 330	3 831	3 983	–18.4	–8.0
	Share in total employment (%)	30.6	26.6	26.0	25.8	–13.1	–3.0
Belarus	Total number (000)	1 282	985	843	716	–23.2	–27.3
	Share in total employment (%)	25.9	19.1	19.1	17.0	–26.3	–11.0
Kazakhstan[6]	Total number (000)	1 545	1 713	1 432	740	10.9	–56.8
	Share in total employment (%)	23.3	22.6	21.3	23.6	–3.0	4.4
Russia	Total number (000)	10 719	9 727	9 744	8 594	–9.3	–11.6
	Share in total employment (%)	14.6	12.9	14.7	13.3	–11.6	3.1
Ukraine	Total number (000)	5 733	4 960	5 257	4 903	–13.5	–1.1
	Share in total employment (%)	22.6	19.5	22.2	21.8	–13.7	11.8
Brazil	Total number (000)	21 164		18 154	16 647[4]		–21.3[9]
	Share in total employment (%)	48.6		26.1	24.5[4]		–49.6[9]
China[6]	Total number (000)	291 120	341 770	330 180	330 049	17.4	–3.4
	Share in total employment (%)	68.7	53.5	48.6	47.4	–22.1	–11.4

1. 1981 data.
2. 1991 data.
3. 1989 data.
4. 1996 data.
5. Includes agriculture forestry, hunting and fishing.
6. Includes agriculture, forestry, and fishing.
7. Includes agriculture, forestry, and hunting.
8. Includes agriculture, hunting and fishing.
9. % change from 1980 to 1996.

Source: OECD; Reports submitted to the Forum on Agricultural Policies in Non-Member Countries, October 1998.

Table I.2.2. **Structure of farm labour**
Per cent

		1980	1990	1995	1997
Estonia	Paid workers	100.0	98.3	70.0	59.0
	On large-scale farms	100.0	98.3	69.0	57.0
	On family farms	0.0	0.0	1.0	2.0
	Self-employed	0.0	1.7	30.0	41.0
Poland	Paid workers	n.a.	n.a.	4.0	5.2
	On large-scale farms	n.a.	n.a.	n.a.	n.a.
	On family farms	n.a.	n.a.	n.a.	n.a.
	Self-employed	n.a.	n.a.	96.0	94.8
Lithuania	Paid workers	100.0	100.0	33.0	27.5[2]
	On large-scale farms	100.0	100.0	33.0	27.5[2]
	On family farms	0.0	0.0	0.0	0.0[2]
	Self-employed	0.0	0.0	67.0	72.5[2]
Slovak Republic	Paid workers	97.4	99.1[1]	85-90	85-90
	On large-scale farms	97.4	99.1[1]	85-90	85-90
	On family farms	0.0	0.0[1]	3.0	5.0
	Self-employed	2.6	0.9[1]	10-15	10-15
Slovenia	Paid workers	n.a.	n.a.	20.3[2]	16.7
	On large-scale farms	n.a.	n.a.	n.a.	n.a.
	On family farms	n.a.	n.a.	n.a.	n.a.
	Self-employed	n.a.	n.a.	79.7[2]	83.3
Kazakhstan	Paid workers	100.0	99.2	97.6	96.0
	On large-scale farms	100.0	95.6	81.0	71.5
	On family farms	0.0	3.6	16.6	24.5
	Self-employed	0.0	0.8	2.4	3.9

n.a. Not available.
1. 1991 data.
2. 1996 data.
Source: OECD; Reports submitted to the Forum on Agricultural Policies in Non-Member Countries, October 1998.

Table I.2.3. **Share of women in total farm labour**
Per cent

	1980	1990	1997
Albania	52.0	52.0	53.0
Croatia	56.2[1]	53.5[2]	n.a.
Estonia	40.0	37.1	37.5
Lithuania	36.7[1]	35.4	37.3
Poland	n.a.	49.9	49.8
Slovak Republic	43.1	36.2[2]	34.0
Romania	58.5	55.7	52.0[4]
Slovenia	n.a.	41.0[2]	42.0[3]
Czech Republic	44.2	38.1	37.4
Belarus	48.3	42.2	37.7
Ukraine	n.a.	n.a.	48.4
Brazil	32.5	n.a.	31.8[3]

n.a. Not available.
1. 1981 data.
2. 1991 data.
3. 1995 data.
4. 1996 data.
Source: OECD; Reports submitted to the Forum on Agricultural Policies in Non-Member Countries, October 1998.

Age distribution

The ageing of the agricultural labour force…

The age distribution in agriculture also varies substantially across transition countries (Table I.2.4). In Romania and Croatia more than half of the agricultural labour force is older than 50 years; in Belarus 37 per cent and in Estonia 28 per cent is above 55 years. This distribution is considerably older than in Russia or the Czech Republic where only slightly more than 10 per cent of the farm labour is over 55 years.

… is not as dramatic as sometimes suggested

Many reports suggest that in the 1990s younger people have left agriculture and older people have remained. Data from the few countries where comparable data were available confirm that ageing of the agricultural labour force has occurred, but not as dramatically as suggested. For example, in the three countries for which data are available for both 1990 and 1995, the share of agricultural labour older than 55 increased by around 2 percentage points over this period (Table I.2.4).

Table I.2.4. **Share of farm labour over 55 years of age**

Per cent

	1980	1990	1995
Bulgaria	n.a.	30.7	n.a.
Croatia	47.7[1,3]	51.0[2,3]	n.a.
Estonia	27.0	26.0	28.0
Romania	n.a.	n.a.	54.0[3]
Slovak Republic	23.9	18.8	n.a.
Slovenia	25.9	29.6	n.a.
Czech Republic	17.8	9.4	11.5
Belarus	26.5	35.5	36.9
Russia	n.a.	n.a.	12.2

n.a. Not available.
1. 1981 data.
2. 1991 data.
3. Over 50.

Source: OECD; Reports submitted to the Forum on Agricultural Policies in Non-Member Countries, October 1998.

Farm structures

The share of employment on large-scale farms has declined

The share of employment on large-scale farms in total agricultural employment has declined (Table I.2.5) – apparently for two reasons. First, in all countries large-scale farms have been partly or completely (*e.g.* Albania) liquidated causing a shift of agricultural production factors from large-scale farms to household plots and emerging family farms. Second, as discussed below, labour adjustment seems to be correlated with farm restructuring: large farms have cut paid labour more radically than family farms which, of course, rely largely on (unpaid) family labour.

Part-time farming and off-farm activities

Part-time farming and off-farm activities…

In transition economies, as in OECD countries (OECD, 1998), part-time farming and labour allocation to "off-farm" or "non-agricultural" activities are important in agriculture. Additional income on part-time farms can come either from government support (*e.g.* pensions and unemployment benefits) or from labour allocation to other

Table I.2.5. **Agricultural employment by type of farm**
Thousands

		1980	1990	1997	Percentage (1997)
Albania	Household plots[1]	n.a.	n.a.	n.a.	0.0
	Family farms	n.a.	n.a.	770	100.0
	Large-scale farms	560	645	n.a.	n.a.
Estonia	Household plots[1]	n.a.	3	10	19.8
	Family farms	n.a.	2	11	20.8
	Large-scale farms	n.a.	97	30	59.4
Lithuania	Household plots[1]	n.a.	n.a.	107	30.0
	Family farms	n.a.	1[2]	178	49.6
	Large-scale farms	n.a.	334[2]	73	20.4
Romania	Public ownership	n.a.	526	85	2.6
	Mixed ownership	n.a.	0	81	2.4
	Private	n.a.	735	3 165	95.0
	Co-operative	n.a.	1 795	0	0.0
Russia	Household plots[1]	767	1 022	1 815	21.2
	Family farms	n.a.	6.6	1 024	12.0
	Large-scale farms	9 689	8 341	5 720	66.8
Ukraine	Household plots[1]	n.a.	n.a.	2 025	41.7
	Family farms	n.a.	n.a.	63	1.3
	Large-scale farms	n.a.	n.a.	2 763	57.0
Brazil (in per cent)	0 < 100 ha	78.8	n.a.	77.2	
	100 < 1000 ha	17.0	n.a.	17.2	
	1000 < 10 000 ha	3.7	n.a.	4.2	
	> 10 000 ha	0.5	n.a.	0.8[3]	

n.a.: not available.
1. Small plots of land used mostly for subsistance farming.
2. 1989 data.
3. 1995 data.
Source: OECD; Reports submitted to the Forum on Agricultural Policies in Non-Member Countries, October 1998.

activities. The sources of these non-agricultural incomes differ substantially across countries and farm types.

… under the communist system took the form of small-scale farming on household plots and food processing and infrastructural activities on large farms

Under the communist regime, off-farm and part-time farm activities took two forms. On the one hand, workers from large farms were allowed to complement their salaries by working on household plots, and on the other hand large farms (both state and collective) were engaged in many non-agricultural activities. The purpose of these activities was to employ farm workers during seasons with low labour demand and/or to fulfil objectives related to the large farm's joint function as an economic, social and political organisation. Economic activities included food processing, building construction and input production. Social functions included building and maintaining schools, medical centres, houses and technical infrastructure for large farm members.

Farm restructuring has limited non-agricultural activities on large farms…

The separation of non-agricultural activities from farming enterprises during the reform period had a distinct impact on farm employment. For example, in the mid-1980s in Hungary and Slovakia more than half of large-scale farm sales came from non-agricultural activities. An important part of non-agricultural activities were downstream activities (between one-third and one-half in Hungary), but Slovak farms received much income and profits from other off-farm activities, such as construction, services, electrical engineering and industrial production.

Box I.2.1. Statistical versus real effects: an illustrative example from Czech agriculture

There are numerous definitional and statistical problems with the data on farm labour in the transition countries. In general, measuring effective labour use in agriculture is a difficult task, even in developed and stable market economies. Concepts such as "full-time farmer equivalent" have been developed in many OECD countries to provide a consistent measure and to overcome potential bias due to structural differences between countries and sectors. Most transition countries do not yet use such concepts in measuring labour in agriculture, making comparisons and analysis difficult. There are two main aspects of the problem of analysing agricultural labour indicators of transition countries:

- First, statistical indicators do not capture adequately the effects of the farm restructuring process. Conclusions relating to the changes in agricultural employment during transition may be biased for a number of reasons. For example, most transition countries did not include labour input on household plots and small private farms in the early years of transition and some countries still do not. Hence a shift of labour input from former collective and state farms to small private farms and household plots may have been reflected in the statistics as a decline in agricultural labour. Similar effects may have resulted from the separation of non-agricultural activities from farming enterprises (see previous section);
- Second, because of differences in the speed of farm restructuring and the capacity of the statistical agencies to track such changes, comparison of labour adjustments across countries may be biased. Some countries, such as Slovenia where private and part-time small-scale farming existed for a long time, may have much better indicators of labour use than countries in which family farming has just emerged. Hence, with measurement problems differing between countries, labour statistics may reflect differences in structural changes rather than differences in labour adjustment.

Given *these important statistical problems, what can be said confidently about the labour adjustment patterns?* The conclusions appear roughly the same as in the case of statistical biases in output measurements: while the strong patterns that emerge from the data may be due partly to statistical shortcomings (e.g. Macours and Swinnen, 1997) they also reflect important real effects. Case studies for countries where detailed statistics are available indicate that the broad patterns identified in the previous discussion are at most only partially due to statistical bias, and are robust enough to reflect real changes.

For example, in the Czech Republic, the number of farm workers declined from 533 000 (of which 150 000 in non-agricultural activities) in 1989 to 201 000 (of which 30 000 in non-agricultural activities) in 1997. The total decline in farm workers is 322 000 of which 120 000 (approximately 30 per cent) is due to separation of non-agricultural activities from farms – which could be thought of as mostly a "statistical effect". The "real" adjustment occurred as follows: about half of the 212 000 farm workers involved in agricultural activities retired; about 45 per cent transferred to other sectors (with 75 per cent of these to urban areas and 25 per cent remaining in rural areas), and about 5 per cent became unemployed. The adjustments in Slovakia reflect the same order of magnitude although a larger share of workers became unemployed (about 10-12 per cent).

In terms of separating statistical effects from real developments, it is important to notice that in this case the "statistical adjustment" occurred initially (1990-1992) while the real effect developed continuously over the 1990-1997 period. However, in many transition countries statistical approaches have now been adjusted to account to some extent for these biases.

After 1989 many of these activities were separated from the farms into independent businesses, contributing to a fall in officially recorded "agricultural labour" (see Table I.2.1 and Box I.2.1).

… but part-time farming and non-agricultural activities have grown on small farms

While labour allocation to non-agricultural activities has decreased on large-scale farms with the spinning off of these activities during the reforms, part-time farming and non-agricultural activities appear to have grown in importance for small-scale farms. For example, Poland and Slovenia – the two countries with a dominance of small-scale private agriculture under the communist regime – have a large share of part-time farmers. In 1996, farming in Poland was the main source of income for only 38 per cent of agricultural families. For the other farm families the main source of income was off-farm employment (22 per cent) and social benefits (21 per cent) (GUS, 1997).

In some countries remittance payments from emigrants are an important income source for rural households

In Albania, which is now also dominated by small-scale private agriculture, non-agricultural incomes are very important and include mainly service activities and remittance payments to rural households from post-1991 emigrants, mostly working in Greece and Italy. Remittance payments are also important in other countries, especially in regions close to the EU that allow for daily or weekly commuting. For example, a considerable number of migrants and commuters from Poland, Czech Republic, Hungary and Slovakia work in construction and services in west European countries.

In most CEECs up to 20 per cent of family farms have off-farm activities

Rough estimates suggest that in most CEECs up to 20 per cent of family farms have off-farm activities. However the share is considerably higher in some countries, such as Slovenia and Poland. Similarly the share of off-farm income in total farm household incomes varies but can be more than half in some regions. In this case, it concerns mostly households where one partner has a full-time job in industry, construction or services and this income is complemented by farming activities, often for household use only.

Driving forces behind the changes

The impact of the macroeconomic and structural reforms on labour adjustment in agriculture depends on:

- how the reforms affect the demand for labour in agriculture;
- how they affect the opportunity costs for farm labour, including the demand for labour outside agriculture and access to social benefits;
- and how difficult it is for farm labour to move to other sectors (either rural or urban).

Price and trade liberalisation

In most countries demand for farm labour declined following price and trade liberalisation…

In many transition countries demand for farm labour declined following price and trade liberalisation, cuts on subsidies to agriculture, and the consequent decline in relative profitability of agriculture. Among countries moving from a socialist to a market oriented economy only a few countries, such as China and Albania, experienced improving terms of trade for agriculture following liberalisation. In all other transition countries output prices declined *vis-à-vis* input prices, causing a decline in demand for agricultural inputs. Also in Brazil, economic liberalisation and cuts on agricultural subsidies induced a strong reduction in agricultural labour use over the last decade (Box I.2.2).

… but in some countries farm labour became much cheaper relative to other inputs inducing more labour intensive technologies and contributing to a rise in farm employment

However, the impact of liberalisation on labour adjustment in agriculture depends not only on how output prices changed *vis-à-vis* average input prices, but also on how the reforms affected the opportunity costs for farm labour relative to the cost of other inputs. In general, labour became cheaper relative to other inputs, inducing substitution of labour for other factors in agriculture. For example, between 1989 and 1994, agricultural wages relative to the price of other inputs declined in all CEECs, but considerably more in Romania (–82 per cent), Poland (–60 per cent) and Bulgaria (–46 per cent) than in the Czech Republic (–34 per cent), Slovakia (–34 per cent) or Hungary (–18 per cent) (Macours and Swinnen, 1998). Hence one should expect that there was

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Box I.2.2. **Brazil**

Labour adjustments in Brazilian agriculture over the last decade have been dramatic. The share of agriculture in total employment decreased from 44 per cent in 1985 to 26 per cent in 1995.

This labour adjustment followed major government policy reforms after 1985. International trade agreements reduced trade interventions and macroeconomic reforms led to a severe cut in government subsidies for agriculture. For example, cuts on agricultural credit subsidies led to a substantial fall in the total amount of credits channelled to rural areas in support of agricultural policies from US$31.8 billion in 1987 to US$8.9 billion in 1995.

The change in government policies caused a decline in the relative profitability of agriculture. Together with a growing demand for labour in expanding sectors in the rest of the economy it induced a major labour flow from agriculture to other sectors. Moreover, the share of those employed full-time in agriculture fell from 79 per cent to 56 per cent over the same period. The remaining 44 per cent work only part-time in agriculture, having additional jobs in the service sector or in industry. The farm structure changed relatively little with the share of small and large farms in land use and in agricultural employment remaining virtually unchanged.

One of the main impediments to further structural adjustment and growth in rural non-agricultural activities is the low level of education of the rural population. The level of rural education in Brazil is extremely low, even compared to other Latin American countries.

an important incentive to apply more labour intensive farming technologies, especially in the first group of countries.

Food security, access to land, and subsistence farming

In several transition countries subsistence farming became the way to…

In several transition countries where the social welfare systems were not well developed, access to land and the possibility of ensuring food security at the household level made farming a way to survive. This limited the outflow of labour out of agriculture or, in some cases, even induced an inflow of labour. This occurred in Romania, Albania, Lithuania, Kyrgyzstan and Mongolia. The most extreme example was Armenia, where, during the war, the possibility of ensuring household food security after the distribution of land induced a massive inflow of labour: the labour force in agriculture increased by 80 per cent between 1990 and 1993.

… improve food security at the household level…

When unemployment benefits are low, the unemployed in rural and urban areas quite often find their income insufficient to sustain a reasonable standard of living and are therefore forced to engage in subsistence farming to improve their food security. Similarly, the growth of part-time farming without additional employment reflects this driving force. In Romania, the group of part-time farmers with no second job makes up almost 25 per cent of the agricultural labour force. Many of these farmers are elderly and the average age of this group is 60 years. In other transition countries, rural pensioners continue or take up part-time farming to complement their pension.

… but this depends on access to land

A precondition for taking up farming for food security reasons is access to land. The extent to which land is available depends on the way in which the land reforms have been executed. For instance, restitution in Bulgaria gave many (semi-) urban households access to land and thereby provided them with the possibility of food production. In Romania and Albania where the share of rural population is much larger, rural households

acquired access to land through land reforms, which contributed significantly to their food security during transition. In Russia and the other NIS, countries where large-scale farms still use most of the land, households of farm workers have access to small plots of land and gardens to contribute to their food security. Also a large percentage of urban households traditionally have access to small plots of land which provide them with the possibility to produce food for household use. It is estimated that in Russia in 1998 more than 44 million families owned 8.4 million hectares of land for small-scale farming and gardening. This means that on average every household in Russia has an access to a piece of land securing basic food products, providing supplementary income and/or treated as a place for recreation.

Farm restructuring

Farm restructuring resulted…

The fall in agricultural labour is strongest in such countries as Hungary, Estonia, the Czech Republic and Slovakia, which are characterised by a continued domination of large-scale farms, and much weaker in Poland and Slovenia, which are dominated by small-scale family farming. However, there is no simple relationship between farm structures and labour adjustment. For example, large farms dominate in Slovakia and Russia, but each has experienced a very different labour adjustment pattern.

… in substantial cuts in labour inputs on well-managed large farms but much less on individual farms

Those large farms that are sufficiently independent and restructured have, by laying off workers, been able to cut their labour input more effectively than individual farms. Such cuts have taken place on the majority of large farms in Hungary, Estonia, the Czech Republic and Slovakia. On the contrary, reductions of labour input, if any, on individual farms have been mostly through part-time shifts to non-agricultural activities. One possible explanation is that since marginal labour productivity is probably higher in individual farms due to better labour governance than on large-scale farms, the incentive to replace labour by other inputs is weaker. Further, individual farm labour is part of the family and family labour mobility is typically lower. Also within countries a similar divergence in labour adjustments can be observed. For example, reductions in labour input in Poland are much stronger in western regions where large-scale farms have laid off surplus workers than in eastern regions where family farms have absorbed inflows of family labour on small farms.

Superficial changes on large farms in some countries have produced weak adjustments in labour use

It should be emphasised that in those countries where land reforms and farm restructuring have had less impact on the farm management, adjustments in labour use have been much weaker. For example, despite some downsizing in restructured farms, internal reorganisation has not produced substantial changes in countries such as Russia and Ukraine, and the collective framework has preserved most of its traditional functions (Lerman and Csaki, 1997; Sedik, 1997). In these countries changes on large farms have been mostly superficial. Farm managers continue to be committed to a lifetime employment policy for their workers which results in growing disguised unemployment on their farms.

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Imbalance in labour skills

Economic growth in several countries induced demand for labour…

Incentives to leave agriculture are affected by the ability of farm labour to adapt to non-farm activities, and by the costs of intersectoral mobility. While most transition countries saw their economies shrinking during the first part of transition, several countries have witnessed growth in recent years, inducing increased demand for labour. However, such demand has been in most cases met by the supply from non-agricultural sectors of the economy. The most striking example is Poland (Box I.2.3).

… but the response of farm labour depends on skills, age structure and intersectoral mobility costs

In general, the response of farm labour to new opportunities has been impeded by the existing discrepancy between requirements on the labour market and the structure of agricultural labour offered, but it differs across countries and various segments of agricultural labour. A large part of those most skilled and dynamic have left agriculture during the transition for jobs in other sectors, both in rural and urban regions. Those left in agriculture are usually less educated, typically older workers with relatively few skills to offer outside agriculture. The share of older people in agriculture is especially large in countries such as Romania, where small scale farming became an essential element of the social security system for elderly people (see above).

Intersectoral mobility costs

Farm labour mobility to other sectors has been impeded by…

Mobility to other sectors has been impeded by a combination of poor physical and educational infrastructure, housing problems, and, in some cases, government-imposed costs or administrative restrictions.

… poor physical infrastructure…

Poor infrastructure, such as roads and transport facilities, is a key constraint in an accessing other employment opportunities. In such cases, the geography of the country and the regional concentration of the industry will have an important impact on labour mobility. Mobility costs are particularly high when non-agricultural employment opportunities are located in distant geographical locations and physical infrastructure is poor. Moreover, limited access to housing at reasonable prices makes labour less mobile.

… insufficient educational facilities…

Education is also an infrastructural constraint. The absence of retraining or vocational training programmes reduces opportunities for people with low (or not demanded) skills to move to other job opportunities (Box I.2.3). This constraint is important since in the pre-reform period agriculture was an important employer of economic groups with low skills and with limited chances of finding jobs outside of agriculture. These workers in particular have insufficient qualifications for other jobs if laid off from agriculture.

… and, in some countries, Government restrictions on labour movements to urban areas

Government restrictions impede labour adjustment in, for example, Belarus where there are high registration fees for people moving to urban areas. Government regulations also had a very important impact on labour adjustment in the Chinese transition, where rural people were prohibited access to urban food subsidies, social security benefits, and housing (Box I.2.4).

Box I.2.3. Poland

Poland registered a high rate of economic growth between 1993 and 1998 at about 6 per cent per year. Due to emerging new employment opportunities the rate of unemployment fell from 16.4 per cent at the end of 1993 to 10.4 per cent at the end of 1998. However, the number of employed in agriculture remained high at almost 4 million; the share of employment in agriculture in total employment was almost unchanged at 25-27 per cent; and the rate of unemployment in rural areas remained high at up to 20 per cent in some rural voivodships (regions), higher than in urbanised areas. In addition, hidden unemployment in agriculture is estimated at about 0.6-0.8 million people. One of the main reasons for this situation is the low level of education of farm labour not meeting requirements of labour markets.

Box Table I.2.1. **The level of education in Poland: individual farmers and other economically active population**
(1996, population over 15)

Level of education	Individual farmers %	Other economically active population %
University	2.6	11.6
Secondary: grammar and technical schools	17.2	36.2
Secondary: vocational schools	30.5	35.7
Basic (8 years) and not completed vocational	49.7	16.5
Total	100.0	100.0

Source: GUS (1997b); GUS (1999*a*).

Basic education for all pupils aged up to 15 is available relatively easily in rural areas in Poland. Problems begin with secondary education when pupils must travel to grammar, technical or vocational schools. Instruction costs are covered by the state, but families must pay for travel, and often also for accommodation if distance and underdeveloped public transportation do not allow for daily commuting from rural areas. This imposes an additional burden on the rural population and contributes to a significant reduction in the number of pupils who continue their education beyond the age of 15. As a result, about half of individual farmers in Poland have no secondary education. Moreover, among those who continue their education at the secondary level, agricultural vocational schools are the most common choice. Traditionally, they tend to be the closest and most accessible, but their curricula is still concentrated on agricultural production techniques, not providing sufficient instruction in marketing, business management, accounting, law, computer skills or foreign languages. As a result, the graduates are not well prepared to cope with the evolving agricultural market environment or to move to other job opportunities.

Only 2.6 per cent of individual farmers have a university level education, compared to 11.6 per cent for other sectors of the economy. Moreover, there are no prospects to improve this imbalance in the near future as only 2 per cent of students currently enrolled at universities come from rural areas inhabited by 38 per cent of the total population. The importance of education on the labour markets is also highlighted by the fact that the rate of unemployment among those with university education is much lower than among those with only basic education. At the end of 1998, the rates were at 3 per cent and 14.4 per cent, respectively.

Source: EC (1998) and GUS (1999*b*).

Buffer role of agriculture

In several countries agriculture provided some employment, food and income to the vulnerable groups of society

In several transition countries agriculture has played a so-called "buffer role", by providing some employment, food and income to vulnerable groups in society. Although a decline in profitability following liberalisation reduced the demand for farm labour, the poor performance of an economy makes off-farm job opportunities scarce.

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Box I.2.4. **China**

Until 1986 it was impossible for rural people to become registered as urban citizens. This meant that rural people were denied access to food subsidies, social security benefits, and housing. These benefits were restricted to urban people through the household registration (hukou) system. Leaving agriculture and moving to urban areas (where there might have been other job opportunities) therefore implied a considerable risk. The land allocation system on the other hand guaranteed a basic source of income and food to rural households and thus served as a social safety net in the absence of other collective or state support. The opportunity cost in terms of food and social security of leaving the rural areas was high, which constrained the flow of labour out of agriculture.

Labour outflow from Chinese agriculture grew rapidly after 1984 as non-agricultural employment opportunities in the rural areas developed through the establishment of township and village enterprises (TVEs). These TVEs offered an activity with higher economic returns than agriculture and at the same time allowed their workers to keep a plot of farmland to ensure an adequate and stable food supply and as an insurance against unemployment. As a result, the share of rural labour engaged in non-agricultural industries increased from 9 per cent in 1983 to 29 per cent in 1997 (Zhonghai, 1998).

Further, migration of the agricultural unemployed is inhibited by high transport costs, the lack of qualifications of the rural population for jobs outside of agriculture, high housing costs in urban areas, and high unemployment rates in urban areas.

But this "buffer role" of agriculture varies between countries and depends on the structure of the economy, the type of farm restructuring process and the social security system…

The extent to which agriculture played such a "buffer role" differs strongly between transition countries, depending on the structure of the economy, the type of farm restructuring process and the social security system. As discussed above, this role was particularly important in such countries as Romania, Albania, Bulgaria, Lithuania and Latvia where agriculture absorbed part of the labour released by other sectors of the economy. This has been observed in regions of other countries, such as the eastern areas of Poland. In the NIS countries, farm employment changed relatively little with the farming sector bearing most of the economic and social costs of keeping large numbers of workers and providing their families with the basic social and technical infrastructure. One of the most important determinants of whether farm households continue in, or take up, subsistence farming is the extent to which retirement and unemployment benefits meet the cost of living. In Romania, for example, pensions have been falling faster than wages, making it necessary for households to complement their retirement benefits with incomes from household plots or small farm activities. In contrast, in Hungary, a country characterised by a strong outflow of labour from agriculture, generous early retirement schemes encouraged older workers to leave the pay-roll of farms. In some countries, such as the Czech Republic, large-farm restructuring preceded enterprise restructuring in other sectors of the economy, which eased outflow of labour from agriculture. However, delayed restructuring of the non-agricultural enterprises combined with cuts on redundant labour may put agriculture under pressure to absorb part of the labour or, at least, slow down further rationalisation of labour input on large farms.

… and may have negative consequences for rural areas

In general, the buffer role of agriculture temporarily diminishes social problems in urban areas by easing access to basic necessities for a

large part of the society, but in the longer run impedes farm restructuring, preserves subsistence farming, and causes substantial hidden unemployment in rural areas.

Box I.2.5. **New Zealand**

In mid-1984 New Zealand launched a wide-ranging economic reform programme, with agricultural policy reform as a major element, which in its speed and extent was at that time unprecedented in any OECD country. Government assistance to agriculture was virtually abolished and since then the sector has been fully exposed to world market signals. New Zealand stands out as the OECD country with the lowest level of support provided for the agricultural sector.

Agriculture has experienced a difficult period of adjustment since mid-1984. The problems were exacerbated by low international prices for some agricultural products during the middle and late 1980s, increasing interest rates, slow pace of reform in the manufacturing sector making inputs more expensive, and the real appreciation of the New Zealand dollar undermining profitability of the export oriented agricultural sector. However, after the first three difficult years the rural population and farm households have adapted remarkably well to the dramatic changes and the capacity of the agricultural sector to adjust to a new policy environment has been greater than originally anticipated. Fears of rural collapse never materialised. There have been shifts in the composition of agricultural employment within the sector but it has not caused an exodus from agriculture. The number of agricultural holdings even increased and the share of agriculture in total employment fell only slightly from 11.4 per cent between 1980-1984 to 9.1 per cent in 1996, much less than in many other OECD countries not undergoing such sweeping reforms. Sub-sectors that were highly protected prior to economic reforms had to rationalise, while sub-sectors with previously low levels of assistance are maintaining or expanding their operations. Both agriculture and the rural economy have become more diversified, efficient and competitive.

The focus of successive governments' policies is on establishing the policy framework and economic climate to encourage private sector and community initiatives. The centre of attention in rural areas is on self-help, but several policy measures are in place aiming at overcoming specific rural impediments and at ensuring adequate access to basic services by rural people, in particular education and social services.

Source: OECD 1998; OECD 1994.

Conclusions

Adjustments in agricultural and rural labour markets are essential to improve labour productivity in agriculture and standards of living in rural areas

Adjustments in the agricultural and rural labour markets are at the core of problems related to farmers' incomes, labour productivity in agriculture, restructuring of farms, and problems of unemployment and welfare in rural areas. Surplus labour in agriculture impedes necessary structural adjustment and compounds the problems of low incomes and disguised unemployment in rural areas. Furthermore, it increases the political pressure on governments to address the symptoms of the structural problems through subsidies and market distorting interventions.

Government policy that concentrates on removing constraints impeding the flow of labour from agriculture to more rewarding activities and…

Several factors have been identified which constrain the flow of labour from agriculture into activities with higher value added, and thus the growth of incomes, employment, and welfare in rural areas. The basic need is to develop a policy strategy targeted at removing these constraints. Such a strategy would include: general economic liberalisation and reforms, investments in rural infrastructure and education, and the stimulation of rural non-farming activities/ enterprises. Overall liberalisation not only stimulates growth and

inflows of FDI, it also lowers intersectoral mobility costs and is conducive to necessary labour adjustments in agriculture. The more liberalised the economy, the less rigid the different production factors are likely to be and the greater the scope for allocating them to their most efficient use (Box I.2.5). Lowering intersectoral mobility costs, by improving availability of education and training and by lowering physical mobility costs, is a key condition for improved access by the rural workforce to employment in the rest of the economy, and for rural development.

… on the creation of non-agricultural employment opportunities in rural areas would facilitate the desired adjustments

A rural development strategy to create non-agricultural rural employment could contain various components. One might be labour market policies including both active labour policies such as vocational retraining programmes, and long-term investments in all levels of education. This would help to ensure that the skills learned are those that are demanded by potential employers in non-agricultural sectors. Stimulating private sector investments in rural areas, both by local inhabitants and originating from outside, is also important for the creation of non-agricultural employment in rural areas. Government programmes could focus on improving access to credit for starting up viable non-agricultural small and medium enterprises and on improving the infrastructure necessary to stimulate private sector development. This could include investment in roads, water supply, waste water treatment and modern communications facilities. The strategy might also include the retraining of local administrators, provision of local communities with a proper tax base, decentralisation of the decision making process, and the creation of a transparent institutional framework with clearly identified responsibilities for rural development policies.

3. Agricultural land reform and the development of farmland markets

Introduction

Land policies are among the basic determinants of how society is organised. They are guided by economic and social objectives on which there is only limited consensus and are subject to a large number of constraints (historical, economic, political, social and institutional) that vary from one country to the next.

Land reforms can have significant effects on farm structures and economic efficiency in all countries

The purpose of this chapter is to examine the recent record of land reform in the transition economies of central and eastern Europe and the Newly Independent States, and to compare this with experiences in the emerging economies of Brazil, China and India. The focus is on the effects that land reform programmes have had on farm structures and economic efficiency. In principle, an appropriate designation of land rights can improve efficiency both directly, by increasing farmers' incentives to invest in the land, and indirectly, by facilitating the emergence of more efficient structures. Successful land reform initiatives share some common attributes, despite national differences in objectives and constraints.

The record of land reform

A categorisation of property rights

Land rights fall into the broader category of property rights

Land rights fall into the broader category of property rights and can be defined according to the following groups of characteristics: *i)* exclusivity; *ii)* inheritability; *iii)* transferability; and iv) the effectiveness with which regulations governing *i)*; *ii)* and *iii)* are enforced.[3] A few examples illustrate how limitations on each of the above circumscribe land rights.

Exclusivity. In parts of southern India, the right to grow a crop on a given area may belong to an individual, but after harvest the community as a whole may have the right to graze its livestock on the post-harvest residue. In many countries, the public is afforded some access to agricultural land. Perhaps the biggest limit to exclusivity in transition economies is unresolved disputes on the boundaries of land ownership.

Inheritability. Inheritance laws exert an important influence on land structures by influencing whether farmers sell their land on retirement or bequeath it to their offspring. Countries with strict inheritance laws are often characterised by relatively fragmented land ownership.

Transferability. This refers to the right to reallocate land, be it through sales, leases or administrative fiat. In China, land rights are granted to the provincial community. The community can reallocate land from one household to the next, but cannot reallocate outside the community. In transition countries, land fragmentation is widespread and the practical difficulties of consolidating plots into economically viable units means that transferability is often circumscribed in practice.

Enforcement. For land rights to be economically meaningful, it is important that the law is both well defined and fully enforced. It is also imperative that landowners and tenants *perceive* that the laws will be enforced. For countries with fledgling institutions, including many transition economies, this credibility takes time to establish.

The rights of landowners can be differentiated from the rights of land users

If land rights are complete, then **ownership** is a more complete concept than use, since full ownership rights entail the right to either use the land or contract out its use to another party. The landowner with the full complement of rights has an exclusive right to the land, which can be bequeathed to the next generation and can also be sold without restriction. If the landowner leases his land to another party, he receives an income stream (rent), in return for which he forfeits his right to derive income from the land. The tenant's rights, governed principally by the contract, guarantee a period of exclusive access to the land for the purpose of deriving income. At the end of the lease, all rights revert to the owner.

In practice, there is a huge grey area, and it is not clear that land-users necessarily enjoy fewer rights than landowners. In China, there is no private ownership of land. However, there is a hierarchy of rights under which village leaders are granted rights to allocate land among households. In many cases, households have enough faith in their exclusive access to the land, and in the possibility of bequeathing such access to the next generation, that they are prepared to invest in the land. By contrast, although land is privately

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owned in most transition countries it is often fragmented. Moreover, land markets are underdeveloped and usually governed by short-term leases. Given the difficulty of consolidating the land into economically viable plots, the actual rights of landowners, as manifested in their ability to exploit their land for economic purposes, are thus severely restricted.

Land rights can be established at the state, community or individual level

The countries in this study also vary widely in terms of both the extent of land rights and the basic unit to which these rights are granted. Land rights can be asserted at the state, community or individual level. In the case where these rights are not established, the result may be "open access".[4]

State. In both China and the transition countries, the collectivisation process meant that land rights were asserted at the state level. Among the NIS, Kazakhstan, Belarus, Kyrgyzstan, Uzbekistan and Tajikstan have retained predominantly state land ownership.

Communal. Although land policy in China is determined by the central government, the real locus of decisions on land use is the village, with village leaders granted legal authority over land rights.[5]

Private. Most transition economies have opted for predominantly private land ownership, as have India and Brazil. In some cases, the *type* of land that can be owned privately is restricted (*e.g.* in Belarus and Kazakhstan, where private ownership is limited to household plots).

Open access. Open access to land is associated with an absence of exclusivity. In the context of transition economies, the process of land restitution or reallocation is in many cases incomplete, or has not been resolved unambiguously. Whilst current occupants may assert their land rights, their claims may not be acknowledged by the government. Moreover, other groups or individuals may also lodge claims for the same land. In Brazil, a large amount of forest land has been cleared for agricultural purposes. Some of this activity was undertaken illegally. In each case, the absence of exclusivity has reduced the incentives for investment in the land.

To summarise, land rights accrue to both the owners of land and its users. The two groups may or may not coincide. The system of rights can be structured with varying degrees of decentralisation. Whatever the level at which land rights operate, the government may impose restrictions on the extent of these rights by limiting the degree of exclusivity, inheritability or transferability. They may also inhibit these rights by failing to provide adequate enforcement mechanisms. The system breaks down when the government fails to establish who has what rights to a given piece of land, or is unwilling or unable to enforce the law (historically, this has been a problem in India and Brazil). Informal or ambiguous structures of land tenure, by limiting the effective land rights of operators, may impede development of the land market and undermine investment.

How changes in government policy affect land markets

The organisation and use of land depend on a number of factors. One of these is the system of land rights. Other policies not directly related to land rights may nevertheless affect the system of land

tenure, while broader economic developments, not necessarily under the control of government, may also be important. Each type of effect is described below.

- Direct policy effects

Land reforms entail a reallocation of land and a re-specification of the laws governing land rights…

Land reform initiatives, such as the land restitution and land reallocation processes undertaken in transition economies, typically target the system of land rights directly. Privatisation of land, for example, confers property rights on those who obtain the land through the privatisation process. These rights may be limited, for example by inheritance laws or by rules governing the transfer of rights through sale or lease agreements. For each of the countries considered in this study, the underlying aim of land reform programmes has been some combination of a distributional objective (such as greater equity or "historical justice") and improved efficiency. The latter objective is targeted indirectly, by increasing farmers' incentives to invest in land-using activities and by reorganising farm and land structures. The actual administration of these programmes, however, does not always match up to these goals.

… but sometimes these rights are not fully enforced

In the first place, property rights may not be fully enforced because of inadequate administrative and legal procedures. Limitations in these areas may impede the process of registering land, issuing titles, determining boundaries and settling disputes. Continued uncertainty over land rights, with backlogs of claims and legal disputes, is a feature in a number of CEECs (*e.g.* Bulgaria). In other cases, the enforcement of property rights may be absent or discretionary (as in parts of the Amazon region of Brazil). Also within this category, there may be a lack of trust in government. If the owners or users of land feel that the land may be appropriated by the government (say for infrastructure projects), or that a change in government might signal a change in their rights, then the effect is to undermine the system of land rights. For example, transferability of land rights may be impeded in an uncertain political climate, if the risks of buying future land rights, or entering long-term contracts, are deemed too high.

In the extreme, the state may prohibit land transactions altogether

Second, the state may prohibit land transactions. In China, there is no private land ownership, so if a household moves to find employment elsewhere, it can neither sell nor lease its land. Rather, the village leaders are charged with reallocating the land to another household. Moreover, the incoming household may not have full rights to the use of this land if the outgoing household has the option of return (as is sometimes the case). A household that has some scope for leaving the agricultural sector is therefore likely to under-invest in the land, as is a household that is allocated land left by another household.

The economic meaning of legally conferred land rights may be limited by discriminatory land policies…

Finally, the government may operate policies that discriminate against some landowners or land-users. In China, India and Brazil, the government is anxious to contain the growth of large cities. Accordingly these countries maintain policies that attempt to foster the development of land outside urban areas. This may have a positive effect on the value of agricultural land. At the same time, restrictions in peri-urban areas may diminish the rights of farmers in these

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areas to transfer their land at a profit. Moreover, restrictions are placed on what holders of agricultural land can do. For example, they may not be permitted to construct new buildings. However, the most important form of discrimination between agricultural and non-agricultural land (be that positive or negative) is through market policies. These are discussed below.

… including rent controls and land taxes

Discriminatory land policies include land taxes and rent controls that are applied strategically. In the case of Brazil, taxes that increase with acreage and decrease with farm productivity have been used to deter the purchase of land for speculative reasons. The broader aim is to reverse the consolidation of land ownership (which is more concentrated in Brazil than in the other countries considered in this study).

- Indirect policy effects

Market policies affect the economic significance of legal land rights…

Market policies have a fundamental effect on the economic significance of land rights. Distortions in agriculture's terms of trade are reflected in land values. Thus, if agriculture is subsidised (taxed) then the price of agricultural land is effectively subsidised (taxed) as well. The strength of land rights becomes academic when agricultural markets are so weak that nobody wishes to buy or lease land. This qualifies as an "indirect policy effect" to the extent that sectoral circumstances are under policy-makers' control.

… as do credit policies

Credit policies have a similar effect on land markets. Cheap agricultural credit effectively subsidises the price of agricultural land. On the other hand, a deficient supply of finance (a common problem in transition economies) may impede land market development. One particular problem in this case is that the people with access to finance may not be the most efficient farmers. A further problem is that borrowers tend to know more about the quality of their land than lenders. Such "asymmetric information" tends to raise the price of credit in the absence of government intervention. The government can improve the functioning of the credit market (and hence the land market) through laws governing the enforcement of collateral provisions. This should reduce the incentive for landowners to overstate the quality of their land.

- Other non-policy effects

Local customs may also affect the economic meaning of changes in legal provisions

In many cases, notably in the transition economies, there have been sweeping reforms of the land tenure system. Although there may be indirect constraints on the exercise of land rights, for example through market policies, policies alone may not be enough to explain underdevelopment of land markets. Cultural determinants of peoples' attitudes to land ownership may be difficult to change. For example, in an uncertain political or economic environment, land's importance as a store of value may make people reluctant to sell irrespective of the market price. Local customs, particularly with respect to inheritance, may also account partially for the structure of land ownership.

To what extent have property rights over land changed with policy liberalisation? It is beyond the scope of this chapter to provide a comprehensive assessment of how far property rights have devel-

oped in each country covered by this study, or of the extent to which each of the factors described above may have been responsible. Nevertheless, the next section chronicles a few of the major changes in the land policies and tracks some of the implications for the extent of effective land rights.

Land policy developments

The general policy trend has been towards stronger individual land rights

Earlier agrarian initiatives in China, the Soviet Union and other command economies were based on the concept of collective, as opposed to individual, property rights. The reform processes considered in this paper are essentially reversals of these measures. Elsewhere, the concept of private ownership was never fully relinquished. Although land policies still differ substantially from country to country, the general trend is towards stronger individual land rights, even in cases where private ownership is precluded by law.

- CEECs and the NIS

Following the Bolshevik Revolution of October 1917, all agricultural land in Russia was nationalised. Although state ownership of land was proclaimed from the outset, peasants continued to assert their customary individual use rights for over 10 years. The process of collectivisation in the Soviet Union began in earnest in 1928-29 with the imposition of central economic control. By 1937 the process was essentially complete, with over 80 per cent of peasant households consolidated into collective farms, which on average comprised 76 households and farmed 1 534 hectares of land. An amalgamation drive in 1950-51 consolidated an estimated 254 000 farms into 97 000, resulting in an average farm size of around 4 000 hectares.

Land in the Baltic States and in the western parts of Ukraine was nationalised when these regions were incorporated into the Soviet Union at the time of the Second World War. Soviet principles also extended to the countries of central and eastern Europe. Albania nationalised all agricultural land when its constitution was revised in 1952. The influence of collectivisation was strong throughout, but showed some variation, with the deviation from the Soviet model being perhaps strongest in Poland and Yugoslavia. A crucial difference between the CEECs and the NIS was that some degree of private ownership was permitted in the former. All collectively farmed land in Bulgaria, nearly all in Czechoslovakia and about one-third in Hungary remained, informally at least, privately, owned. Individuals entering co-operatives and collectives in the 1950s retained ownership of their land which, however nominal, was recorded in the co-operative's books.

In general, the CEECs chose to restitute land to former owners, while the NIS distributed land equally among workers and retirees

The crucial difference between the CEECs and the NIS was that the former opted for restitution to former owners based on historic boundaries, with some form of compensation (in the form of land, vouchers or cash) if this was not possible in terms. This was never an option in the NIS, since land ownership in Imperial Russia was extremely limited. The process of decollectivisation therefore had to occur through the distribution of land. The general principle was one of equal allocation among workers and retirees, with non-land

Table I.3.1. **Agricultural land privatisation in CEECs and the NIS: restitution and distribution**

	Restitution of historic boundaries?	Private or public ownership of land	Transferability of use rights?	Share of land cultivated individually[3] (% in 1996)
Poland	No[1]	Private	Yes	82
Hungary	No (vouchers)	Private	Yes	54
Czech Republic	Yes	Private	Yes	23
Slovak Republic	Yes	Private	Yes	5
Slovenia	No[1]	Private	Yes	96
Croatia	No[1]	Private	Yes	82
Bulgaria	Yes	Private	Yes	52
Romania	Yes	Private	Yes	67
Albania	No	Private	Yes	80
Estonia	Yes	Private	Yes	63
Latvia	Yes	Private	Yes	67
Lithuania	Yes	Private	Yes	95
Russia	No	Private	Yes	11
Ukraine	No	Private	Yes	17
Moldova	No	Private	Yes	16
Belarus	No	Limited private[2]	Yes	12
Armenia	No	Private	Yes	31
Georgia	No	Private	Yes	23
Azerbaijan	No	Private	Yes	6
Kazakhstan	No	Limited private[2]	Yes	13
Kyrgyzstan	No	Public	Yes	25
Turkmenistan	No	Private	No	< 1
Uzbekistan	No	Public	No	4
Tajikistan	No	Public	No	4

1. Poland and Yugoslavia had predominantly private ownership prior to 1990.
2. Private ownership is limited to household plots only, with land for commercial farming state-owned.
3. Individual cultivation covers land not farmed by corporations, co-operatives or the state.

Sources: OECD, Eurostat, EU Commission (1998), CIS (1998), Lerman et al. (1998).

assets allocated on the basis of service or total earnings. The process of restitution and distribution is described in more detail in the 1996 issue *of Agricultural Policies, Market and Trade in Transition Economies: Monitoring and Evaluation.*[6]

The results of the restitution and distribution of land in CEECS and NIS are summarised in Table I.3.1. This table shows the legal changes made since the break-up of the Soviet Union and the extent of decollectivisation. The degree of decollectivisation often differs substantially from the extent of private ownership. For example, just 11 per cent of the land in Russia is operated by individual households (either in the form of small household plots or more commercially oriented family farms), even though about 60 per cent of the land is considered to be privately owned. The economic effects of these changes are taken up in subsequent sections.

- China

Current land policy in China has its origins in market reforms introduced in the late 1970s

In 1949, China undertook what was then the largest land reform in history. All the agricultural land was distributed equally, with the consequence that the feudal structure of land tenure was replaced by a peasant economy with small-scale private ownership. All holdings were collectivised in 1956, with disastrous consequences. The destruction of the family farms created by the earlier reforms led to one of the world's worst famines (1959-62). The watershed for Chinese agricultural policy came in 1978, with the phased introduction of market reforms by the then leader Deng Xiaoping. In particu-

lar, the introduction of the Household Responsibility System in the early 1980s led to fundamental changes in the organisation of agricultural production and the incentives faced by farm households. The key feature of these changes was that land use rights and residual income rights were extended to households. Thus agricultural production shifted from a collective to a family-based farming system. However, ownership remains "collective", and local governments either control or influence household land use and land decisions.

The village is the locus of decisions on land use

Although basic land policy is determined by the central government, the differences in property rights across counties, townships, and villages indicate that the real locus of land-use decision making is the village.[7] In fact, the "Organisation Law of the Village Committee" vests village leaders and government with legal authority over land rights. The transfer of decision-making power from the central to local/village authorities is so extensive that China is arguably now one of Asia's most decentralized countries.[8]

- India

Under colonial rule, India's land policy retained the feudal and semi-feudal characteristics inherited from the Moguls. Land ownership fell into four basic categories: state lands (*Khas* lands); land allocated to big feudal landlords (*Jagirs*, *Inams*); lands given to rent collectors and revenue farmers, known as *Zamindars*; and finally land held and cultivated by peasants.[9] The shares in each of these categories varied from region to region.

The British experimented with various land policy changes, based for example on the pattern of landlordism in England and the system of peasant proprietorship in France, but failed to dismantle the underlying structure of land tenure. This was more because of the implementation of these programmes than their design, with British policy geared more towards maximising rents than promoting agricultural development. Between 1900 and 1945, India's population increased by 38 per cent, the acreage under cultivation increased by 18 per cent, food output remained stationary and the output of commercial crops rose by 59 per cent, leading to an overall increase of 13 per cent in agricultural output. Moreover, whereas India had a food surplus in 1900, by 1945 there was an estimated deficit of 10 million tonnes.[10]

Following independence in 1947, India sought to eliminate the feudal aspects of its land tenure system

When India attained independence in 1947, the semi-feudal structure of land tenure was seen as a major obstacle to economic regeneration. Since then, the key tenets of land reform have been *(1)* the abolition of intermediaries; *(2)* reforms in the structure of tenancy; *(3)* ceilings on land ownership; and – not entirely consistent with *(3)* – *(4)* the consolidation of land holdings.

Although the incoming Congress party had more sympathy with the communist experiments underway in the Soviet Union and China than it did with capitalism, it nevertheless rejected the notion of state farming in favour of individual peasant farming. The first step in its land reform programme was the abolition of *Zamindar* intermediaries. The price of *Zamindar* support during the struggle for independence had been a substantial compensation package. At the

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same time, vast areas of *Khas* lands fell outside the purview of the reforms. Many *Zamindars* were able to exploit legal loopholes and rename large areas *Khas* lands (Jacob, 1991). One hope was that, through these concessions, *Zamindars* would use their compensation to establish commercial self-cultivated farms. However, a major impact was that the abolition of intermediaries took decades to accomplish.

Early legislation to protect tenants' rights backfired, with landowners using both legal and illegal measures to evict tenants. Subsequent legislation has aimed at closing these loopholes. Despite this, tenants have rarely acquired ownership of the land. One problem is that they seldom have the funds to pay for ownership rights. Another is that it is difficult for them to satisfy the provision requiring a specified period of continuous ownership. Landlords often manipulate or fail to maintain records and do not issue rent receipts.

The redistributive goals of Indian land reform have been pursued through legislation limiting the size of agricultural holdings and banning the leasing of land. Yet the former has never been enforced, while the latter has been circumvented by the increased use of share cropping agreements. The Land Ceiling Act, passed in 1972, was intended to increase the utilisation of labour by reducing disparities in the ownership of land. Less than 2 per cent of India's farmland has been declared eligible for reallocation under this act, and less than half this amount has actually been distributed.

A stated objective of Indian land policy is the consolidation of farms into viable economic enterprises. Yet, the fragmentation of agricultural holdings becomes more acute with each succeeding generation, due to customs and inheritance laws under which a holding is divided among family members. Local initiatives have met with some success in northern states, notably Punjab, Haryana, and Western Uttar Pradesh. Virtually no action has been taken in poorer states (Bihar) or those with weak agricultural sectors (Rajastan).

The effectiveness of reform in India has been hampered by shortcomings in the system of official records and by administrative weaknesses

Land reform in India has met with mixed success. On the positive side, agricultural output has at least grown in the period since independence and India has not had a major famine for 50 years. The abolition of the *Zamindars* has allowed nearly 20 million farmers to become owners of the land they cultivate, while laws prohibiting the termination of tenancy have provided greater security to tenant farmers. In addition, rents have fallen from about half the value of output to between one-quarter and one-third. However, reforms have been slow and piecemeal, and this has impeded the development of an efficient agricultural sector. There are still considerable numbers of absentee landlords and many tenants' rights are restricted by the absence of formal records. The difficulties caused by a poor system of official records have been compounded by administrative weaknesses. Some states (*e.g.* Kerala and West Bengal) have enacted land reforms more effectively than others. The determinants of success have been identified by Jacob as "the presence of active political will at the policy-making level resulting in legislation, mass mobilisation of beneficiaries who are made aware of their rights and consequently are able to take advantage of the laws, and committed administrative machinery".[11]

- Brazil

Brazil has never undergone a major redistributive land reform

Brazil differs from the other countries considered in this study in that it has never undergone a major redistributive land reform. Unlike other South American countries, there was no major peasant revolt and the first major land initiative was not introduced until 1964. Even then, this programme could be characterised as more of a market based policy than a land one. Instead of promoting the division of large properties, it accelerated consolidation of land holdings by offering subsidised credit with the amount of credit available to a farmer dependent on the size of his/her farm. Market policies favouring the planting of soyabeans also resulted in bigger farm sizes, because of the abundance of land and relatively low labour-intensity of soyabean production.

The policy of cheap agricultural credit was discontinued in the early 1980s, as government expenditures were curbed in the wake of the regional debt crisis. The absence of support meant that land holdings became further consolidated as unprofitable farm households left the sector. Between 1985 and 1995 the total number of farm households declined by 13 per cent to 4.9 million.

However, the Brazilian government redefined its agrarian agenda in 1985

The general neglect of land policy was redressed in 1985 when the Brazilian government redefined its agrarian agenda. Two major initiatives have been introduced since then, including the special credit programme for agrarian reform (PROCERA) which contains revised legislation on land dispossession and the introduction of a new rural land tax. These programmes, overseen by the National Land Settlement and Reform Agency (INCRA), are described in detail in the Brazil country section of this report.

In summary, the laws governing land tenure vary widely from country to country, as do the ways in which these laws translate into effective property rights over land. Effective rights can be measured according to whether legal entitlements are observed in practice. Legal rights might not be met because their operation does not correspond to the letter of the law. Equally, the issue of land rights becomes (to some extent) academic when the exercising of these rights is circumscribed by economic factors. Some of the structural changes that have accompanied changes in land policy are described in the next section. This gives some insight into the economic impact of changes in land rights, even though there are too many other determinants of land and farm structures for a precise mapping to be established.

Structural changes

In the preceding section, it was pointed out that changes in land policy affect citizens' rights over land. However, the economic meaning of these rights can also be affected by factors not directly related to land policy, making it difficult to know the precise extent to which changes in land rights are attributable to policy reforms. The same reasoning applies in this section. Changes in land rights may lead to the emergence of new structures in agriculture, but so may other economic factors. The following description of changes in agricultural structures should be interpreted with this caveat in mind.

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Terms and definitions

Farms can be categorised according to the unit of management, whether their production is sold or consumed on the farm, and by size

The unit of management of a farm operation may be an individual, a family or household, a firm/corporation, a co-operative or directors appointed by the state. A separate structural distinction can be made between farms that produce exclusively for self-consumption (subsistence farming), those that produce a marketable surplus (semi-subsistence farming); and those that sell all their output (commercial farming). A third criterion of classification is size, in terms of acreage, value of output or some other measure of volume. The economic effect of agricultural policy may vary with each of these criteria.

In a number of countries, definitions are used that combine notions of both the unit of management and scale or economic structure. For example, in CEECs and the NIS, farms where the individual, household or family is the unit of management are broken down into "household plots" and "family" or "peasant" farms. The former refers to a limited parcel of land that is farmed by a household and is not a legal entity (the definitions sometimes specify a maximum acreage), while the latter refers to a larger, more commercially oriented, structure. In the past, the distinction between the two types of farm was readily apparent. However, in economic terms a household that farms a small plot, but sells some of its output, may be similar to a family farm where there is some self consumption (both are "semi-subsistence"). From a policy standpoint it is important to distinguish a household plot with a marketable surplus from one that produces purely for self-consumption.

It can also be difficult to differentiate in economic terms between an enterprise that is managed by an individual or a family/household and one that operates as a firm. Both may respond to market incentives in the same way. Moreover, from a statistical standpoint, subtle legal differences may lead a family farm to be counted as a firm in one country but not in another. In the context of transition countries, farms that are not managed by the state, a co-operative or a corporation are often called "individual". The blurred distinction between family and corporate farms (*e.g.* in Brazil) makes this term less useful outside transition countries.

Among OECD countries, the "household" or "family" is identified as a unit of management that is distinct from other aspects of organisation. The logic for analysing the decisions of the households or families is that they usually pool their incomes and expenses. Neither term carries the assumptions in terms of size or structure that are implied in the CEECs and NIS. In particular a farm operated by a household need not be, indeed usually is not, a small subsistence (or semi-subsistence) farm.[12]

Changes in ownership structures

- CEECs and NIS

State and co-operative farming has become less important in the CEECs and the NIS

A key feature of economic transition in central and eastern Europe has been the declining importance of co-operative and state farming (Table I.3.2). Before 1990, collectives dominated the organisation of land in all CEECs except Poland and then Yugoslavia. In 1998, the Slovak Republic was the only country in which the majority of the

Table I.3.2. **Distribution of farm land by organisational form in CEECs**

	Collective/co-operative farms		State farms		New corporate farms	"Individual" farms	
	Pre-1990	1998	Pre-1990	1998	Current	Pre-1990	1998
Albania	74	–	22	20	–	4	80
Bulgaria	58	42	29	6	–	13	52
Czech Republic	61	43	38	2	32	0	23
Slovak Republic	69	60	26	15	20	5	5
Hungary	80	28	14	4	14	6	54
Poland	4	3	19	7	8	77	82
Romania	59	12	29	21	–	12	67
Estonia	57	–	37	–	37	6	63
Latvia	54	–	41	1	4	5	95
Lithuania	61	–	30	–	33	9	67
Slovenia	–	–	8	4	–	92	96
Croatia	22	18	–	–	–	78	82

Source: EU Commission (1998), OECD.

land was collectively farmed, although collectives remain important in the Czech Republic and Bulgaria.

In most CEECs, the break-up of state and collective farms has been accompanied by an increase in the share of land farmed by individuals or family-households. Individual farming covers a wide range of economic structures, from small household plots to commercially oriented family farms and now dominates in all CEECs except the Czech Republic and the Slovak Republic. In these countries, and also in Hungary, Estonia and Lithuania, a number of state and collective farms have been transformed into commercially oriented corporate farms.

Table I.3.3. **Share of land operated by households (CEECs and NIS) and share of household-based production (NIS only), 1990 and 1996**

CEEC	Individual land		NIS	Individual land		Individual production (% of GAO)	
	1990	1996		1990	1996	1990	1996
Albania	4	100	Armenia	4	31	35	98
Slovenia	92	96	Georgia	7	23	48	76
Croatia	79	82	Ukraine	7	17	27	53
Poland	77	82	Moldova	9	16	18	51
Romania	12	67	Belarus	7	12	25	45
Hungary	6	54	Russia	2	11	24	55
Bulgaria	13	52	Kyrgyzstan	1	25	34	59
Czech Rep.	0	23	Kazakhstan	0.2	13	28	38
Slovakia	5	5	Azerbaijan	3	6	35	63
Latvia	5	95	Tajikistan	2	4	23	39
Lithuania	9	67	Uzbekistan	2	4	28	52
Estonia	6	63	Turkmenistan	0.2	0.3	16	30
Ave CEECs	26	65	Ave NIS	4	14	28	55

Source: EU Commission (1998), OECD, Lerman (1999).

The state is an important landowner in the NIS, but probably accounts for a smaller share of land use than official figures suggest

The state continues to operate, officially at least, much of the land in the NIS. At the same time, individual production dominates in most of these countries, as the data on Table I.3.3 indicate. The available data suggest that individual operations – either in the form of small plots or family farms – are considerably more efficient than existing state farms.

However, data discrepancies, especially the under-reporting of land operated by households, may be an important factor.[13] That part of farming not accounted for by individuals or households, namely state, co-operative and corporate farms, can also vary significantly in structure. In particular, the effective change in management implied by a change to "private" status is difficult to infer. In the NIS, there is evidence that traditional management and organisational structures have remained largely unchanged and that, in contrast with the CEECs, corporate and co-operative farms often face only weak bankruptcy laws and are not fully exposed to the pressure of competition.[14]

Where land has been allocated to individuals or households, the result has been a fundamental shift in the structure of production. The most notable change is that the scale of farm operations has become much smaller. With time, it is likely that some consolidation of household farms will occur. If one household sells to a more efficient neighbour, this may not lead to a change in the share of land farmed by households, but there is nevertheless likely to be a reduction in the number of agricultural households. This trend is already apparent in the CEECs.

- China, India and Brazil

There is no private ownership of land in China, so the owner/tenant distinction becomes redundant. In India, records are poor and incomplete. The gradual dismantling of the feudal aspects of the country's land tenure system means that owner-operated farms are increasingly dominant. In Brazil, all farms are privately owned. In 1995, 70 per cent of all properties were owner operated. This contrasts with a figure of 61 per cent in 1985. The increase reflects the reduced incentive to hold land for speculative reasons only.

Changes in farm sizes

- CEECs and NIS

A dual structure of production exists in the CEECs

A dual structure of agricultural production is evident in the CEECs (Table I.3.4). Small to medium-scale family farms have emerged, but they are the exception rather than the rule. The majority of production is accounted for by either large-scale farms or by individual (in many cases semi-subsistence) households.

But state farms have gotten smaller, while private farms have become larger

In the CEECS, the common feature is that the collective and state farms have got smaller while household farms have become larger.[15] As a general rule, when the restructuring of ownership has been more profound, so too have the changes in size. For example, state farms have become much smaller in the Czech Republic, but the reduction in size has been less pronounced in the Slovak Republic, where reform has been slower. In three countries – the Czech Republic, Latvia and Estonia – individual farms have become much larger as commercial family farms have taken up some of the production formerly accounted for by household plots. In the case of the Czech Republic, individual farms account for nearly one-quarter of all area, compared with zero before transition. Latvia and Estonia have experienced even more dramatic increases in the importance of individual farming.

Table I.3.4. **Average farm sizes by organisational structure in CEECs**
Hectares

	Collective/co-operative farms		State farms		New corporate farms	Individual farms	
	Pre-1990	1998	Pre-1990	1998	Current	Pre-1990	1998
Albania	1 053	–	1 588	–	–	0.1	1.4
Bulgaria	4 000	637	1 615	735	–	0.4	1.4
Czech Republic	2 578	1 447	9 443	521	690	5.0	34.0
Slovak Republic	2 667	1 509	5 186	3 056	1 191	0.3	7.7
Hungary	4 179	833	7 138	7 779	204	0.3	3.0
Poland	335	222	3 140	620	333	6.6	7.0
Romania	2 374	451	5 001	3 657	–	0.5	2.7
Estonia	4 060	–	4 206	–	449	0.2	19.8
Latvia	5 980	–	6 532	340	309	0.4	23.6
Lithuania	2 380	–	1 880	–	310	0.5	7.6
Slovenia	–	–	470	371	–	3.2	4.8

Source: EU Commission (1998), OECD.

Table I.3.5. **Average size of collective farm enterprises in selected NIS**
Hectares

	1990-91	1995-96	Change in size
Russia	9 500	8 000	–16%
Ukraine	3 700	3 100	–16%
Moldova	2 800	2 000	–27%

Source: World Bank surveys.

Data on the NIS are less comprehensive. In Russia, Ukraine and Moldova the trend towards smaller enterprises is similarly evident (Table I.3.5). However, these farms remain huge by global standards (even under extensive production systems).

- China

Small plots operated by single households account for the vast majority of production in China

Individual households operating on small plots of land dominate agricultural production in China. The close proximity of one household plot to the next, and the continued importance of the village, means that some economies of scale can be realised (*e.g.* the shared use of farm machinery). Such economies are "external" to the household. Some large tracts of land are still held by the state but are essentially a legacy of the collective system.

- India

Small farms also dominate in India

The average farm size in India is small and has been declining since independence. Between 1970 and 1990, the average farm size declined from 2.3 hectares to 1.6 hectares. The share of land cultivated by farms of less than one hectare increased from 9 per cent to 15 per cent over the same period.

Of a total 107 million agricultural holdings in 1990-91, 59 per cent were smaller than one hectare, 19 per cent were between one and two hectares 20 per cent were between four and ten hectares and less than two per cent were larger than ten hectares. This contrast with 50 per cent of farms of less than one hectare, and 4 per cent larger than 10 hectares in 1970.

Naturally, these averages conceal substantial variations from state to state. In the large populous states (Uttar Pradesh, Bihar, and West Bengal) the average size of holding is just 0.3 hectares. In Tamil Nadu in the south, the average size is 0.9 hectares. The states with relatively large holdings include the agriculturally successful regions of Punjab and Haryana on the one hand, and the barren tracts of Rajastan, Maharashtra and Madhya on the other.

- Brazil

In Brazil a small proportion of large farms account for the majority of output

For twenty years, the distribution of properties according to size has remained virtually unchanged in Brazil. Surprisingly, the process of structural change has had an even impact, with the rate of exit from the sector being similar in each size category. Table I.3.6 shows the evolution in the percentage of properties and the percentage of total area falling into each farm size category.

Table I.3.6. **Farm size concentration in Brazil 1980-1995**

Total Area by groups (ha)	1980		1985		1995	
	Number of Properties	Total Area	Number of Properties	Total Area	Number of Properties	Total Area
	%	%	%	%	%	%
0 – less than 10	50.35	2.47	52.83	2.66	49.43	2.23
10 – less than 50	31.49	10.18	29.68	10.52	31.20	9.97
50 – less than 100	7.58	7.50	7.55	8.04	8.24	7.76
100 – less than 5 00	8.33	23.74	7.89	24.13	8.47	23.57
500 – less than 1 000	1.12	11.01	1.03	10.92	1.20	11.36
1 000 – less than 10 000	0.87	28.67	0.83	29.24	0.97	30.59
More than 10 000	0.04	16.45	0.03	14.49	0.04	14.51

Source: IBGE – Agricultural Census from 1980, 1985 and 1995.

In 1995, the average farm size in Brazil was 73 hectares (compared with 71 hectares in 1980). Farms of over 100 hectares accounted for 80 per cent of total area but just 11 per cent of all holdings. Even more strikingly, farms of over 1 000 hectares held 45 per cent of all acreage, even though these farms account for just one per cent of all holdings.

In general, limits on the transferability of land rights inhibit the emergence of efficient farm structures

In each of the countries considered in this study, the distribution of farm sizes is a response to both government land policy and broader economic factors. In transition economies, the allocation of land to households (either by restitution or distribution) set a new basic profile of land tenure. Ideally, the pattern of land use should evolve in a manner that improves economic efficiency. However, limits on the transferability of land rights, such as those that have persisted in Japan, constrain the adjustment in farm structures and thereby impede improvements in efficiency. Box I.3.1 summarises the Japanese experience, where important redistributive objectives were met early on in the reform process, but strict limits on transferability prevented the emergence of more efficient structures. Limits on ownership have not even preserved equity, as the value of agricultural support has been capitalised into land values and the wealth of people owning agricultural land has increased sharply in relative terms.

Box I.3.1. Post-war land reform in Japan

In the aftermath of the Second World War, Japan undertook one of the most sweeping land reform programmes in history. Prior to the war, the structure of land tenure was still essentially feudal. Tenant farmers had few rights over the land they tilled and rural poverty was widespread. Successive attempts by the government to introduce land reforms were rejected by the Diet, where the interests of landowners dominated.

The pressure for land reform increased during the war, as the need to maintain food production meant that the government had a strong interest in protecting the rights of tenant cultivators. After the war, this pressure became irresistible. At the Potsdam Declaration in July 1945, the Allied Powers called on the Japanese government to adopt policies that permitted a wider distribution of ownership of the means of production and trade. Land reform and radical changes in the system of land tenure were seen as central to the process of democratisation.

Under the reform programme, the government purchased 1.7 million hectares of land from landlords – who were forced to sell by law – and transferred it to tenants (including owner-tenant cultivators). If land delivered to the government in payment for taxes is included, the figure was nearer 2 million hectares, or roughly one-third of the total area cultivated in Japan. The new laws restricted the amount of land a tenant landlord could own to one hectare (4 hectares in the Hokkaido region) and no absentee land ownership was permitted. In addition, no one could purchase land for the purpose of leasing it out, while the acquisition of land for the purpose of cultivation was limited to 3 hectares (12 hectares in Hokkaido). As a result of these reforms, the proportion of land cultivated by tenants dropped from 46 per cent in 1945 to 10 per cent in 1950 and just 5 per cent in 1965. A key aim of the reforms was to promote the development of viable family farms. In contrast with the political and social benefits, the economic effects have not all been positive. In the first place, the allocation of land was inimical to the interests of efficient farming. Not only were the plots extremely small, but even one hectare allocations were often fragmented into several plots. The limits on land ownership, although a sensible political precaution against the return to the landlord system, prevented the emergence of efficient structures. Second, the reforms took place in a protected agricultural market, with landlord paternalism arguably being replaced by state paternalism. Moreover, landowners have held onto their land as financial assets. This, together with laws restricting transferability of land, has prevented the emergence of efficient agricultural structures.

Japan's post-war land reforms exert a strong influence on the structure of Japanese agriculture to this day. There has been some increase in tenancy, with 12.4 per cent of land farmed by non-owners according to the 1995 Census of Agriculture, although this figure is low by international standards. More significantly, despite some relaxation in the laws governing land ownership, the average farm size remains extremely small (approximately 1.2 hectares).

Source: Ogura (1980).

The pace of change: operation of the land market

A functioning land market allows more efficient farm structures to emerge

The reallocation of land by the government is unlikely to be optimal from an economic standpoint. In the first place, land reform programmes, at least at their inception, are usually driven more by equity considerations than by direct efficiency objectives (though the hope is that efficient structures will emerge in the long-term). Second, it is doubtful that the government could legislate for efficient structures even if it wanted to (a point taken up in the next section). A functioning land market enables households that do not have a comparative advantage in agriculture to sell or lease their land to those that do. A well-defined system of rights and contracting procedures enables relatively efficient farmers to take on the land of the old, or those with few skills in farming.

The operation of the land market depends on supply and demand as well as land rights

However, the operation of the land market is determined not just by the legal structure of land rights but also by the system of supply and demand. This means that it is not possible to attribute changes

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in the land market simply to the land reform process. Indeed a comment often made about transition agriculture is that the land market is often inactive not because of legal restrictions, but rather because agriculture is not profitable and as a consequence there is no derived demand for land.

Table I.3.1 suggests that for most transition economies, use rights are "transferable", either through sale or lease agreements. The only countries to place an outright ban on land transactions are Tajikstan, Uzbekistan and Turkmenistan (even though land ownership in the latter case is private). Land-use rights are transferable – at least to some extent – in Kyrgyzstan, where there is no private ownership, and in Belarus and Kazakhstan, where private ownership is limited to household plots. Clearly, therefore, the practical meaning of transferability is an empirical question.

There is little buying and selling of land in transition countries…

In transition countries, the buying and selling of land between private individuals appears to be rare. Some evidence has been found of land transaction in a number of CEECs, with about one per cent of titles in cadastral registry being transferred per year in the Czech and Slovak Republics, Latvia and Poland.[16] The rate of transactions was higher in Hungary, at an estimated 2.5 per cent, possibly because of the voucher system through which land was allocated in the first place. In the European Union, the average rate of land sales, although highly variable, is about 7 per cent.

In the NIS, the purchase and sale of land is even rarer. This may be partly an issue of measurement. People buy houses and their associated plots of land, but these are not typically classified as land sales. In Russia, land transactions are permitted in those regions that have introduced the necessary legislation, but there is no comprehensive land code that would allow transactions at the national level. Evidence has been found of a growing number of transactions, although on average, these added only 0.2 hectare to the size of a household's farmland.[17] It is difficult to infer the extent to which these transactions were made mainly for the land or for the building. A tiny minority (0.5 per cent) of farms bought and sold land for the explicit purpose of farming. The average amount of land purchased through these transactions was 20 hectares.

These data are unique in that they separate private transactions from state sales. For other transition countries, the data do not discriminate between state and private transactions. However, there is little evidence of buying and selling of any kind.[18] This may be because of effective limitations on transferability rights or the absence of derived demand. In some instances, the state may still be giving land away for free, which would obviously limit the demand from commercial operators. Small semi-subsistence farmers may still be willing to pay for adjacent plots, but in many cases such deals can be concluded informally and directly.

… but lease markets are quite active

Irrespective of the data deficiencies, leasing emerges clearly as the dominant form of land transaction in transition economies. Table I.3.7 presents data on the share of leased land in total agricultural land for selected CEECs.

In a number of transition economies (notably Russia, Ukraine and Moldova among the NIS, and the Czech and Slovak Republics

Table I.3.7. **Leased land in selected CEECs, 1996-1997**
Per cent of agricultural land

	Share of leased land
Bulgaria	70-80
Hungary	About 70
Czech Republic	About 90
Slovak Republic	88
Poland	20
Lithuania	56

Source: Shulze and Tillack (1998), OECD.

among the CEECs) another form of leasing may be significant. In these countries, changes in the legal ownership of former state farms have not been accompanied by reforms in the structure of operations. Shareholders have notional entitlements to land but these are seldom converted into physical plots. Rather, shareholders either exchange their land entitlement for an equity share in the company (from which they receive dividends), or they lease out the rights to their land share. In Russia, almost all land farmed by large enterprises is operated on the basis of contracts with land certificate holders. World Bank surveys for Ukraine and Moldova (undertaken in 1996 and 1997) indicate that about one-third of land shares are leased out.

- China

In China, village leaders have the right to reallocate land…

Land-use rights in China are typically lost (or gained) through village-wide reallocations (land transfers among farm households initiated by the village leadership). A survey of 215 villages in eight provinces revealed that, between the advent of market reforms in the early 1980s (the exact date of inception varying from one village to the next) and 1996, there was an average of 1.7 reallocations per village.[19] In 60 of the sample villages, however, land was not reallocated over this interval. The magnitude of reallocations differed from one village to the next, but on average entailed about 50 per cent of a village's cultivated land and affected about 65 per cent of households. Slightly more than half of all cultivated land has been reallocated at least once during the reform period.

… and most transfers occur administratively rather than through rental markets

Nearly 70 per cent of village leaders report that households are free to transfer their use rights to other households. Constraints most often take the form of restrictions on renting to non-villagers and the need to obtain prior authorisation from village leaders. The transfer of land-use rights among households is typically short term, and entails the payment of a fee and the assumption of tax and quota liability in return for use of the land. Despite the high percentage of villages reporting unconstrained transfer rights, the percentage of land rented in China is low. In 1995, more than three-quarters of the surveyed villages reported some rental, but the rental market is thin, representing about 3 per cent of the land area and most transactions are between relatives. Thus, most inter-household transfers occur administratively rather than through land rental markets.

A number of determinants of land reallocations have been identified.[20] In the first place, land reallocations help maintain equal access to land as household-level demographics change. As new households are formed, household income disparities are created that are contrary to the village's original egalitarian distribution of land. This creates pressure for the redistribution of use rights to maintain minimum consumption levels. Second, land reallocations can be used to eliminate inefficiencies caused by demographic and labour supply changes and by poorly functioning labour and land rental markets. Against this, the prospect of reallocation may reduce long-term efficiency by undermining households' incentives to invest in the land. Finally, leaders in some affluent suburban villages may be using their positions to extract rents through periodic land readjustments and land sales to non-agricultural/non-village interests.

- India

Land markets remain underdeveloped in India

There is no formal land market in India and most land transfers are hereditary. The amount of land leased in and leased out is also low relative to the transition economies. The percentage of households leasing out appears to have changed little over a period of decades, averaging around 6-7 per cent. However, the percentage of households reporting leasing in has declined significantly. Old data show a decline from 25 per cent in 1971/72 to 18 per cent in 1981/82.

Most leasing is done by small farmers wishing to augment their acreage

The difference between the figures for leasing in and leasing out is explained by the tendency of the smallest farmers to augment their acreage by leasing in from larger farmers (who may lease out to more than one household). Farmers holding less than one hectare account for half the leased in acreage in India. This contrasts with some of transition economies for which data are available (*e.g.* Croatia), where the smallest households are more likely to lease *out* their land to larger operations.

An interesting feature in India is that the percentage of acreage operated under lease is highest in high growth states (notably Punjab, Haryana and Uttar Pradesh). These are also the regions with the largest farms. The implication is that leasing is used to exploit economies of scale in these states. This hypothesis is also supported by the greater tendency of medium and large-scale farms to lease in these regions.

- Brazil

Speculative acquisitions account for the strong activity of Brazil's land market

Brazil has an active land market. Sales turnover in the most developed agricultural regions is estimated to average up to 9 per cent per year (which exceeds the average rate in the European Union). The highest turnover is in properties of around 100 hectares, with large properties being bought and sold in regions bordering the rainforest. In contrast with the other countries considered in this study a key focus of land policy has been to slow rather than accelerate land market activity. Note also that, in contrast with the CEECs, land's value as a financial asset has fuelled market activity rather than caused it to stagnate.

In summary, land markets in both transition and emerging economies appear to function less smoothly than land markets in the majority of OECD countries. In the transition economies, there is little buying and selling of land, with most adjustment in land allocations taking the form of lease agreements or informal agreements. The same is true in India. In China there is no private land ownership and limited transferability of use rights. The land market in Brazil suffers from the opposite problem: over-development brought on by purchases made for speculative reasons rather than on the basis of market fundamentals.

Land rights, structural change and economic efficiency

Land rights affect efficiency directly, through their impact on investment incentives, and indirectly, via their effect on farm structures

Changes in a country's system of land rights may affect economic efficiency in two ways. First, they may affect economic efficiency directly. Specifically, a weakly enforced system of land rights is likely to lead to under-investment in land-based activities. Second, they may affect economic efficiency indirectly, via their impact on economic structures. As an example, the privatisation of land in the transition countries led to the dismemberment of many state farms. In many cases these farms were replaced with smaller, privately owned, structures that may be more efficient than their predecessors. In this section some observations are made about both types of effect.

Efficiency depends more on the existence of well-defined land rights than their allocation

From an efficiency standpoint, the division of land rights between the owner and the user may be less important than the requirement that both sets of rights are well established. For example, even if leases are relatively short-term, the tenant may still invest in the land if stipulations on soil quality are included in the contract. Rather like the market for rental accommodation, landowners will seek to impose conditions on leases that ensure that the value of the land is maintained. However, *asymmetric information* (tenants knowing more about their own activities than landlords) means that it is difficult for landlords to be aware of the likely behaviour of prospective tenants, or to be able to police the behaviour of existing tenants.[21]

Land rights and economic efficiency

Farmers whose land rights are not secure have less incentive to invest in land-based activities…

Land tenure arrangements are a basic determinant of farmers' planning decisions. Owners who feel that their property may be appropriated by the state have less incentive to undertake long-term investment in the land, as do tenants on short-term leases who fear that their lease may either not be renewed or may only be available on unfavourable terms. In the long-term, such under-investment impedes economic efficiency.

… but other market factors may also lead to under-investment

However, short-term financial viability is paramount not just for farmers constrained to a short planning horizon by tenure arrangements, but also for farmers with low or unstable net incomes. Farmers may fail to undertake long-term investment in the land if this is expected to jeopardise their immediate level of income and business viability.[22] By contrast, farmers undertake sustainable practices when short-run viability is not in question. Then, the principal con-

siderations are long-run profits and risk reduction.[23] Thus, when agricultural incomes are low or unstable, it is difficult to attribute low investment to insecure land rights exclusively.

It is difficult to quantify the extent to which specific limitations on land rights (for example through poor enforcement mechanisms) affect the level of investment at the margin. The prevalence of low and unstable farm incomes in many of the countries considered in this study means that investment in the land may be low even in the presence of a more complete system of property rights. Nevertheless, problems of land degradation have been noted in virtually all the countries considered in this study, and to some extent these problems derive from inadequacies in the system of land rights.[24]

Structural change and efficiency

The two guiding forces behind land reform initiatives have generally been fairness (in the form of equity or "justice") and economic efficiency. Underlying the introduction of collective ownership in China and the Soviet-controlled states were two perceptions. One was that collective ownership was fairer than individual ownership. The other was that socialised agriculture would, in the context of a planned economy, take advantage of the perceived scale economies of industrial farming. The implicit belief was that farming in a capitalist economy would become increasingly concentrated among a few large-scale producers, who would exploit hired labour to an increasing extent. This view was mistaken. Although farms in developed countries can be extremely large (especially in the livestock sector), there are limits to scale economies and the family unit has remained the dominant form of farm ownership in most market economies.[25] Indeed, there has been a general increase in the family labour input relative to hired labour.

Private land ownership is not consistent with perfect equality

The move toward individual private ownership implies some move away from the "ideal" of perfect equality. The reason for this is that differing endowments of management skills, human capital and other non-land productive assets will inevitably mean that some individuals make more than others do. In the case of the transition economies, an ideological acceptance of such change was prompted by the failure of the centrally planned and collectively owned system.

Efficiency estimates are informative to the extent that they compare the efficiency of current systems with the potential efficiency of feasible alternatives

As countries strive to improve the efficiency of their agricultural sectors, the basic question is whether the structures that are evolving in the wake of land reforms and other policy developments are efficient relative to the available alternatives. Empirical estimates rely on comparable data and consequently tend to ask whether the new structures are efficient relative to the old ones, or efficient relative to structures in other countries. These estimates are informative, but they do not tend to address the policy question of direct interest. Accordingly, they provide a useful, but nevertheless limited, guide to what current policy should be.

Efficiency has two measurable components: technical efficiency and economic efficiency:

Technical efficiency. This measure determines whether a farm maximises output subject to the available technology, given a set of

inputs. Farms that are technically efficient operate on the frontier of their production function (which is typically defined by observed best practice). Note that this measure is independent of input and output prices or the availability of inputs. Thus, systemic failings, such as the lack of availability of fertiliser, do not imply technical inefficiency. Rather, technical efficiency reflects the internal management of the organisation. Improved incentives and motivation, better organisation and monitoring, and effective decision making would all qualify as factors enhancing technical efficiency. Efficiency becomes a relative concept as soon as we establish a benchmark for a technically efficient operation. Beyond that, one farm can be said to be more efficient than another if its production frontier enables it to obtain more output for a given bundle of inputs. Note that farm A may be more technically efficient than farm B at one level of output, while the reverse may be true at another level of output. For example, former state farms may be more efficient than household farms at high output levels, but less efficient at low levels of production.

Economic efficiency. This refers to whether or not the farm maximises profit. A farm may be unable to obtain the necessary inputs for profit maximisation at given prices, or may have other constraints imposed upon it. In the context of a centrally planned economy, technical inefficiency would correspond to a failure of socialised agriculture, while allocative inefficiency would refer to the broader failings of central planning.

Comparative advantage may be a more useful guide to the allocation of resources than absolute efficiency…

A major caveat is warranted at this stage. Overall efficiency, as defined by joint technical and economic efficiency, is not necessarily an appropriate guide to the organisation of economic activity. The reason for this is provided by the concept of comparative advantage. For example, it may be that farmer A is more efficient at producing cereals than farmer B. However, farmer A may be even more efficient at doing other things (perhaps engaging in activities outside the agricultural sector). In other words, farmer A's "opportunity cost" of producing cereals is higher. Under such conditions, the gains from trade may be best realised by having farmer A diversify out of agriculture, with farmer B specialising further in the production of cereals.

… because the most efficient farmers may be even more efficient at other activities

This is more than just an abstract point. In may cases, families that have developed their human capital may have an absolute advantage in many activities. However, they are quite likely to have a comparative advantage in non-agricultural activities. Indeed, the high opportunity cost of remaining in farming is evident in the tendency of the younger and better educated to leave farming (see Part I, Chapter 2 on labour adjustment). To the extent that those with an absolute disadvantage but a comparative advantage in farming remain in the sector, lower efficiency may be a good thing. Another point is that efficient structures may not emerge if land is valued more as a financial asset than as a farm input. This has been a particular problem in Japan (Box I.3.1).

There is overwhelming evidence that socialist agriculture was inefficient (Box I.3.2), and some evidence to suggest that this stemmed more from the central planning environment (economic inefficiencies) than from internal (technical) inefficiencies. The new farms

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remain inefficient relative to Western operations, but a cursory inspection of data comparing share of output of household based operations with their share of the land (for example in Table I.3.5) suggests that they are more efficient than operations that have not been restructured. As already noted, however, there is a major difference between a household plot and a family farm, and whilst the household may be more efficient than the state as a unit of ownership this says little about the efficiency of alternative structures of operation.

The relationship between farm size and economic efficiency is not a simple one

Importantly, there is no simple relationship between farm size and efficiency. For example, huge variations in farm structure types have evolved in the European Union. Although there are significant regional differences in the way that the Common Agricultural Policy is applied and significant variations in macroeconomic performance and levels of development, these variations in structures have nevertheless emerged within a common policy framework. This suggests that there is no "right" structure of ownership, or optimal farm size that can be recommended irrespective of geography, culture or local laws and customs.[26]

Box I.3.2. **How inefficient was state agriculture?**

In an early study, Brooks (1983) compared the efficiency of state farms in the republics of the Soviet Union with selected states and provinces in the United States, Canada and Finland. Her results suggested that private farms in market economies were considerably more efficient than those in the Soviet Union. The degree of greater efficiency varied from 17% to 141%, depending on whether or not Finland was included in the sample of private farms. That Western farms were more efficient than Soviet ones was hardly a surprise. However, the result did not shed light on whether the lower efficiency of Soviet farms emanated from lower technical inefficiency, or from the restrictions on profit maximisation imposed by the central planning system (allocative inefficiency).

To address this question it is necessary to measure the performance of private and state farms under a system in which the climate and the economic system are the same. Although a meaningful comparison was not possible in the Soviet Union, sufficiently evolved private farming systems existed in Yugoslavia and Poland for comparisons to be made. Boyd (1987, 1988) compared the efficiencies of private and socialised agriculture in both countries. He found that private farms were slightly more efficient in each case, but that state and private farms could be equally efficient at some combinations of input use. Brada and King (1993) found that, on average, the technical efficiency of state and private farms in Poland did not differ, and concluded that the internal organisation of state farms did not make them inherently less technically efficient. However, they did find that the effects of agricultural policies and the administrative distribution of inputs led to the sub-optimal allocation of resources in Polish agriculture.

These findings support the contention of Johnson (1983) who attributed the poor performance of agriculture in the Soviet Union and the CEECs primarily to the socialist environment rather than the socialised nature of farm units. However, technical efficiency is measured relative to best practice at the time, so the results are informative to the extent that the practices of restructured and unrestructured farms show similar variations under a new policy environment.

In some cases, the greater technical efficiency of large farms may be offset by the superior allocative efficiency of small farms

A notable facet of developments in EU farm structures has been the squeezing out of medium-scale farmers and the increased dominance of large farms on the one hand and small farms on the other. The small farms are typically operated by family households, with these households receiving a significant share of their income from off-farm activities. The absence of a unique type of farm structure

even under similar farming conditions suggests that, in some cases, the greater technical efficiency of large farms can be compensated for by higher allocative efficiency among small (pluriactive) farm households. Another factor may be the differences in the objectives and constraints faced by farm firms and those confronting pluriactive households that consume some of their own production and obtain income from a variety of sources.

The relevant objectives and constraints of small farms may differ from those of large farms

The continued dominance of the household as the basic decision-making unit in OECD countries indicates that, in many cases, the theory of the household may be a more appropriate tool with which to examine the organisation of farms than the standard theory of the firm. The difference is extremely important when objectives and constraints differ. From the household perspective, the objective is to maximise welfare (or "utility" in economists' parlance, which derives from consumption and leisure time) subject to a budget constraint that depends on farm profits. If markets work efficiently, the household's objectives can be interpreted as a two-stage sequence: profit maximisation on the production side, followed by welfare optimisation on the consumption side. Under such circumstances, there is no problem in considering the household as a firm, because on-farm and off-farm resources can be substituted without cost. Thus, the objective of profit maximisation holds in either case.

These differences are important in the event of market failure

However, markets often fail, at least to some extent. The critical feature of market failure is that it induces a wedge between market prices and shadow prices (opportunity costs), which are the relevant prices to the household. For example, if the market works perfectly it makes no difference to farm profits whether the labour input is provided by the family or is hired from outside. One source of labour can be replaced costlessly with another. If, however, there are extra (transactions) costs associated with employing hired labour, then profits are affected by whether the labour is provided by family or off-farm labour. Thus the way in which the household optimises its welfare by trading off consumption (which derives from work) and leisure has an effect on profits. Production and consumption decisions then need to be determined *simultaneously*, with the relevant cost of labour being not the wage, but rather the shadow price, which includes transactions costs such as those of monitoring hired labour.

A number of sources of market failure may be important in the case of OECD non-member countries:[27]

Market failure can be induced by transaction costs, shallow local markets, price uncertainty and credit deficiencies

Transactions costs. As noted above, these include the costs of monitoring hired labour, whose objectives differ from those of household members. Other transactions costs include poor infrastructure, which may raise the opportunity cost of obtaining off-farm inputs and supplying goods to the market; the costs of obtaining information on output and input prices; and squeezes on margins by merchants with local market power. These costs are likely to be significant in each of the countries considered in this study.

Shallow local markets. This may imply a high negative correlation between a household's output and the effective price it receives, thus affecting the decision on whether or not to produce a surplus.

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Price risks and risk aversion. Households discount sale prices and mark up purchase prices according to the degree of risk in the market and the extent of their risk aversion. The greater the risk and the degree of risk aversion, the larger the difference between the market price and the opportunity cost to the household.

Limited availability of credit. Credit deficiencies restrict production and consumption choices and introduce a similar wedge between market prices and the households' decision prices. For example, the decision prices of goods that relax the credit constraint (such as daily milk sales) may be lower, meaning that production and sales will be higher at any given price.

A household based approach may attribute some of the inefficiencies of smaller farms to market failures

These instances of market failure suggest that small family farms may be more efficient than firm based analyses, such as those presented in Box I.3.2, would suggest. As markets develop, and the instances of market failure start to diminish, it may also account for a consolidation of farms and a greater correspondence to profit maximising behaviour. The broad tendency of agricultural development has been for less efficient farmers, or those with better alternatives, to exit the sector. In general, this has corresponded to a movement away from peasant semi-subsistence agriculture towards more commercial structures, even if these structures are still managed by households.

The "family farm" is a catch-all phrase covering a wide range of structures. In a liberalised market, in which the prerequisites for efficient markets exist, we would expect more efficient farm structures to emerge. Over time, the allocation of resources should therefore conform to the pattern of comparative advantage. In land abundant countries (for example Ukraine, Brazil), one would expect the structure of production to be extensive, whereas in labour abundant countries (*e.g.* China and India) one would expect production to use labour more intensively.

The emergence of efficient structures depends on the development of market support mechanisms

The pace with which efficient commercial structures emerge will depend on the development of market support mechanisms, including information systems, contract enforcement and bankruptcy procedures. Just as importantly, it will depend on land's value as an asset relative to its value as an agricultural input. In Russia, people have responded to the economic crisis by holding onto land as a source of security. In Brazil, land has often been acquired for predominantly speculative reasons. Economic efficiency is impaired to the extent that macroeconomic uncertainty and an unclear designation of land rights distort land's value as a financial asset. Finally, market interventions have an important effect on farm profitability, and there is some evidence that the value of agricultural support has been capitalised into land values in OECD countries.[28] When land's value as a financial asset is distorted, in the sense of no longer being tied to the economic return it generates, the market for agricultural land is skewed increasingly towards those with access to financial resources rather than those who are likely to make good farmers.

Policy conclusions

Countries that have undergone major land reform programmes face a dilemma in the aftermath of the land reallocation process. Accord-

ing top priority to considerations of equity or social justice makes sense when it is important to establish legitimacy for the reforms undertaken and when such redistribution is likely to improve economic efficiency. The absence of a clear blueprint for efficient structures further supports such an approach. However, the insistence that egalitarian structures be maintained thereafter may impede the development of efficient farming practices in the long run.

There is no clear answer to the efficiency versus equity question

There is no clear answer to the efficiency versus equity question. Nevertheless, the issue of equity may be best addressed by letting land markets work in the context of an effective system of rights. Such a system should protect the rights of both owners and users, yet allow the efficiency gains from land trade to be realised. The experiences of countries that have reformed from inequitable systems (for example India and Japan) suggest that the original problems associated with unequal land ownership derived chiefly from weaknesses in the basic system of land rights rather than from trade.

A strong system of land rights is essential if agriculture is to be efficient

From an efficiency standpoint, the main policy conclusion emanating from this analysis can be summarised as follows. It is very difficult to be sure what constitutes an efficient pattern of land tenure and farm structure. It is similarly difficult to know the optimal organisation of land ownership and use, if such a thing exists. However, we do know that more efficient structures are likely to emerge under market conditions, assuming that the prerequisites for market efficiency exist. The policy challenge is therefore one of making sure that these conditions are satisfied. This means assuring a strong system of land rights that is both transparent and enforceable, providing a stable macroeconomic environment and strengthening the institutions necessary to support competitive markets.

The correction of market failures may reduce some of the potential conflicts between equity and efficiency

Large-scale agriculture may display certain "public good" features and be less prone to market failure.[29] One concern is that agricultural investment may be depressed to the extent that the benefits are public; that is, they cannot be restricted to those undertaking the investment. The extent of the associated "market failure" may be lower when production is concentrated among a small number of large farms. A second source of market failure may be the information barriers faced by potential lenders. The costs of overcoming these barriers may be lower when production is less diffuse. Both factors suggest that large-scale farming may be more efficient. However, the government can also correct the foregoing market failures by providing information (a public good). The respective solutions may be the development of agricultural extension systems and support for local credit markets. In general, the provision of public goods and the correction of market failures may reduce some of the potential conflicts between efficiency and equity.

A key priority is to ensure that individual land rights can be exercised in practice: this is an economic issue as much as a legal one

Developments in land rights have been accompanied by changes in farm structures and economic efficiency. However, the chain of causality is difficult to establish because so many other factors are at work. The complex determinants of economic efficiency are of limited relevance to land policy when land reforms are too blunt an instrument with which to engineer efficient structures. Of greater interest is the degree to which legal land rights, such as those governing transferability, have economic implications. For example, whilst the operation

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of the land market may serve as an indicator of developments in transferability, other determinants include the profitability of agricultural production and the value of land as a financial asset. The issue of effective land rights needs to be addressed by quantitative methods that can discriminate between a range of determinants

NOTES

1. For instance in the 1950s in the Former Soviet Union.
2. In fact, in Poland about 70 per cent of government expenditures for the support of agriculture is under the form of subsidies for the Agricultural Social Security Fund (KRUS).
3. Alchian and Demsetz (1973).
4. Salazar, Brandão and Feder (1995).
5. Li (1998).
6. OECD (1996).
7. Li (*ibid.*).
8. Carter and Yao (1998).
9. Jacob (1991).
10. Jacob (*ibid.* p.133).
11. Jacob (*ibid.* p.143).
12. The use of the term is also important in that enables us to discuss the so-called "farm household model", where there is a distinct link between production and consumption decisions. The features of this model are described in the section on f arm efficiency. The farm household model can be used to analyse decisions on farms where household members consume some or all of their production, or obtain income from other sources outside farming. In this model, the household structure is equivalent to the firm structure when on-farm and off-farm resources can be substituted costlessly and production and consumption decisions become independent.
13. The unregistered use of collectively operated land by households is one factor. Another is the general practice whereby households that work for collective farms and maintain their own plots receive in-kind payments from their collective farm employers (such as grain for rearing their livestock). These payments originate from collective production but are often attributed to household plots.
14. Lerman (1999).
15. The sole exception to this rule is Hungary where state farms have increased in size. However, these farms account for just 4 per cent of total agricultural are, compared with 14 per cent before 1990.
16. Baldwin (1998).
17. Wegren and Belen'kyi (1998).
18. Lerman (*ibid.*).
19. Turner, Brandt and Rozelle (1998).
20. *Ibid.*
21. In his seminal article on the market for "lemons" (poor second hand cars), Akerloff (1970) noted the importance of asymmetric information. Because only the seller knows the real quality of a used car and the buyer is unable to distinguish between a good car and a lemon, the presence of lemons in the market will bring down the price of a good car. This introduces a "moral hazard" problem, since owners of good cars are likely to respond by either not selling their car, or by failing to take care of it. Thus, the lemons tend to drive out the good cars. A similar effect may occur in the market for leased land, with rental rates inflated and potentially good tenants not renting or failing to look after the land if they do. The answer to this problem – obvious in theory, but more difficult in practice – is improved information for landowners.
22. Shadbolt (1998).
23. Lockie *et al.* (1995), in a recent study of Australian farmers' behaviour, found that income stability was held to be just as important as the level of income.
24. In China, concerns about the impact of tenure insecurity on investment behaviour underlie recent calls to extend tenure to 30 years. Some estimates have been made of these effects on dynamic incentives. A recent analysis using household data from Hebei found that households apply more fertiliser and labour to their

more secure personal plots and that plots these households have farmed for longer periods receive higher yields (Li, Rozelle, and Brandt, 1997). However, the magnitudes of these effects were small and could not be differentiated from the impacts of other important factors including the size of plot, quality of the land and the distance of the plot from the homestead. An analysis of households in Zhejiang examines other long-term investments, such as investment in wells and drainage, and finds a similar effect (Carter and Yao, 1998. The authors of this study estimate that a reduction in the frequency of reallocation by half would result in an output increase of only 5 per cent. The results of these studies should be treated cautiously. Although they indicate the effects of changes in the length of land tenure, the do not capture the potential benefits from broader developments in the system of land rights. The limited geographical scope of these studies may also be a problem, with regional differences in agronomic, climatic, and socio-economic conditions causing the opportunities for long-term investment to differ significantly between localities.

25. Schmitt (1991).

26. The operation of the Governors' Grain Responsibility System in China provides a vivid illustration of the possible incentive to micro-manage land use and farm structures. The governors in China's provinces have the right to reallocate land among households. If they observe that one operator appears to be more efficient than another, the immediate production benefit from reallocating land to the more efficient producer is clear. In the long-term, however, efficiency may be impeded through households' diminished security of land tenure.

27. For a full discussion of these effects, see Sadoulet and de Janvry (1995).

28. Bureau (1998).

29. Public goods tend to be under-provided by the private sector because they exhibit characteristics that prevent suppliers from capturing the full benefits of their actions. A pure public good is "non-rival", "non-exclusive" and "indivisible". This means, respectively, that one person can consume the good without reducing the consumption of another; that the provision of the good cannot be withheld from a potential user; and it cannot be bought and sold in separate units. The case of a "pure" public good is a pedagogical extreme, with defence often considered to be the "classic" example. In practice, markets often display public good features to some limited degree, making for difficult policy judgements concerning whether the benefits of correcting the associated "market failure" are worth the costs of government intervention.

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Part II

AGRICULTURAL POLICY DEVELOPMENTS BY COUNTRY/REGION

AGRICULTURAL POLICY DEVELOPMENTS BY COUNTRY/REGION

1. Brazil

Macroeconomic situation

The Asian and Russian crises spill over to Latin America

The spill-over effects from the crises in Asia and Russia had a marked impact on Brazil's economy in 1998. After the Russian Federation declared a moratorium on its debt in August 1998, a rapid and massive capital flight out of emerging markets began. Brazil was particularly hard hit, because of its dual deficit on both the current account and the fiscal balance. The economy experienced a typical "credibility crisis" with sharply rising net outflows of capital and growing pressure on the exchange rate. To defend the exchange rate, interest rates were raised to 40 per cent and more in real terms.

The situation eased somewhat in November 1998, benefiting from the end of electoral uncertainties with the re-election of President Cardoso. In addition, the announcement of an ambitious fiscal consolidation programme, which aimed to achieve a primary public sector surplus of 2.6 per cent of GDP for 1999, helped to calm the situation. Additional relief on the exchange rate came from the agreement with the International Monetary Fund (IMF). The agreement endorsed a comprehensive loan package with credit lines expanded up to US$ 41.5 billion, providing an important buffer to fend off possible speculative attacks against the Real.

In response to these measures, capital market rates eased swiftly and substantially. The yield spread of Brazilian government bonds to US Treasuries narrowed from 2 200 basis points[1] at the height of the Russian crisis to less than 1 000 basis points by the end of November 1998. For a short period of time, investors' confidence was reinstated and capital outflows began to slow. But concerns about stability re-emerged when the Brazilian Congress rejected a bill aimed at raising the social security contributions of civil servants, a measure that was considered an important step towards fiscal consolidation. This triggered new concerns about an immediate devaluation and caused a hike in capital market rates of more than 200 basis points. Despite rising interest rates, net outflows of capital continued to increase. The situation worsened when the state of Minas Gerais announced a moratorium on debt to the federal government and capital outflows accelerated despite still higher interest rates. As investors noticed that capital outflows became immune to rising interest rates, a classic speculative attack started against the Real. After losses of up to US$ 1 billion a day in foreign exchange

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reserves, the Central Bank decided on 15 January 1999 to widen the band for fluctuations of the Real and, eventually, had to accept the free float of the Real.

After the crisis in the financial markets, economic problems gather momentum

High real interest rates, set to defend the Real caused a marked slow-down in the real economy. Growth in real GDP fell from 3.7 per cent in 1997 to a mere 0.8 per cent in 1998. According to the Brazilian Statistics Institute (IBGE), industrial production (seasonally adjusted) fell by 2.2 per cent. The largest decline was recorded for consumer durables, where output fell by 20.7 per cent in the first eleven months of the year compared with the same period in 1997. While inflation was down to 3.8 per cent, largely due to the restraining effect of high real interest rates, the fiscal deficit continued to increase, rising from –6.1 per cent of GDP in 1997 to –7.5 per cent in 1998.

Managing the effects of the change in the exchange rate regime and the effective devaluation of the Real will be the key to economic recovery in 1999. The sharp devaluation will increase import prices and fuel inflation. The Government has reacted to this problem by maintaining a tight monetary environment with real interest rates set at around 40 per cent.[2] Despite persistently high interest rates, inflation is expected to rise from 3.8 per cent in 1998 to around 9 per cent[3] in 1999.

Fiscal reforms are necessary…

For the coming years, the challenge is to create an economic and policy environment that re-establishes investors' confidence, allows interest rates to fall and provides internal (inflation) and external (exchange rate) stability. There is a growing consensus that this will require, above all, comprehensive fiscal reforms. This would include: a reform of the federal system, and the pension system, a re-affirmation of the government's privatisation plan, as well as reforms of the tax and social security system. In the long run, this would help re-establish the confidence of domestic and international investors, lower the pressure on the exchange rate, and on monetary policy, and could open the window to a virtuous cycle of sustainable, low inflationary growth.

… but not sufficient for economic recovery

In the short-run, however, there is a significant risk that the combination of fiscal restraint and tight monetary conditions could lead to a significant contraction in GDP and possibly outright recession for a number of years. At a level of 50 per cent to GDP, the public debt burden is considerable. But it should also be noted that the primary fiscal deficit is small and the negative net balance is largely a reflection of the high payments needed to service the overall debt. For 1999, the government even forecasts a primary fiscal surplus (balance without interest payments) of about 3 per cent. The expected net deficit of 8 per cent of GDP is largely explained by interest payments. At real interest rates of about 40 per cent and an exchange rate of 2 Real to the US Dollar the cost of debt servicing would amount to 17 per cent of GDP. This suggests that high interest rates could themselves become the chief cause of the loss of confidence in domestic monetary stability. Continuously high real interest rates could offset the primary fiscal surplus, as public revenues contract and expenditures rise. The policy challenge in the short-run is therefore to lower real interest

Table II.1.1. **Main economic indicators for Brazil**

	1997	1998	1999	2000
Real GDP growth (rate of change)	3.7	0.8	–1.5 (–4.0[1] – –5.5[2])	1.0
Inflation (retail prices, rate of change)	6.1	3.8	4.0 (8.6 – 9.3)[3]	3.0
Fiscal balance (% of GDP)	–6.1	–7.5	–3.5	–2.0
Current account balance (US$ bn)	–33.8	–30.8	–20.0	–17.5
Current account balance (% of GDP)	–4.2	–4.0	–2.5	–2.0

1. Estimate given in the Brazilian economic memorandum accompanying the agreement with the IMF of 10 March 1999.
2. Estimate by J.P. Morgan as of March 1999.
3. IPC-FIPE, IGP-M forecasts as of February 1999.

Source: *OECD Economic Outlook*, December 1998.

rates without losing sight of inflationary pressures and at the same time signal to international investors a firm commitment to fiscal reform in the long-run (Table II.1.1).

The impacts of the devaluation on agriculture

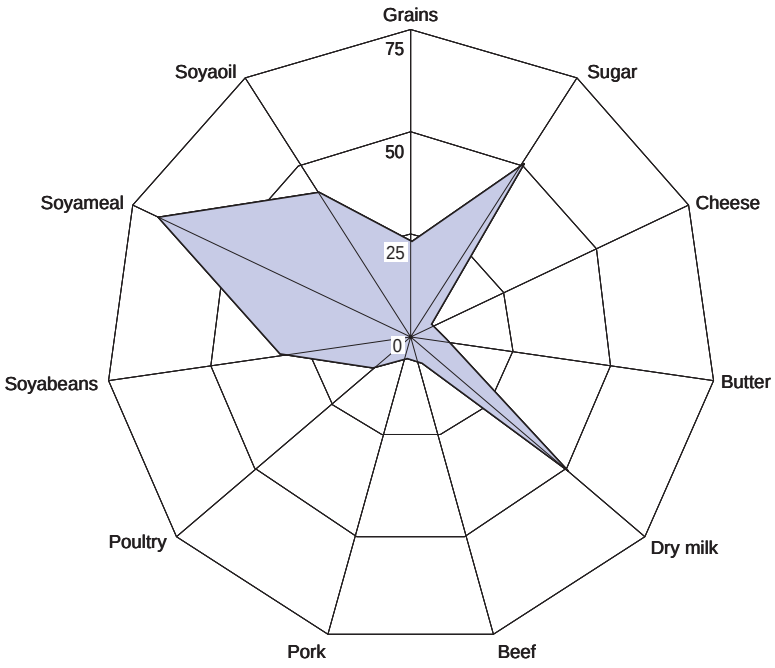
The devaluation has lowered domestic supplies and may contribute to food price inflation,…

By March 1999, the Real had lost about 40 per cent of its 1998 value *vis-à-vis* the US Dollar. This correction has significantly exceeded the loss of value in the internal market (*i.e.* the cumulative rate of inflation) and has resulted in a depreciation of the real exchange rate. For tradables, the real depreciation is expected to boost exports and to curb imports of agricultural products. The speed and magnitude of the impact on domestic prices, however, will vary across commodities. Soyabean prices, for instance, where exports account for nearly 70 per cent of domestic production, have risen by 50 per cent since the devaluation of the Real, suggesting that the exchange rate effect is already fully "priced-in". Similarly, prices for grains, poultry meat and feed stuffs have increased sharply. Prices for other meats and dairy products, however, remained less affected. These are expected to rise only gradually and partially, with the extent of price increase depending on the elasticity of demand, the share of trade compared with the overall market volume, and the importance of tradable inputs *(e.g.* compound feed for the feed ration) for producing these goods (Graph II.1.1). Overall, higher agricultural producer prices will contribute to higher consumer price inflation for food. There are also growing concerns that higher exports may lead to shortages for the domestic population. To ensure stable domestic food supplies and reduce inflationary pressures, a growing demand for an export tax on food staples has re-emerged.

… affects regional prices and trade flows,…

While the devaluation boosted agricultural exports, imports became less competitive. Foreign supplies to the Brazilian dairy market were particularly hard hit. Imports of milk and dairy products from Argentina have declined substantially since the devaluation. Retail prices for milk in Brazil have not yet experienced the typical exchange rate boost, largely due to the fact that higher feed costs have not yet been transmitted into the price of milk. While almost unchanged in Real, the devaluation meant that the Brazilian milk price expressed in US Dollar declined to about US$0.12 per litre. At this level, prices for milk are below those in very competitive neighbouring countries like Argentina and Uruguay as well as below those commanded by major dairy exporters such as New Zealand and Australia.

Graph II.1.1. **Trade exposure by commodity**
Share of trade relative to production in 1998



Source: OECD.

… and may also add to downward pressure on international commodity markets

Given Brazil's dominant market position for certain agricultural commodities like soyabeans, soyabean meal, coffee, sugar, and orange juice, the boost in exports could further depress already low international commodity prices. For commodities where supply is very price responsive (elastic) in the short-run, there are growing concerns that increased Brazilian exports could result in further downward pressure on international commodity prices and trigger problems in other emerging markets. For countries which depend for a significant part of their foreign exchange earnings on revenues from agricultural exports, this could even become a channel of contagion towards more general economic problems.

The government has taken first measures to ease food imports

To ease imports of certain agricultural products (particularly fruit imports from Argentina and Chile), the Brazilian government extended the partial exemption from import financing restrictions granted to Mercosur countries to 30 June 1999.[4] The import financing restriction had been put in place in response to the shrinking overall trade surplus, following the first wave of the Asian crisis in November 1997. In effect, the restriction requires prepayment of imports (foreign exchange deposit by importers) 180 days before goods can clear customs. In addition to the extension of this waiver to Mercosur countries, the Central Bank increased the value of individual shipments exempt from Mercosur members (including

Chile and Bolivia) from US$40 000 to US$80 000, and reduced the prepayment period to 90 days.

Agricultural production, food consumption and trade in 1998/99

The role of agriculture

Throughout the 1990s, the importance of agriculture relative to the overall economy has been rising. In 1998, agriculture accounted for about 11 per cent of GDP and 25 per cent of the total labour force. If upstream and downstream industries are included, the sector accounts for as much as 35 per cent of total GDP. Gross agricultural output (GAO) increased by 3.3 per cent relative to the previous year, largely due to robust growth in the livestock sector and bumper crops for coffee and orange juice. The increase in production of tropical beverages was offset partly by the El Niño affected grain crop.

Overall, the crop sector expanded by about 3.2 per cent, while livestock production increased by about 3.9 per cent. These changes include the impacts of relatively strong price fluctuations. In constant prices of 1989/91, the volume of agricultural production increased to US$ 49.1 billion, up US$ 0.5 billion, or 1.1 per cent in 1998 (Graph II.1.2).

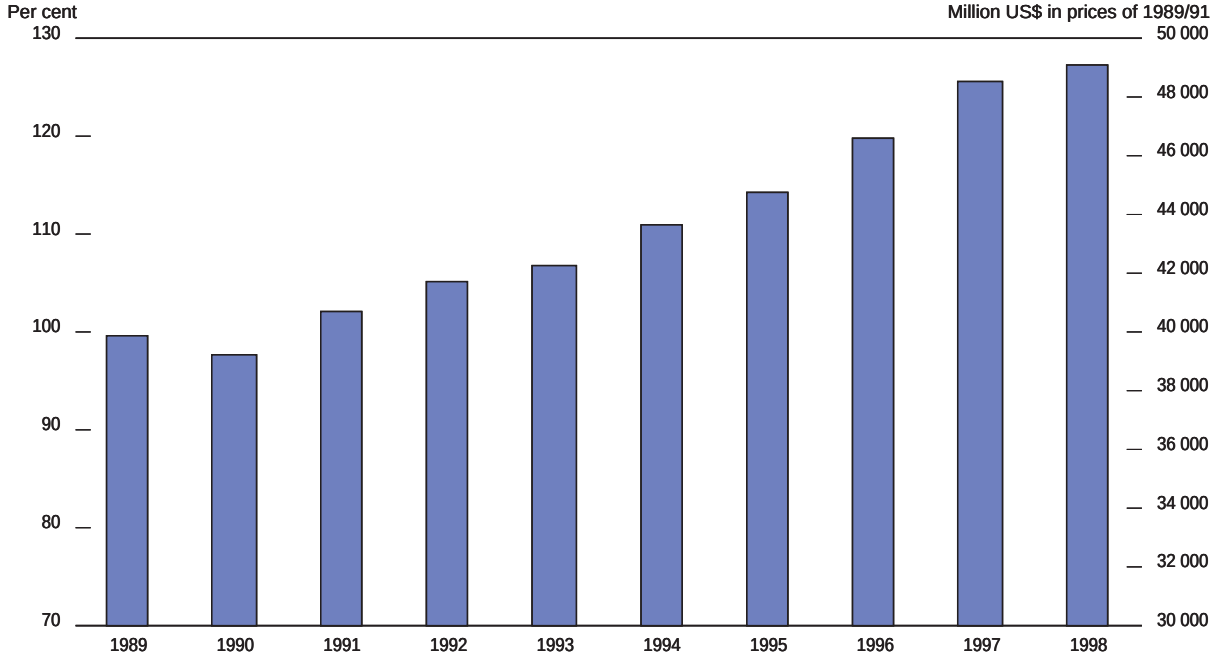
Crops

- Cereals

Adverse growing conditions resulted in a below-average grain crop in 1998

Total grain production declined to 39 million tonnes in 1998, down 5 million tonnes from the 44 million tonnes bumper crop of 1997.[5] Much of the decrease was due to a smaller maize crop, which

Graph II.1.2. **Total agricultural production in Brazil**
1989/91 = 100



Source: OECD.

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traditionally accounts for about two-thirds of total grain production in Brazil. The smaller maize crop was due to a sharply lower acreage, accompanied by a shift to soyabeans (the main competing crop). This was largely a reflection of a change in the government credit programme, offering higher credit limits for soyabeans in the centre-west region. Overall, maize production will be down to about 29.3 million tonnes, compared with 34.6 million tonnes in 1997. Yields are forecast to be somewhat higher despite dry spells during the growing season. Production of rice also declined from 9.3 million tonnes to about 7.8 million tonnes, despite good production conditions in Rio Grande do Sul and higher yields in the centre-west states. Dry land production benefited from heavy "El Niño" rains in the previous season. In addition, new dry land rice varieties with higher yields and better quality have been adopted widely, particularly in the centre-west states. Wheat production is estimated to have reached almost 2.2 million tonnes, down from about 2.4 million tonnes in 1997 and 3.2 million tonnes in 1996. The fall in output was due to both lower yields and lower acreage in all three wheat producing states (Paraná, Santa Caterina, and Rio Grando do Sul).

Despite the sharp devaluation, grain consumption is likely to remain stable…

First estimates suggest that total consumption of grain was slightly higher in 1997/98 and further upward revisions are expected as a result of the devaluation of the Real. Stable or rising consumption despite higher prices is a reflection of low elasticities of consumption with respect to changes in both income and prices. The devaluation-caused price increase is more likely to reduce consumption of higher value, price-elastic consumer goods like fruits and vegetables or livestock products. Lower real incomes may even increase consumption for food staples, reflecting negative income elasticities for some food stuffs. Feed use (*i.e.* derived from price and income elastic meat consumption) is expected to decline. However, accounting for the time necessary to adjust livestock production, the decline is likely to occur with a lag of a 4-12 months, *i.e.* in the second half of 1999.

… and grain imports may remain unchanged

Despite the sharp increase in import prices following the devaluation of the Real, grain imports are not expected to decline drastically. Imports of wheat and flour, for instance, are mainly destined for human consumption, which may actually benefit from the decline in real income following the devaluation. However, imports of maize are likely to decline, reflecting greater price responsiveness of feed use. At the same time, maize imports are, at an estimated total of 1.4 million tonnes in 1998, significantly lower than wheat imports, which totalled about 6.6 million tonnes. The total devaluation effect on wheat and maize trade is likely to be modest.

- Oilseeds

Production and processing of soyabeans dominates the Brazilian oilseeds sector. With an output of about 31 million tonnes in 1998/99, Brazil is the world's second largest producer of soyabeans and accounts for over 20 per cent of production. Traditionally, a large share of this production is processed domestically, promoted by policies to stimulate domestic processing while taxing exports of soyabeans.

After a good crop in 1998, ideal growing conditions in 1998/99 point at another bumper crop for 1999. Harvesting started in March in the southern states (Rio Grande do Sul and Paraná), which enjoy high yield levels. Nevertheless there are also growing concerns that frequent rains in the central-west region may delay harvesting and could result in lower yields. In addition, dry weather in some of the northern areas, particularly in western Bahia are expected to have lowered potential output by about 10-15 per cent.

A good crop and the devaluation are expected to boost exports of soyabeans, meal and oil

In view of the favourable crop prospects and increased competitiveness due to the devaluation, soyabean exports are expected to increase to a new record level in 1999. At the same time, domestic crushing is expected to decline due to rising demand for soybeans in export markets, the impacts of continued devaluation, and the expectation that the government will maintain the ICMS tax exemption for soyabean exports. As of February 1999, export registrations reported by the government had reached a level of 4.8 million tonnes, nearly 280 per cent above registrations in 1998. Export registrations for soyabean meal and oil, at 2.1 million tonnes and 0.5 million tonne are 45 per cent, and 40 per cent above last year's levels, respectively.

The export boost has reinforced the public pressure for an export tax…

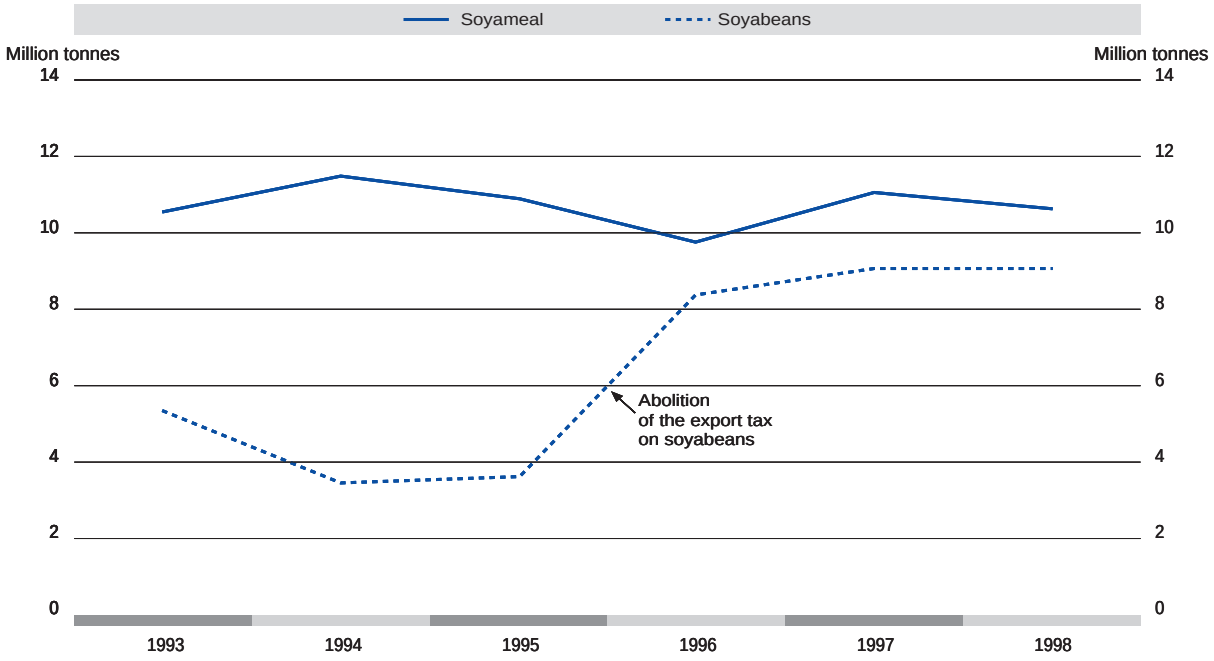
The exportable surplus of soyabeans has increased markedly over recent years, benefiting from the elimination of the ICMS tax on soyabean exports, and the abolition of the tax differential between soyabeans and crushed products, which favoured exports of soyabean meal and oil. The combined effect of the two measures pushed exports up to new record levels in 1998 and further increases are expected for 1999. The abolition of the export tax has also reduced profit margins of the domestic crushing industry and forced crushers to secure part of their supplies via imports. As a consequence, crushers have urged the government to reinstate the export tax on soyabeans. Concerns about possible food shortages and liquidity problems of some of the highly indebted federal states (the ICMS is a lucrative source of tax revenue for the federal states) have added to the pressure exerted by the processing industry (Graph II.1.3).

… but this is not supported by the overall market situation and the policy objectives

In the past, export taxes in other Latin American countries have been based on, and justified by, the notion that "undershooting" currencies provide an artificial competitive advantage for domestic producers to the detriment of domestic consumers. The export tax was assumed to rectify this perceived misalignment. Public pressure notwithstanding, an export tax on agricultural commodities in general, or on soyabeans in particular, is unlikely to be reinstated. On the political front, the central Government has reaffirmed its commitment to fiscal reform and is unlikely to reintroduce the export tax. On the market front, higher returns for pork and poultry meat exports and higher costs for meat imports, due to the devaluation, are expected to buttress local demand for soyabeans, meal and oil. Several major co-operatives have already started to expand poultry production in the major soyabean producing area of Paraná.

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Graph II.1.3. **The abolition of the IMCS tax boosts exports of soyabeans**



Source: OECD.

• Sugar

Another bumper crop adds to high sugar and alcohol stocks…

The sugarcane harvest for the 1998/99 marketing year reached a total of 338 million tonnes, down somewhat from the previous year. While good weather conditions in the centre-south and centre-west regions raised expectations for a bigger harvest, about 5 per cent of the crop was left in the field as market prices remained low, too low to cover harvesting and marketing costs. In view of low prices for both products, mills stopped purchasing and processing cane altogether.

About 40 per cent, or 115 million tonnes of the 1998/99 cane crop, has been used for sugar production; the rest is scheduled for ethanol processing. The share of cane destined for sugar production is above the traditional share of about 30 per cent. High carry-over stocks for alcohol, high carrying costs and a sharp reduction in prices for hydrated alcohol have shifted relative prices in favour of sugar and pushed millers to switch from alcohol to sugar production. Overall however, the profit margins remained small on average and negative for marginal producers. In order to reduce the losses of the sugar-alcohol industry, the government postponed deregulation of the price system and set the price at R$ 0.41 per litre. Despite the continued commitment to support prices, average prices received by producers have not exceeded the range between R$ 0.21-0.30 per litre, due to high carry-over stocks and the need to sell both sugar and alcohol in order for the millers to maintain a minimum cash flow.

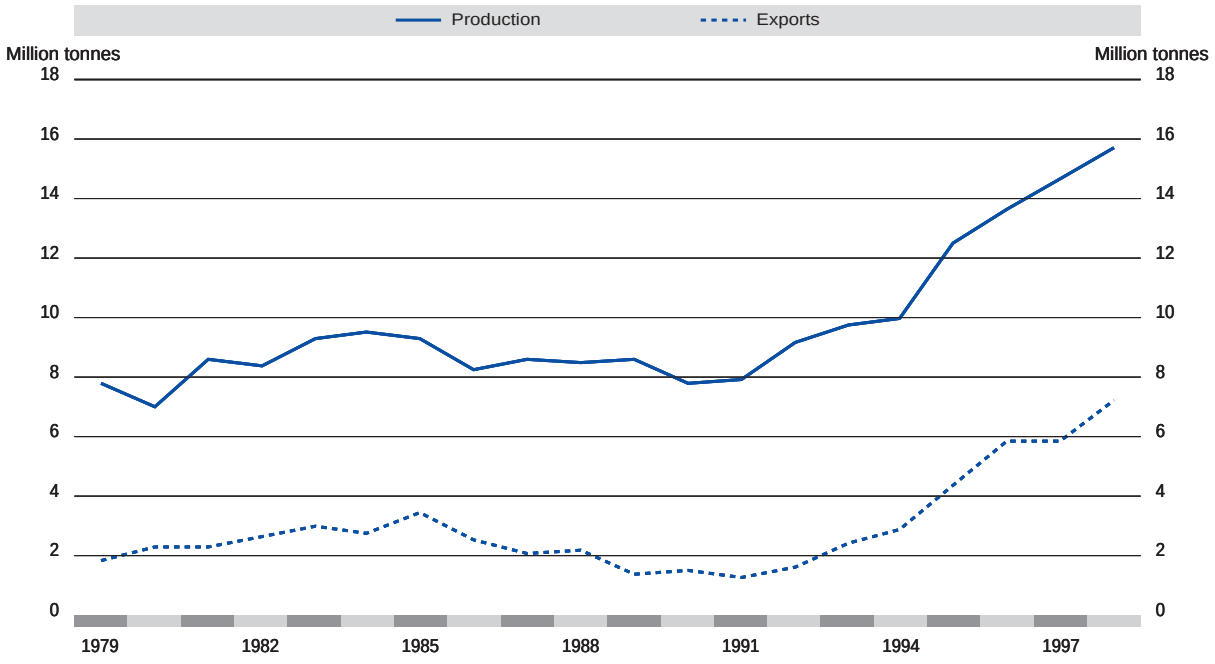
… and record exports of sugar

The good cane crop and the shift towards sugar production resulted in record sugar exports of about 8.36 million tonnes in 1998. Low internal prices for both sugar and alcohol supported the shift toward export markets. Exports were also pushed by recent investments in export infrastructure. As part of the privatisation and modernisation programme of the Port of Santos in the state of Sao Paulo, Brazil's largest port, a 20-year-use concession was given to private companies, which have invested in the remodelling of old sugar terminals and the construction of new ones. Significant reductions in export costs have been achieved which help strengthen international competitiveness.

New export markets and the continuation of the "proalcool" programme help clear domestic surpluses

New export opportunities opened in Middle Eastern countries, notably Saudi Arabia and the United Arab Emirates, where recent investments in new sugar refineries are fuelling imports of raw sugar. Higher exports to these countries helped offset sharply lower shipments to Russia, where the economic and financial crisis also affected the import capacity for sugar (Graph II.1.4). Additional relief to the surplus situation came from the government decision to continue the alcohol programme ("Proalcool") and to promote both hydrated and anhydrous alcohol consumption. The decision to continue the programme has been justified largely on political grounds. The alcohol programme provides approximately 1.4 million jobs, and helps improve the trade balance via import substitution of petroleum imports. In addition, fuel alcohol is less polluting than petroleum fuel, allows the generation of electrical energy through the use of biomass, and is a strategic source of energy.

Graph II.1.4. **Sugar production and exports at new record levels**



Source: OECD.

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• Coffee

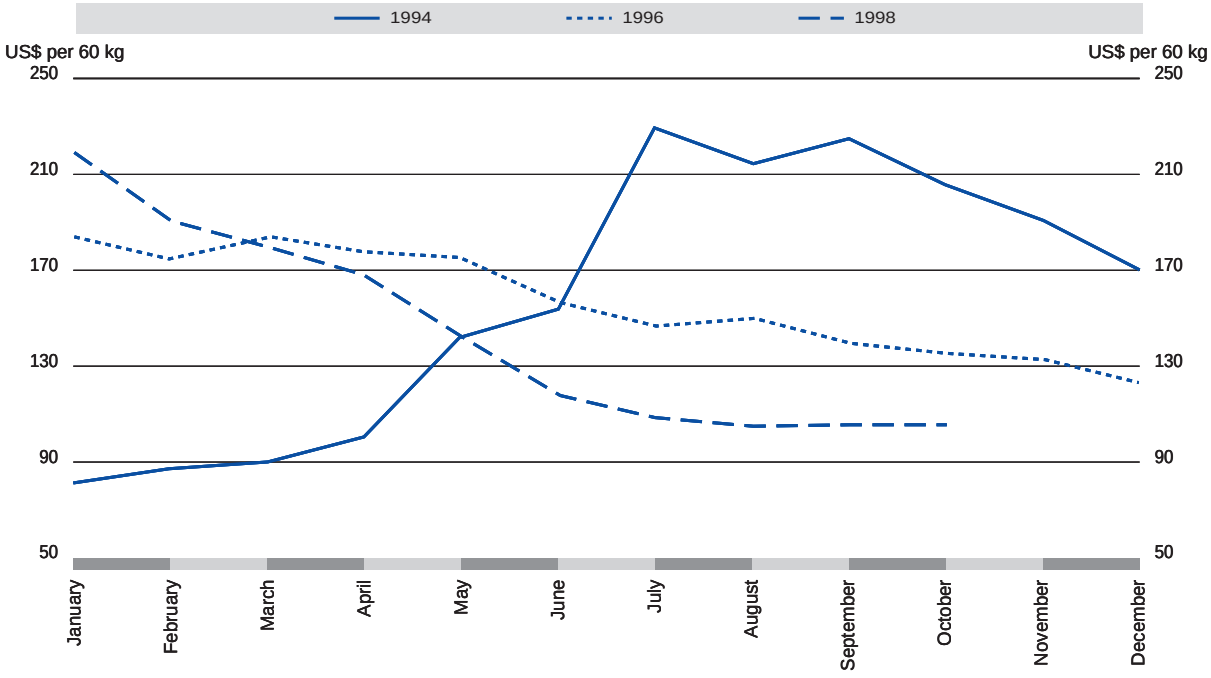
After weather problems in 1997, production is up sharply in 1998…

After an El Niño affected crop of only 23.5 million bags[6] in 1997/98, production leaped to an estimated 36 million bags in 1998/99. Minas Gerais and the southwest region, which represent about two-thirds of total production, also accounted for three-quarters of the recovery in production. The increase in quantity was partly offset by lower quality. In particular, the size of the coffee beans was below average with only 30 per cent of the crop classified in sieve 17/18, compared with 50 per cent for a normal crop. The higher quantity, combined with the dry spell that occurred in January 1998, meant that the above average temperatures in the first half of 1998 damaged fruit formation and caused the smaller bean size. However, while the size of the beans remains below average, taste and other quality criteria are reported to be excellent.

… and prices continue to slide

As production estimates for 1998/99 in May indicated a significant boost in overall output, spot prices for coffee started to slide (Graph II.1.5). Post-harvest prices dropped below cost-recovery levels for the majority of growers. As a result, many coffee growers opted not to sell the entire crop, speculating on a price recovery over the marketing year. With the damaging effects of hurricane "Mitch" for the crop in Central America, the "hold-and-see" strategy is likely to work. The government supported this strategy with the so-called "retention policy", offering financial support to private stockholders.

Graph II.1.5. **Good crop keep Brazilian coffee prices down in 1998**
Monthly coffee prices, spot Rio de Janeiro



Source: OECD.

The crisis in Russia took a heavy toll on exports…

Coffee exports for the marketing year 1997/98 reached a total of 14.85 million bags, about 11.6 per cent up on the previous year. Coffee bean exports ("arabica" and "robusta") accounted for about 13 million bags, while soluble coffee exports contributed approximately 2.2 million bags, in green equivalent. Estimates for the new marketing year point at a significant decline in exports of soluble coffee to 1.6 million bags, 24 per cent down from the previous year. This decline is largely due to a virtual collapse of exports to Russia and other Republics of the former Soviet Union. The Russian Federation has become the main export destination for Brazilian soluble coffee, followed by the United States, Ukraine and Japan. In 1997/98, 681 000 bags or approximately one third of soluble coffee exports were shipped to Russia. As a result of the Russian economic and financial crisis, exports of soluble coffee to Russia declined sharply from approximately 67 000 bags in July to only 2 000 bags in September 1998.

… and new markets are difficult to access

According to the Brazilian Soluble Coffee Industry Association (ABICS) there is no significant alternative market for exports of soluble coffee. The European Union, for instance, has set an import tax on soluble coffee of 8.1 per cent (expected to rise to 10.2 per cent) to protect domestic processors. With an import tariff of 67 per cent on soluble coffee, access to the Chinese market has become even more restrictive, leaving little room for a recovery in exports.

Livestock products

Brazil's livestock industry was affected – more than most other agricultural activities – by the economic slowdown in 1998. Shrinking demand, lower prices and declining returns to producers characterised the industry for most of 1998. While domestic demand for livestock products slowed in response to lower income growth, meat exports benefited from the gradual devaluation ("crawling peg") of the Real in 1998, which preceded the decision to float the exchange rate in January 1999.

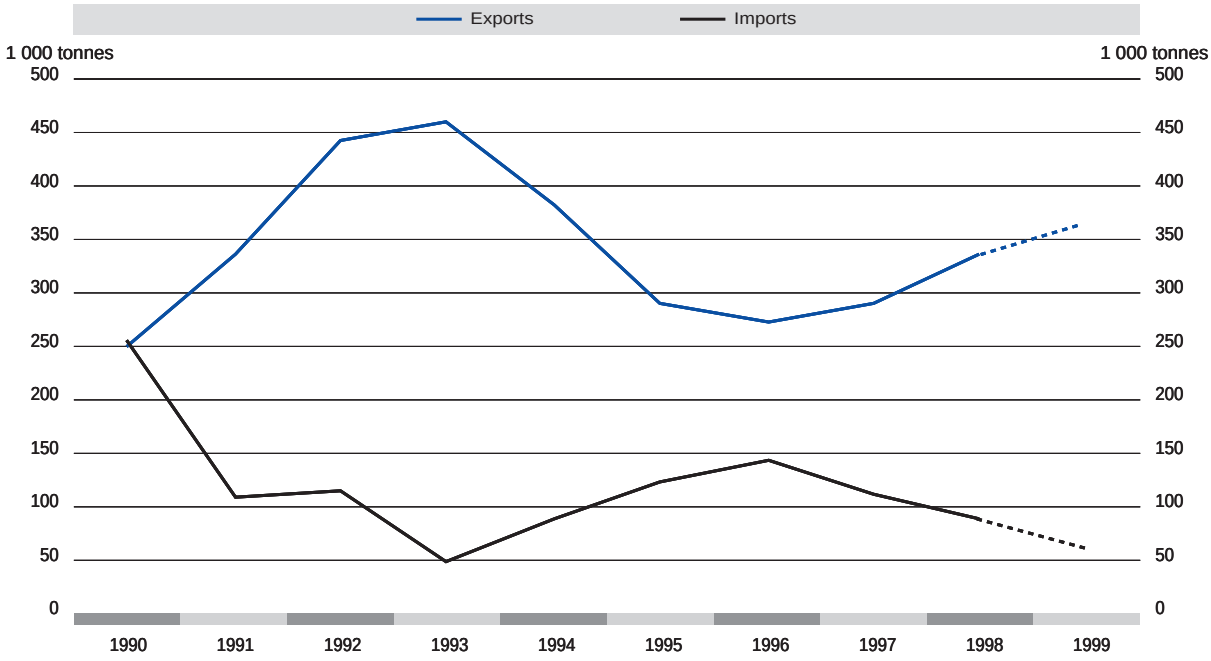
- Beef

Beef exports benefit from the devaluation and problems in the Argentine beef industry

Among the various meats, lower disposable incomes affected beef consumption in particular, reflecting the high income elasticity of demand for this product. While domestic production – unresponsive to price changes in the short run – remained relatively stable, imports of beef declined in line with consumption. Beef exports however rose by more than 20 per cent, largely reflecting higher exports of fresh and frozen beef to the European Union, which account for nearly 60 per cent of total beef exports. A number of factors have contributed to this development. As with all exports, beef exports benefited from the gradual, but growing devaluation of the Real in 1998. In addition, Brazil's beef producers profited from the production problems in the Argentine beef industry, opening new market opportunities for exporters with a similar product (high quality grass-fed beef). Moreover, Brazilian beef producers have stepped-up efforts to sell into the international market. Overall, more than US$300 000 have been invested in Brazil's beef export marketing programmes, mostly in the European Union. These investments

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Graph II.1.6. **The Brazilian beef industry has become more competitive**



Source: OECD.

also enabled beef producers to become more responsive to the EU labelling requirements. In fact, Brazil is already marketing its beef in the European Union under a "Brazilian Beef" brand, which shows the Federal Inspection Number (SIF), place and date of slaughter, lot number, sex, and age of the animal, and the producer's name.

Beef imports are lower but live cattle imports are higher

In parallel with rising exports, beef imports declined sharply (Graph II.1.6). However, the decline in overall beef imports was accompanied by an increase in imports of live cattle, particularly from Argentina and Uruguay into the southern states of Brazil. As Rio Grande do Sul State (RS), and Santa Catarina (SC), Brazil's two southern-most states, are the only states declared Foot-and-Mouth-Disease free (FMD free), they can no longer import cattle from other Brazilian states. Similarly, beef imports from other Brazilian states into RS and SC are also prohibited. As a result, cattle prices in these two states have risen in 1998, relative to other Brazilian states and have come close to those of Argentina and Uruguay, ranging between US$1.00 to US$1.18 per kilogram (live-weight).[7]

- Pork

Pork production and exports are up despite the crises in Russia and Asia

Pork production is estimated to have risen by 4 per cent in 1998, and reached 1.6 million tonnes.[8] This reflects stable returns to producers and strong demand from the export market, including first time shipments to Russia, and smaller increases in exports to Argentina and Hong Kong. In the first half of 1998, Brazil exported about 10 000 tonnes to Russia, which was promoted by a bilateral

sanitary agreement that acknowledged efforts by the federal government to eradicate FMD. Exports to Russia, however, came to a halt in the second half of 1998, following the economic and financial crisis in Russia. For 1999, the prospects for the pork industry remain favourable even though the exact impacts of the changes in the overall market fundamentals are difficult to gauge. While domestic demand is likely to remain stable or advance somewhat with increases in relative prices for beef, pork producers should benefit substantially from the significant boost in export prices resulting from the devaluation. The favourable prospects remain, despite rising difficulties to maintain market shares in Russia or crisis-stricken countries in Asia. Feed costs are, however, expected to rise in response to the devaluation of the Real. Where producers are unable to benefit from the expanding export markets, this could bring about a new cost-price squeeze on returns.

The long-term prospects are good for pork production in Brazil as recent and planned investment in pork operations come on stream, primarily in the centre-east region, but also in the north-east. In 1998, several large pork processors have announced more than US$ 100 million in investments in new pork plants in the centre-west, and upgrades of old ones in the South. Some of Brazil's western states are providing financial support in the form of rebates of state taxes to attract processing plants and to encourage infrastructure development.

Pork consumption is estimated to have increased by 2 per cent in 1998, due to larger supplies and lower prices. To boost consumption, the swine breeders association jointly with the pork processors association launched marketing campaigns worth US$ 1.2 million to raise consumption of fresh pork in urban centres. These efforts closely mimic the "other white meat concept" in a number of OECD countries and aim at changing the old consumer perceptions of pork as the fat, cholesterol-rich meat. Nevertheless, higher consumption of fresh pork will remain constrained by other factors. Retailers, mostly supermarkets, traditionally take high profit margins (of about 65 per cent) on sales of fresh pork, and still higher margins (76 per cent) for sales of processed pork products. Second, there is a strong consumer preference for processed pork, which may be difficult to overcome.

- Poultry

Total poultry meat production increased marginally by 0.5 per cent in 1998 to reach an overall level of 4.6 million tonnes. A number of factors contributed to the slowdown in production. These include the lack of day old chicks due to high temperatures brought about by the El Niño weather phenomenon and the outbreak of the leukosis disease. More importantly, demand both in markets at home and abroad continued to slow in 1998. In addition, investments in new production and processing units continues to slow. If future production growth is based on existing plants, double-digit productivity gains of the past ten years are unlikely to continue.

The crises in Asia and Russia have put a brake on exports in 1998…

Access to cheap feed stuff (maize and soyabean meal), modern production techniques and an expanding export market made Brazil one of the world's top poultry meat exporters. In 1998, however, the

effects of the crises in Russia and Asia, coupled with domestic production problems, resulted in a decline in exports by about 10 per cent compared with 1997. Brazil was particularly hard hit by the collapse of the Russian market, with export volumes down by 52 per cent. Export volumes also declined to other important markets like Saudi Arabia (down 12 per cent) and Japan (down 25 per cent). Brazilian exporters were able to offset some of these export losses by entering markets in the Caribbean (Dominican Republic, Cuba) as well as other Mercosur countries.

… but export promotion and devaluation are expected to help exports in 1999

With the devaluation of the Real, Brazilian poultry exports will become more competitive internationally and exports are expected to rise again in 1999. In addition, producers and exporters could benefit from better export financing terms and an aggressive marketing campaign, which was launched in March 1999. The Brazilian Poultry Exporters Association (ABEF) and the Brazilian Agency for Export Promotion (APEX) signed an agreement worth R$ 4.5 million to promote exports of Brazilian broilers overseas. The programme is similar to the Market Access Programme (MAP) of USDA, with the Brazilian government paying half of the cost of export promotion. The export promotion programme will concentrate on market studies and participation in 19 food shows overseas. The agreement aims to raise the export volume to US$ 1.2 billion by the year 2002, significantly up from the US$ 740 million in export sales in 1998.

- Dairy

Milk production continued to rise in 1998 and…

Milk production increased by about 5 per cent in 1998, much along the long-term growth trend. Non-traditional production areas accounted for most of the expansion in output, offsetting lower output due to prolonged drought in the centre-west. Imports and robust domestic production kept a lid on prices. This is expected to result in somewhat lower (4 per cent) production growth for 1999.

… investments in productivity growth and processing set the stage for future growth

Overall, the sector has a sound base for future production growth. As in the past, higher production is likely to stem almost exclusively from productivity growth, which is estimated to rise by 5 to 8 per cent a year. Continuing and large investment in improved herd genetics is the main pillar for productivity growth. Much of the improved genetic resources are imported from OECD countries, particularly from the European Union, Canada and the United States. The growth potential appears particularly large given current low levels of dairy yields, estimated at around 1280 litres per cow for 1998. Efforts to raise productivity and output are accompanied by investments in processing plants, particularly in non-traditional milk producing areas, such as the state of Goiás. The development of UHT (ultra high temperature) long-shelf-life milk packaging facilities and consumers' acceptance of this product also supported an increase in milk production in these areas. The investments in new processing methods will also allow milk to be transported economically from relatively remote areas to consumers in urban centres.

Growth in consumption is accompanied by a shift in the mix of products

Future income growth and the development of new products will determine the size of the Brazilian dairy market as well as its composition across dairy products. For 1999, lower incomes and rising unemployment are likely to limit the growth of overall dairy consumption, while some products may enjoy growing popularity. UHT milk consumption, in particular is estimated to continue to grow, given its greater convenience to consumers. In addition, UHT milk has become increasingly price competitive and the price premium over perishable fresh milk (so-called type "C") has declined from an average of 40 per cent 3 years ago to an estimated 5 per cent.

Agricultural policies

The Minimum Price Programme (MPP)

Traditional price support programmes…

For decades, the minimum price programme (MPP) was the main pillar of Brazil's agricultural support system. When initiated in 1943, it was limited to rice, black beans, maize, peanuts, soyabeans, and sunflower seeds. Over the years, the coverage of the programme expanded and finally encompassed about 40 commodities and their by-products. The list of products in the MPP eventually ranged from black beans, rice, and maize, to carnauba wax and guaraná (important crops for low-income regions) to poultry, pork and milk powder.

The main objective of the minimum price programme was to reduce the price risk at the beginning of the planting season, an important objective in view of the high share of planting costs (seeds, fertiliser) relative to total costs of production. The actual market interventions were carried out by a central government agency, the so-called Commission for Production Financing (CPF). Farmers and farm co-operatives had the option to sell their products to the market at the current price, selling to the CPF at the guaranteed minimum price, or borrowing from the CPF against the minimum (price) value of the stored crop for later sales to the market or to the government.

… are increasingly difficult to maintain

While the programme was never discontinued entirely, its influence declined steadily. Although all farmers are still eligible to the MPP credit programme, increasingly tight limits on the credit volumes limit the benefits particularly for large operations. In 1998, the credit volumes ranged between R$ 40 000 and R$ 300 000. All farmers qualify for the same interest rate of 8.75 per cent per annum, which is providing a substantial discount over market rates of about 44 per cent per annum in 1998. So-called household producers qualify for a rate of 5.75 per cent per annum under the PRONAF programme.

Market and price policy developments in 1998

- Cereals

To promote demand for low-quality domestic wheat…[9]

In November 1996, the Brazilian government introduced the so-called "Premio de Escoamento da Producão" (PEP) programme, also known as "Subsidy Auctions". The programme aims to promote sales of domestic wheat at the minimum price and thus relieve pressure on government purchases of wheat. More specifically, the PEP was put in place to assist in the marketing of lower quality wheat, which mills

are reluctant to buy at market prices. Under the PEP, wheat is auctioned to millers who bid on the level of the subsidy and not the price of the wheat. The government only pays the difference between the bid price and the guaranteed minimum price of R$157 per tonne. In practice, the subsidy element reflects a discount for lower quality and for higher transportation costs, so that the subsidy per tonne of wheat largely depends on the distance between the producer and the purchasing mill.

… new marketing funds have been approved

The PEP programme was put in operation from September through to November 1998. Until 12 November, about 1.1 million tonnes of wheat had been sold through the programme at a cost of about R$ 17.6 million. The main advantage of the programme is that the government never purchases the grain itself but tries to intervene "at the margin" by facilitating grain purchases of market participants through the subsidised auctioning system. This avoids storage costs, an important factor given interest rates of 40 per cent and more. For example, had the government chosen to purchase the September-November volume of 1.07 million tonnes under the minimum price guarantee policy, this would have required financing a total amount of about R$ 146.5 million (with nearly R$ 50 million p.a. incurred in interest rate costs). In addition, the government would still face the need to channel the grain back into the marketing chain at a price discount.

- Sugar

In response to the 1998 surplus situation, the Government announced purchases of 0.5 billion litre of hydrated alcohol from the centre-south and centre-west regions. Effectively, this will result in a shift in alcohol stocks from private hands into public storage. In addition, mixing of hydrated alcohol with diesel fuel was approved. Preliminary results show that a 3 per cent mixture of hydrated alcohol is feasible with no significant risk to engine performance, no significant loss in fuel efficiency and with less pollution. Economically, the optimal share of alcohol could vary from 3 to 12 per cent, depending on the relative price of alcohol to diesel fuel. In addition, the government announced its intention to set quotas for subsidised production as well as an overall limit of subsidies transferred to each processing mill. This will require changing the transfer system of subsidies with payments transferred directly to alcohol producers instead of fuel distributors.

- Dairy

To avoid arbitrage and transhipments, tariffs have been raised and…

After the 3 per cent rise in the Common External Tariff (CXT) of Mercosur for all products[10] in 1997, Brazil announced another increase in tariffs for dairy products in February 1998. This increase was a response to claims that the dairy sector was suffering unfair competition from imported dairy products, mostly from the European Union, Australia and Eastern Europe. The main problem was that foreign suppliers offered loans at 3-6 per cent interest p.a. with a 400-day repayment period. The Brazilian importers sold the product at lower prices, and invested the proceeds in the money market with yields of more than 40 per cent p.a. This practice is one

of many examples of trade distortions that have arisen from the policy to defend an overvalued exchange rate via high domestic interest rates. In addition, there was growing evidence of so-called "triangle operations", by which dairy products (particularly subsidised powder milk from the European Union) imported through Argentina at a CXT rate of 19 per cent, are processed and re-sold in Brazil.

Various measures have been introduced to address this problem. These include a return to the old import authorisation process and the reduction in the maximum payment period for imports of dairy products from 365 to 30 days. The import authorisation process is typically causing delays in the shipments and provoking cancellations particularly for imports of fresh dairy products. The reduction of the maximum payment period aims at curtailing arbitrage profits of importers who exploit the interest rate spreads between loans taken by international suppliers and the domestic savings rate.

… new non-tariff barriers have been erected

Rising tariff barriers were accompanied by growing pressure on the government to introduce new non-tariff barriers for dairy products. These measures include the pre-inspection of plants in the country of origin, the need for a certificate of origin, a laboratory quality test of the imported product, and the registration of product labels according to the Brazilian consumer law. Another non-tariff measure proposed would require importers of powdered milk to register with the Ministry of Agriculture and to meet specific sanitary requirements for powdered milk production. Producers of powder milk are however merely re-packers of imported powder milk, so far with no sanitary control by the government.

Credit programmes have been stepped up

While there is no specific federal programme to promote milk production, there are funds within the rural credit programme for major dairy co-operatives and large dairy companies to promote milk production. In general, these company programmes aim at improving quality and reducing costs. However, they also help increase output by promoting investments in improved production technology. In the past, farmers have used most of these credits to improve pastures, dairy genetics and to buy milk coolers. The subsidised credits are channelled through the dairy companies (many of them are large multinationals) to the individual farmer. The dairy companies can open credit lines of up to R$ 40 000 per farmer at an interest rate of 8.75 per cent. PRONAF credits are also possible, with an interest rate of 5.75 per cent only, but limited to R$ 5000 in volume.

Export promotion policies

Export financing…

The Brazilian government offers a variety of tax and tariff incentives to encourage exports (such as tropical fruits in the Northeast region of Brazil) and the use of Brazilian inputs in exported products. One of the most important contributions was the ICMS export tax exemption for primary products on January 1, 1997.

The export credit programme, known as PROEX, established in 1991, was reformed and expanded in 1996. Under this programme, the government provided interest rate guarantees to commercial banks,

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which finance export sales, thus ensuring that Brazilian exporters have access to finance at rates equivalent to those in foreign markets. In 1998, PROEX was replaced with foundation of the Brazilian Agency for Export promotion (APEX). APEX commands a total budget of around R$ 50 million.

… and export promotion programmes are applied

Export promotion activities are under the responsibility of the Department of Commercial Promotion (DPC) of the Ministry of Foreign Affairs (MRE). In addition to market promotion in other countries, the DPC/MRE is responsible for promoting investment opportunities in Brazil. The annual budget of DPC/MRE dropped from US$ 10 million in the 1970s to US$ 3.4 million in 1996. For 1998 the Brazilian Government allocated US$ 11.4 million for DPC activities, but less than US$ 6 million have been released due to budgetary restrictions. While it is difficult to separate expenditures on agricultural products from total expenditures, it is estimated that the share of Brazilian export promotion budgets applied to the agricultural sector amounted to US$ 1.35 million in 1998.

Rural Credit Policies

The National Rural Credit System (NRCS)

The National Rural Credit System (NRCS), established in 1965, provides loans to promote production and marketing of agricultural products. Credits are available to agricultural producers, farm co-operatives, and processors. Between 1970 and 1984, NRCS credits included a sizeable public subsidy element. During that period, interest rates paid under the NRCS programme were always below commercial rates. From 1984 onwards, interest rates for NRCS loans were kept above inflation rates but still below commercial credit rates and thus continued to include a subsidy element.

Between 1995 and 1998, an NRCS credit volume of about US$ 8 billion was channelled to farmers. Interest rates of programme loans in 1998 were 8.75 per cent. Small households qualified for even greater discounts under the PRONAF programme. 80 per cent of the total is scheduled for production costs (working capital) and 20 per cent to help finance longer-term investments.

The national programme to strengthen family farming (PRONAF)

PRONAF provides credits at subsidised interest rates to small family farmers – owners, tenants and sharecroppers. Small production co-operatives and associations are included in the programme. Loans can be used both to finance variable costs (particularly planting and harvesting) as well as for investments in machinery and infrastructure. The ceiling per farmer varies from R$ 5 000 for operating expenses, with a two-year repayment term, to R$ 15 000 for investments, with a repayment period of five years and an 18-month grace period. For co-operatives and associations, the ceiling varies with the number of members.

Financially, PRONAF is based on the constitutional funds of the north and north-east, as well as on the Worker Support Fund (*Fundo de Amparo ao Trabalhador – FAT*), which is supervised by a council

representing the government, the workers and the private sector. The co-ordination is with the Ministry of Labour. The administration of PRONAF is decentralised: it is implemented at the municipality level in co-operation with the federal and state governments and producer representatives, organised in tripartite employment committees, at the state and municipal levels. The committees are responsible for monitoring the progress of the projects being financed.

PRONAF has become a cornerstone of Brazil's rural development policies. The volume of credits disbursed reached a total of R$ 1.56 billion in 1997, with 600 000 families benefiting. In addition, the programme offered R$ 125 million to support the development of municipalities, R$ 30 million to help finance the extension service for small family farmers, and R$ 64.5 million to supplement other rural credit schemes in 1997. For 1998, the programme was stepped up to R$ 1 815 billion, with interest rates down to 5.75 per cent compared with 6.5 per cent in 1997 (Table II.1.2).

Table II.1.2. **PRONAF credits: volume and families benefiting**

	Credit volume in billion $R	Interest rate Per cent p.a.	Families	Volume $R/ family
1995	0.036		19 000	1 895
1996	0.649		333 000	1 950
1997	1.566	6.50	600 000	2 500
1998	1.815	5.75	710 000	2 975

Source: OECD.

Land reform policies

The special credit programme for agrarian reform (PROCERA)

Landed proprieties dominate the land ownership in Brazil. About 45 per cent of total agricultural land is held by farms of 1 000 hectares and more (Table II.1.3). A significant share of that land is held for speculative reasons and not used to grow crops or livestock. At the same time, the share of landless rural poor has increased. The government tried to address this problem and launched a number of attempts to reform policies governing property and land use rights. But new land structures were often unsustainable. With an increasing number of failures, there was a growing recognition of the need to supplement land redistribution efforts with credit programmes to ease the start for new farm households. PROCERA is the most import of these programmes.

Table II.1.3. **Evolution of the land ownership structure**
Per cent of total area

Property	1980	1985	1995
< 100 hectares	20.15	21.18	19.69
100 < area < 1 000	40.17	35.09	35.21
> 1 000 hectares	39.68	43.73	45.10

Source: IBGE Agricultural Census from 1980, 18 = 1985, and 1995.

PROCERA offers grants (up to 50 per cent of the credit volume) and interest rate subsidies for farm inputs. Not included are investments in the economic and social infrastructure of settlements. A family is entitled to a maximum of up to R$ 16 000; 50 per cent of the principal is to be paid back over a period of seven years (in the cases of credits for co-operative payments and for investments), with a two-year grace period. Repayment according to this schedule entitles the recipient to take out a new loan of a similar amount.

While PROCERA was originally created in 1985, it failed to meet its stated objectives until 1993. In 1993, the funds of the programme were stepped up and an amendment to the existing legislation was endorsed stipulating that 10 per cent of the Constitutional Funds of the Northeast, North and Central-West (Fundos Constitucionais do Nordeste, Norte e Centro-Oeste) have to be devoted to this programme. In parallel, the contribution from the federal budget was increased. In 1995, R$ 89 million were approved and distributed to about 18 000 new settlements. Until 1997, the volume approved increased to R$ 250 million, disbursed to 50 000 families. Thus more than half of all resettlements benefited from the programme (Table II.1.4).

Table II.1.4. **Land reform**

	Land distributed		Families resettled	
	Total area in hectare	Average/month	Total	Average/month
1995	1 242 334	103 528	42 912	3 576
1996	2 259 918	188 326	62 044	5 170
1997	4 771 987	397 665	80 000	6 670
1998[1]	5 964 983	497 078	100 000	8 333
Total	14 239 222	296 650	284 956	5 937

1. Estimate.
Source: OECD.

The new rural land tax

Created by the Land Statute in 1964, the Rural Land Tax (ITR) aimed at reversing the process of growing farm consolidation. The ITR stipulates that a land tax will be imposed which increases with the area owned and decreases with agricultural productivity. The larger the farm and the less productive the use of land, the higher the tax burden.

In practice, however, a high degree of under-reporting of land, over-reporting of productivity and outright tax evasion by landed proprietors made the ITR largely ineffective. As a result, essentially all landowners qualified for the maximum ITR tax reduction. Probably the strongest contribution to under-reporting resulted from the discrepancy between actual and declared productivity. For some areas and farms, productivity reported to INCRA for the calculation of the ITR was more than ten times as high as the average ascertained for the IBGE. In addition, the declared value for non-cultivated land was always significantly below the market value.[11] These problems

brought about an important amendment to the land tax legislation in December 1996. The changes include:

- ITR rates for large and unproductive properties rise from a maximum rate of 4.5 per cent for properties of more than 15 000 hectares, to 20 per cent for properties over 5 000 hectares (Table II.1.5 and Table II.1.6).

Table II.1.5. **ITR tax rates of the old rural tax law**

Size of the property	Degree of utilisation				
	> 80	> 65-80	> 50- 65	> 30-50	< 30
	Tax rate in per cent				
0-25		0.04	0.08	0.14	0.20
25-50		0.06	0.12	0.20	0.30
50-100		0.10	0.20	0.35	0.50
100-250		0.15	0.30	0.50	0.70
250-500		0.20	0.40	0.70	1.00
500-1 000		0.30	0.60	1.00	1.40
1 000-2 000		0.40	0.80	1.35	1.90
2 000-3 000		0.50	1.00	1.70	2.40
3 000-5 000		0.60	1.20	2.05	2.90
5 000-10 000		0.70	1.40	2.40	3.40
10 000-15 000		0.80	1.60	2.75	3.90
> 15000		0.90	1.80	3.15	4.50

Source: OECD.

Table II.1.6. **ITR tax rates of the new rural tax law**

Size of the property	Degree of utilisation				
	> 80	> 65-80	> 50-65	> 30-50	< 30
	Tax rate in per cent				
0-50	0.03	0.20	0.40	0.70	1.00
> 50-200	0.07	0.40	0.80	1.40	2.00
> 200-500	0.10	0.60	1.30	2.30	3.30
> 500-1 000	0.15	0.85	1.90	3.30	4.70
> 1 000-1 500	0.30	1.60	3.40	6.00	8.60
> 5 000	0.45	3.00	6.40	12.00	20.00

Source: OECD.

- Discontinuation of the division of properties by size, for the purpose of reducing the tax liability. In addition, the farm sizes of categories were enlarged and their number was reduced from twelve to six.
- The previous rates also varied depending on the region. There was one general table and two differentiated tables. With the new law, the rates apply to all rural properties, regardless of the region in which they are located.
- The value declared by the owner for the payment of the ITR, will be taken into account by INCRA in case of the land's eventual expropriation. This means that the rates will be higher and the tax base will be larger. The risk of expropriation is a strong incentive for landowners to declare the market value of their land, rather than to claim a fictitiously low land price.

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The new rates place a heavy tax burden on holding unproductive land. For instance, a rural property above 5 000 hectares, with less than 30 per cent of its land in use will have to pay an ITR rate of 20 per cent of the value of the land. Thus, over 5 years, a landowner pays tax equivalent to the market value of the land. This is likely to end land purchases for speculative reasons and leaves the owner of land with only two options: to farm or to sell the land.

Summary and Outlook

The crises in Asia and Russia spill-over to Brazil…

The spill-over effects from the Asian crisis dominated economic developments in 1998. The initial crisis in Brazil was sparked by the Russian declaration of a moratorium on its debt in August 1998. This resulted in a classic "confidence-crisis" in Brazil as well as in many other emerging-market economies. Brazil was particularly hard hit, given its dual deficit on both the current account and the fiscal balance. The crisis was characterised by a sharp increase in interest rates, rising net outflows of capital, and growing pressure on the exchange rate. On 15 January 1999, the Real was floated.

… bringing about a sharp devaluation, and underline the need for (fiscal) reform

Managing the effects of the devaluation will be the key to economic fortunes in 1999. The sharp devaluation will increase import prices and overall inflation. Maintaining a tight monetary policy in conjunction with fiscal reforms bears the risk of a significant short-term slowdown but may become the only way out of the crisis in the long run. Fiscal consolidation should include a reform of the federal system, the pension system, a re-affirmation of the governments' privatisation plan, as well as a reform of the tax and social security system. In the long-run, this would help reinstate the confidence of domestic and international investors, lower the pressure on the exchange rate, help easing on the monetary front and may open a window of opportunity to enter a cycle of sustainable, low-inflationary growth.

While the pressure to reinstate export taxes increases…

Brazil is an important trading nation for agricultural products. In view of the high trade exposure, the devaluation is expected to have a strong impact on production and trade in agricultural products. The 40 per cent devaluation against the US Dollar should boost prices, production and exports, and put a brake on agricultural imports. The prospects for higher food prices and booming exports have given rise to concerns about a possible food shortage and reinforced public pressure to reinstate the ICMS export tax. Moreover, given Brazil's dominant position in the international market for certain agricultural commodities, the increase in exports could also lead to lower international commodity prices. In particular, world prices for soyabeans and soyabean meal are likely to be affected. In addition, the devaluation means that imports to Brazil will become less competitive. Foreign supplies to the Brazilian dairy market have already been affected. Exports of milk and dairy products from Argentina to Brazil, for instance, have come to a halt since the devaluation.

… the importance of agriculture continues to rise…

The contribution of agriculture to GDP continued to rise in 1998. In absolute terms agricultural output increased to US$ 49.1 billion, equivalent to about 11 per cent of GDP. While production of grains was declining, output and exports of soyabeans and meal continued to increase. For 1999, the soyabean export boom is expected to continue. Similarly, sugar and alcohol production increased to new record

levels, benefiting from favourable growing and harvesting conditions. Exports increased in parallel, providing some relief to high domestic stocks. Exports benefited from recent investments in infrastructure, particularly the remodelling of old sugar terminals and the construction of new ones. Coffee production was also up sharply compared with the El Niño affected crop in 1997/98. Coffee exports, however, experienced a significant slowdown, brought about by the economic and financial crisis in Russia. Exports of soluble coffee were particularly hard hit by the collapse of the Russian market, traditionally the most important export market for this product.

… with further growth expected from booming exports

Brazil's livestock industry was affected (more than the crop sector) by the economic slowdown in 1998. Shrinking demand, lower prices and declining returns to producers characterised the industry for most of 1998, underlining the responsiveness of the livestock sector to changes in income. While domestic demand for livestock products slowed due to lower income growth, meat exports benefited from the gradual devaluation of the Real in 1998, which preceded the decision to float the exchange rate in January 1999. In addition to the devaluation effect, the beef industry benefited from problems in the Argentine beef sector. The pork sector too profited from buoyant export demand in the first half of 1998. With the crisis in Russia, however, the fastest growing export market virtually collapsed in the second half of 1998. Long-term prospects for pork production remain good, as recent and planned investment in pork operations come on stream, primarily in the centre-east region, but also in the north-east. While beef and pork markets boomed, the poultry industry experienced production problems and a weaker demand in the export market due to the crises in Asia and Russia. In addition, domestic consumption started to slow. This suggests that double-digit growth rates in production are unlikely to be maintained in coming years.

Market and price policies maintain a limited role…

To support the domestic wheat market, the government temporarily reinstated the so-called PEP programme ("Premio de Escoamento da Producão") from September through to November 1998. By November 12, about 1.07 million tonnes of wheat had been marketed through the programme. PEP is essentially implemented through an auction system, without actual purchases or storage of grain, a particular advantage in the high interest rate environment of 1998. Similarly, the government tried to support the sugar market through intervention purchases of 0.5 billion litres hydrated alcohol. In addition, the government approved blending diesel fuel with hydrated alcohol. At the same time, the government also announced to set quotas for subsidised production as well as an overall limit of subsidies transferred per processing mill. This will require replacing the transfer system of subsidies with payments transferred directly to alcohol producers instead of fuel distributors.

Changes in border protection have dominated policy changes in the dairy sector. After a tariff increase of 3 per cent for all products in the Mercosur Common External Tariff in 1997, Brazil announced another increase in tariffs for dairy products in February 1998. This increase reflected claims that the dairy sector was experiencing unfair competition from dairy exports, mostly from the European Union, Australia and Eastern Europe, which were either based on subsidies

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or on arbitrage trade due to the misalignments of interest and exchange rates. In addition, the government continued its efforts to promote productivity in the production and processing sector.

… while rural credit and land policies remain at the heart of agricultural policy intervention

Rural credit programmes operated by the National Rural Credit System (NRCS) remained the backbone of agricultural support policies in 1998. Loans were provided for both short-term financing of production and marketing as well as for long-term investments. Within the NRCS, the credit programme for smallholders (PRONAF) enjoyed particular popularity, providing the highest interest rate benefits but limited to relatively small amounts. The volume of credits disbursed increased to R$ 1.5 billion over the last three years, with 600 000 families benefiting.

The government also remained committed to continuing its new land reform programmes. Current programmes rest on two major pillars. The first pillar is the new land tax system, promoting release of, and access to, farmland for new settlements. The tax system was revised in 1997 to address more effectively the problems associated with speculation and the concentration of agricultural land in the hands of a few landed proprietors. High tax rates on large unproductive units of land push proprietors to farm their land, or alternatively to sell large unproductive properties to the government's land reform programme. The second pillar consists of a number of credit schemes. The credits contain a substantial subsidy element and aim at making new settlements economically viable. They help finance the construction of homes, roads, warehouses, schools, health centres, and the creation of co-operatives.

2. China

Macroeconomic situation

Economic developments in 1998

Domestic growth continues to slow…

China's economy has increasingly been subject to the restraining forces arising from falling industrial capacity utilisation. The effects include a sharp contraction of exports, growing volumes of unsold inventories, increasing failures of business firms and rising lay-offs of workers. Real GDP growth slowed to 7.6[12] per cent in 1998 – compared with 8.8 per cent in 1997 and 9.9 per cent the previous year. Growth in China slowed particularly in the first half of 1998, due to a marked deceleration in exports, although this effect was partly offset by a moderate increase in private consumption growth and higher government investment. Recent data suggest that growth began to pick up again in the second half of 1998 in response to the government's fiscal stimulus measures.

In part, the economic slowdown is attributable to the spill-over effects of the general economic crisis in other emerging markets of Asia. These effects have been magnified by the relatively high share of exports to GDP, the loss in competitiveness *vis-à-vis* other low-wage Asian exporters with depreciated currencies, and the knock-on effects on consumer and business confidence produced by the economic downturns in other Asian markets. Economic weakness was further aggravated by tight credit conditions, which

are more restrictive than the low nominal level of interest rates might suggest. Disinflation meant that real interest rates remained high and this caused severe balance sheet problems for banks and enterprises. In addition, structural weaknesses in China's economy, especially in the loss-making state enterprise sector, have led to a gradual slowdown in growth over the past two years and are further threatening growth prospects in the medium to longer-term.

… while deflationary pressure gathers strength…

China's economy was subject to growing deflationary pressures in 1998. The rate of inflation declined to –2.5 per cent, compared with a positive rate of 0.8 per cent in 1997 and 6.1 per cent the previous year (Table II.2.1). In view of these pressures, the authorities moved to ease monetary policy by lowering interest rates and increasing banks' liquidity. However, the impact of this stimulus was blunted as banks, burdened with non-performing loans and growing pressure to apply sound commercial standards to their activities, became increasingly reluctant to lend. Consumption spending lagged because urban households have become very cautious in the light of massive lay-offs from the state enterprise sector and the phasing out of the socialist welfare system for state workers.

Table II.2.1. **Key economic indicators and outlook**

	1995	1996	1997	1998[1]	1999[2]	2000[2]
GDP (rate of change)	10.5	9.7	8.8	7.6	7.7	7.2
Inflation (retail prices, rate of change)	14.8	6.1	0.8	–2.5	1.0	2.0
Government budget balance (% of GDP)	–1.7	–1.5	–0.8	–	–	–
Current account balance (US$ billion)	1.6	7.2	29.7	25	16.8	15.4
Current account balance (% GDP)	0.2	0.9	3.3	2.6	1.6	1.4

1. Estimate.
2. Forecast.
Source: *OECD Economic Outlook*, December 1998.

… and unemployment and social problems are rising

Registered unemployment has been rising due to the slack domestic demand and accelerating reforms of the state-owned enterprise sector (SOEs). Unable to find markets for much of their output, many state firms sent workers home and sharply reduced wages. Although urban unemployment is officially still down at 3 per cent, the number of workers who have been laid off but still affiliated with state enterprises (and hence technically employed) amounts to about 7 to 10 per cent of the urban labour force. In some large industrial metropolises, such as Shanghai and major north-eastern cities, the true unemployment rate is probably considerably higher. More than 90 per cent of China's cities have no formal social welfare system for unemployment compensation. Rising unemployment and delays in wage payments have led increasingly to strikes and worker demonstrations. According to a recent survey of 20 000 "xia gang" (an administrative label for workers sent home but not officially discharged), only 1.2 per cent had obtained social welfare payments.

China is attempting to stimulate growth and employment while simultaneously defending the exchange rate

A number of challenges have arisen simultaneously. The main problem is to continue the reform of the SOE sector, while reviving economic growth, curbing rising unemployment, addressing emerging social problems and growing income inequality, and remaining committed to a stable exchange rate. To sustain the consensus needed for reforms in the face of the near-term dislocations they entail, real growth needs to remain strong enough to prevent unemployment from rising substantially. However, despite the easing of monetary and fiscal policies adopted during the first half of this year, growth in China has slowed more than expected, prompting the government to bolster the economy through further fiscal stimulus. The authorities have accelerated the massive public investment spending package presented in the first half of 1998 and have announced plans to help finance the package by issuing RMB 100 billion in government bonds along with additional lending by the four largest state banks of an equivalent amount. At the same time, the government has postponed the privatisation of small and medium-sized enterprises as well as housing reforms aimed at encouraging home ownership and at ending rent subsidies by state-owned enterprises to their employees. So far, China has resisted the pressure to devalue its currency. Instead, tax and other benefits have been given to exporting firms to compensate for lost competitiveness.

From export-led growth to domestic market development?

Having decided to stimulate domestic growth while pursuing gradual reforms of the ailing SOE sector, the government has opted in effect to continue its past approach of a gradual movement towards a market economy. At the same time, the new focus on promoting infrastructure development and on ensuring a stable exchange rate also suggests that the overall development paradigm is gradually shifting from an outward looking, export-oriented growth pattern towards a more inward looking strategy. The new strategy is to develop the domestic market as the main source of growth and to aim at a more equal distribution of growth across provinces. One of the main uncertainties for the next years is whether domestic markets can replace export markets as a main engine of economic growth.

Agricultural situation

The role of agriculture

The agricultural sector took the lead in overall economic reforms in the late 1970s/early 1980s with measures such as the leasing of land to farmers under the household responsibility system and the introduction of a two-tier price system, which allowed for market based pricing in many areas. The success of the initial rural reforms resulted in a gradual broadening of reforms from 1984 onwards. Further measures included the restructuring initiatives of SOEs in urban areas and the gradual reform of the central planning system.

The successful reform process in agriculture also laid the foundation for the country's outstanding overall economic growth in the past. But as other sectors grew, the relative importance of agriculture declined. Before 1980, agriculture contributed more than 30 per cent to GDP and generated more than half of the nation's export earnings. By 1998, agricultural output had declined to about 18 per cent in GDP. The share in total employment was down to 48 per cent, compared with 81 per cent in 1970.

The crop sector

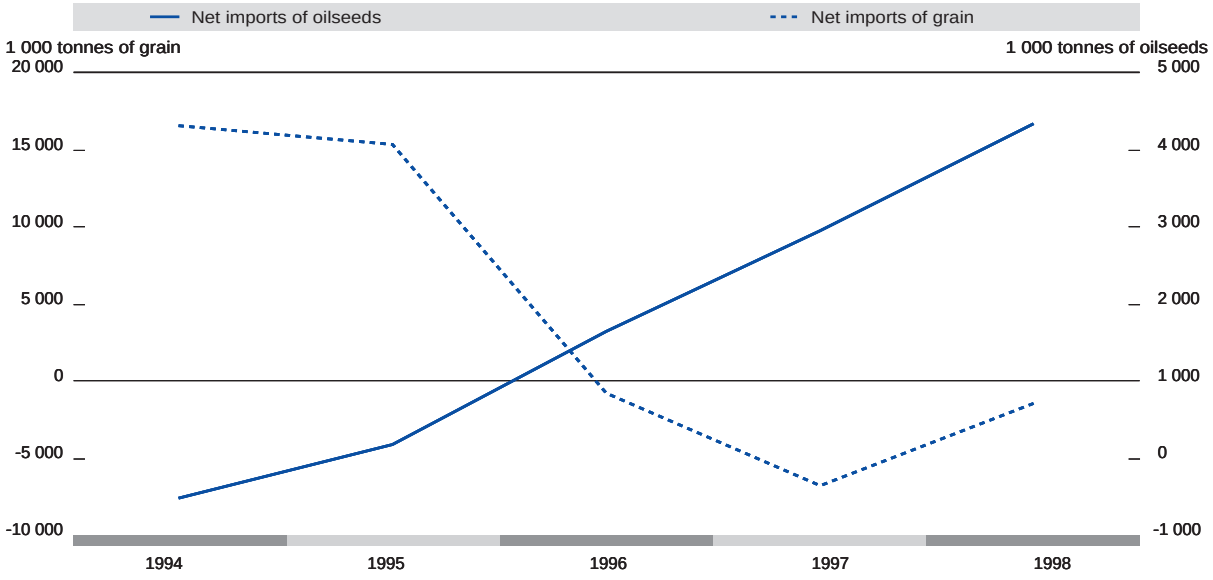
Production of grain stabilised at a high level in 1998

Total grain production (including rice in milled equivalent) stabilised at around 378 million tonnes in 1998/99, close to the level of the 1997/98 crop. While somewhat below the record level of the 1996/97 crop, supply outstripped demand and stocks rose, generating an exportable surplus of about 2 million tonnes. For the third year in a row, China remained a (small) net exporter of grain, a remarkable turnaround compared with imports of more that 15 million tonnes in 1994/95 and 1995/96 (Graph II.2.1). In a market system, surplus production and lower prices would encourage farmers to reduce grain plantings. But in China, the "governors' grain responsibility system" maintains a system of incentives and administrative pressure, in which farmers continue to produce grain irrespective of the market situation.

The floods had no significant impact on production

With the exception of rice, the impact of the floods on grain production would appear to have been minimal. Most of the wheat grown in China is winter wheat and this was harvested in June, before the most serious flooding. Maize yields were even up compared with

Graph II.2.1. **Emphasis on grain production results in growing imports of oilseeds**



Source: OECD.

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the levels attained in 1997 and only slightly down from those of the 1996 bumper crop. Only rice production, among the major cereals, was significantly affected by the floods. But early damage estimates, which suggested a decline of about 12 million tonnes, have been reduced to some 6-7 million tonnes.

Despite the lower wheat crop in 1998…

The 1998 wheat crop, at an estimated 110 million tonnes, was about 10 per cent below the record crop of 1997. While area harvested remained stable at around 30 million hectares, wheat yields dipped by as much as 10 per cent. Lower wheat yields are, however, not attributable to the floods but rather to dry conditions during the planting season and lower input use. Farmers had difficulties selling their grain crops in 1997 and early 1998, and therefore had insufficient funds to purchase inputs.

… wheat imports remain unchanged

Despite the smaller crop, 1998 imports are estimated to remain at the 1997 level of 2 million tonnes. To compensate for lower production and meet the domestic consumption needs, additional supplies are likely to come from stocks which had increased with the bumper crops of the last three years. Wheat imports and the reduction in stocks are linked in two ways. There is the normal "quantity" link as the authorities try to meet rising domestic needs through both a reduction in stocks and imports of wheat. But there is also a "quality" link. Owing to the low quality of wheat in stocks, imports of high quality wheat are necessary to achieve a reasonable blend for the milling industry. Overall, import requirements will remain small in comparison to the total level of stocks. Wheat stocks are estimated to remain at around 30 million tonnes, suggesting a stock-to-use ratio of about 30 per cent, which is twice the world average.

Despite a smaller rice crop, government stocks are forecast to rise in 1998

Preliminary estimates suggest that rice yields and area harvested were down somewhat compared with 1997. The effects of lower yields and acreage are expected to result in a crop of about 133 million tonnes, 7 million tonnes below the record crop of 1997. Despite the decline in output, the problem of high and rising stocks of low quality rice is likely to persist. There is no price differentiation for higher quality rice in the government procurement system and farmers meet their procurement obligations by producing and delivering low quality Indica rice. Early crop Indica varieties in particular render high yields but a low table quality. In response to this problem, provinces such as Hubei with large rice stocks have started to encourage farmers to plant higher-quality rice varieties that have a better chance of being marketed through both the government and private rice distribution systems. Provinces such as Guangdong and Guangxi, which produce early crop Indica rice, also plan to develop higher-quality varieties. But these measures promise only partial and gradual easing of the quality problem and it may take decades to "recycle" much of the low-quality rice that has been accumulated over the past 20 years.

Oilseed production was down slightly in 1998

Total oilseed production topped 40 million tonnes, but remained below the 1997 record crop of more than 43 million tonnes. As domestic consumption declined only marginally, imports rose to a new record high of nearly 5 million tonnes.

Soyabeans account for about one third of total oilseed production (13.5 million tonnes). While soyabean production expanded rapidly in the north-eastern provinces of China, particularly in Heilongjiang, this

increase was largely offset by a contraction in soyabean acreage in the North China Plain. Soyabean imports reached a new record of 3.6 million tonnes in 1998 and accounted for 80 per cent of total oilseed imports. Assuming unchanged import policies for soyabeans, the large price premium of domestic over foreign supplies will further stimulate soyabean imports. In 1996, China announced that it would implement tariff-rate quotas (TRQs) for several commodities, including soyabeans. However, the TRQ system was never put in operation and import licenses, though readily available, continued to determine trade flows. Given the decline in production in 1998/99, the absence of quantitative restrictions, and a low tariff of 3 per cent, soyabean imports are expected to remain high. In addition, joint ventures and wholly-owned foreign refineries have no choice but to crush beans because import quota allocations for crude oil are nearly impossible to obtain. Moreover, the continuation of the governors' grain responsibility system and its bias in favour of grain production will limit acreage expansion for oilseeds and thus limit production growth despite rising prices.

Soaring soybean meal imports make China the second largest market for animal feed…

Soybean meal imports continued to increase in 1997/98 to 4.4 million tonnes, largely due to low world market prices. Although domestic prices also declined from RMB 2 670[13] in early 1998 to about RMB 1 760 per tonne by the end of the year, they remained substantially above the respective international levels for the entire 1998 marketing period. High internal prices reflect robust growth in demand from the livestock sector, even surpassing the strong increase in output from 6 million tonnes in 1995 to an estimated 8.6 million in 1998 (Graph II.2.2) The sharp increase in soyabean meal imports made China the world's second largest market for animal feed, and the government has placed no restrictions on importing soyabean meal. China's State Administration of Grain Reserve estimated that soyameal consumption will continue to increase in 1998/99, though at a lower rate, and is expected to reach around 12.5 million tonnes.

… but import quotas limit imports of vegetable oil

Total imports of vegetable oil are limited by annual import quotas. The allocation of import quantities has traditionally favoured less expensive imports of palmoil over imports of soyabean oil. While soyabean oil already accounts for about 50 per cent of total consumption, higher imports would be necessary to meet potential domestic demand. As official imports are constrained by quota limitations, the incentives for smuggling and unofficial trade rise. Private oil processors use unofficial channels to evade duties and value-added taxes by bringing in foreign oils for processing and failing to re-export them. This suggests that the already high official trade statistics understate actual imports and underlines the growth potential of China's market for edible vegetable oil.

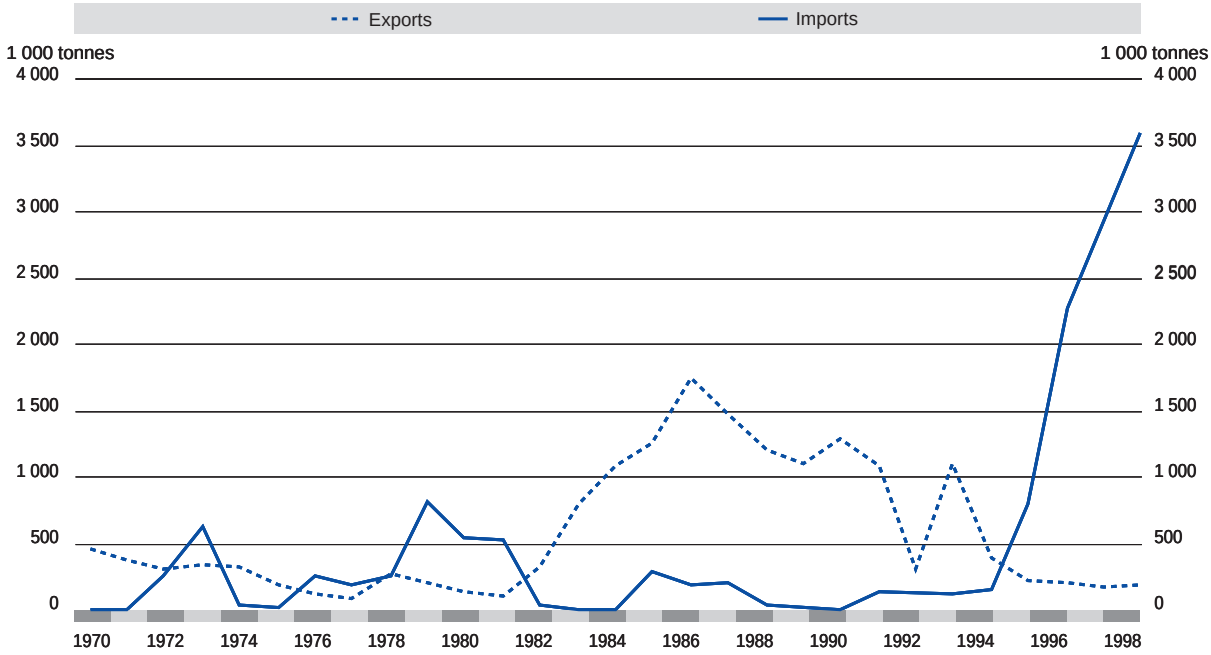
The livestock sector

The pigmeat sector dominates China's livestock industry…

Pork production dominates China's livestock economy. Pigmeat is the preferred meat and accounts for about 70 per cent of total meat consumption. Since the inception of the household responsibility system in 1978, the pork sector witnessed an overall growth of 500 per cent. Robust income growth boosted pork consumption, while policy incentives helped domestic producers to keep pace with demand. Imports

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Graph II.2.2. **Soaring imports of soyabeans...**



Source: OECD.

are limited through a quota system and play no role for the overall supply of the country (Box II.2.1 and Graph II.2.3).

… but after robust growth in 1996 and 1997…

In 1997, pork production continued to expand and reached a new record level of about 40 million tonnes. The results of the 1997 census, however, suggest significantly lower levels for the volume of pork production and pig inventories. The ending inventories were reduced by 21 per cent, pork production by 22 per cent for 1996. The census suggests about the same deviations for 1997. Both series however confirm a rapid expansion of pig inventories in 1996 and 1997. The rapid growth in 1996 and 1997 was boosted by the strong decline in maize prices, which increased profit margins and stimulated output. Both data sources confirm that swine inventory increased by more than 10 per cent annually in 1996 and 1997.

… the pig industry is likely to enter into a cyclical low

The strong expansion of output outpaced demand and resulted in sharply lower prices for piglets, slaughter hogs and retail pork in 1998. Strong imports of pork and pork offal from Hong Kong, and a 30 per cent decline in China's exports of live hogs, mostly to Hong Kong, also contributed to falling prices. As a result, producers are expected to cut back production for 1999. Greater variability in grain prices and the shift in production systems from grain-independent "backyard" production to specialised and grain-dependent operations could herald the beginning of a typical "pig cycle" in China.

From steady output growth…

In the past, fluctuating grain prices had little impact on the decision of Chinese farmers to contract or expand holdings. The structure of the Chinese hog industry was an important contributor to

Box II.2.1. Data problems complicate the analysis of China's livestock economy

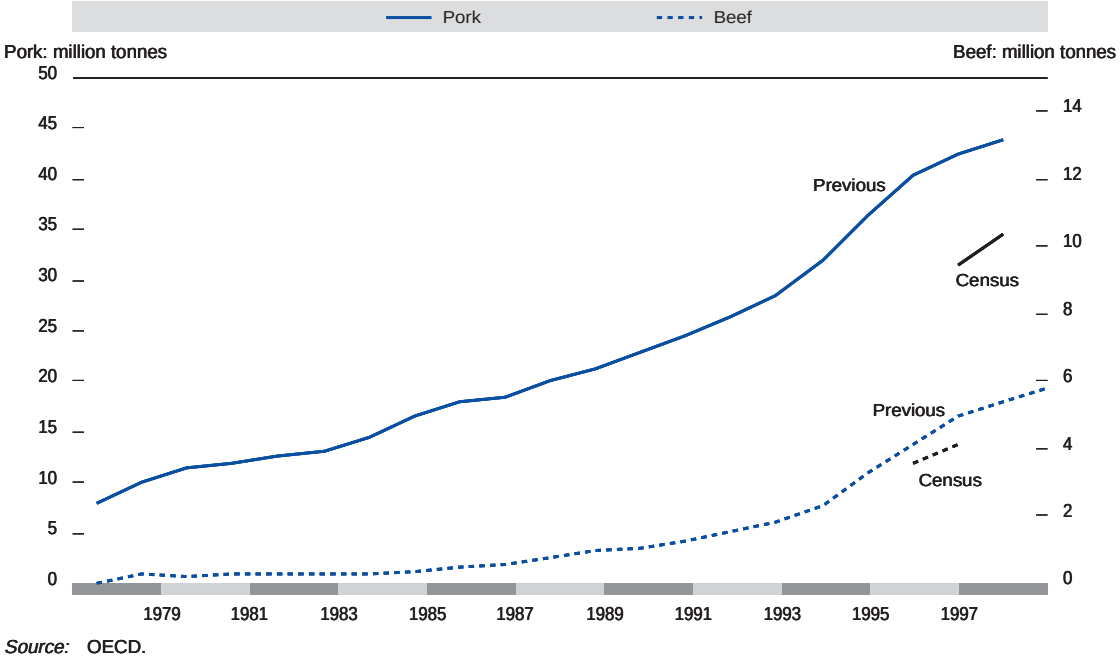
In 1997, China embarked upon a comprehensive national census of its agricultural sector. The census surveyed more than 213 million rural households, 193 million of which were classified as agricultural households. Data were also collected for non-households engaged in agricultural activities, including state farms; agricultural productive units attached to state organs, groups, schools, scientific research institutions and enterprises; agricultural investments by Hong Kong, Macao and Taiwan interests; and, agricultural holdings run by collectives and household unions.

Although the results of the census are now available to the State Statistical Bureau (SSB), only a very limited number of series has yet been published. Only a few series have been corrected in the official statistics and historical series have not been reconciled with the revised numbers for the last three years. The series in the 1998 Statistical Yearbook, for instance, which carried the first revised numbers for 1996, do not contain a historical series going back to 1978, as did all previous editions. Instead, data were provided for 1996 and 1997 only, limited to national totals, without a breakdown by province. It is thus impossible to determine in which province (s) the reductions occurred.

A closer look at the revised series suggests that the new information may not provide a solid base for analysis. For instance, data for a given year on animal inventory, production and slaughter of animals do not balance. In the past, the government used to report the number of females in the inventory, which provided some basis for estimating the number of animals produced. These series are absent from the new data. Data on the number of animals slaughtered are provided for hogs but not for cattle or sheep. Data on hides, fat, and tallow and other animal by-products remain unavailable. In view of these problems, the analysis presented in this report will still be based on the previous series, while highlighting, where important, differences with the new census results.

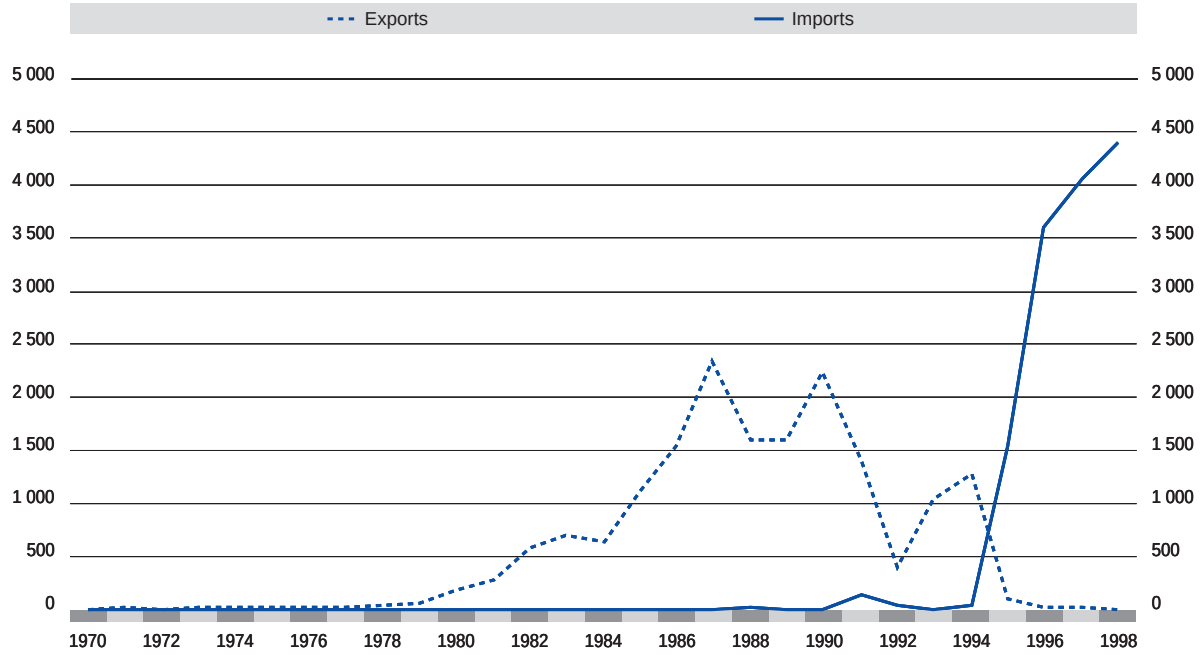
The 1997 census results also suggest that the previous production estimates for pork had been overstated by a margin of about 20 per cent. However, the new figures suffer from irregularities that raise new questions concerning their accuracy and reliability. For example, the distribution of changes (old versus new production estimates) across provinces suggests that production has been overstated by the same margin in all provinces, a surprising result in view of the magnitude of the overall adjustment of more than 20 per cent (Graph II.2.3). One notable revision in the provincial data for 1997 compared to 1996, is that the size of Shandong's cattle holdings has been reduced sharply, from more than 10 per cent of the national total in 1996, to 6.6 per cent in 1997. This change is consistent with reports in other sectors of Shandong's economy of inaccuracies in its statistics. Henan's cattle inventory, as a share of the national herd, increased from less than 10 per cent to over 11 per cent, making it the largest cattle province in China.

Graph II.2.3. **Beef and pork production: New Census Data versus previous estimates**



Source: OECD.

Graph II.2.4. **... and Soyameal**



Source: OECD.

this resilience. Approximately 80 per cent of pig producers in China are small family units, fattening 1-3 pigs per year (so called "backyard production"). For these small producers, economic returns from pork production are only *one* of the determining factors in the decision to maintain holdings. Hogs are a source of field fertiliser, and efficient converters of table scraps. As a result, the impacts of meat and grain prices on pig production are much lower than in OECD countries. In addition, the fluctuations of grain prices were less pronounced due to government intervention in the grain market, which could have affected the more grain-dependent pork production in specialised households and large-scale industrial operations.

... towards the typical price-quantity swings of a pig cycle?

In addition, the production structure of the pork industry is changing. A study undertaken by the Research Centre for Rural Economy (RCRE) revealed the share of "backyard" production in total pork production is steadily declining with more and more pork produced in specialised households and large-scale operations (Table II.2.2). These operations are more, or entirely, dependent on grain for the feed rations and will adjust their production in line with relative profitability (meat/grain price ratios), *i.e.* fluctuations in pork and grain price.

The beef sector

China's cattle inventory, the largest in the world, continued to grow by another 3 per cent in 1998 to 147 million head. With more than 43 million head slaughtered, beef production rose by 5 per cent to

Table II.2.2. **Share of output by production system**
In per cent

	Backyard production	Specialised households	Industrial Enterprises
1985	94.6	2.9	2.5
1993	88.3	8.2	3.5
1996	80.7	14.6	4.7

Source: RCRE.

5.8 million tonnes in 1998. Most of the beef was consumed domestically, and only a small portion – 50 000 tonnes – was exported. The total availability of beef, net of changes in stocks and exports, increased to 5.7 million tonnes, 8 per cent up from 1997. Per capita consumption increased to 4.6 kg.

Official meat trade remains strictly limited…

China imports very little beef, about 7 000 tonnes in 1998, and continues to restrict imports for retail sale. Hotels, restaurants and food processors are allowed to import limited quantities. Imports for retail sale are only permitted under a pilot project of China's Animal and Plant Quarantine (CAPQ), whereby meat from eleven specific plants in the United States, Canada and Australia can be imported by two specific Chinese companies. Initially a one year programme that began in June 1997, it was extended for a second year in June 1998. However, to date, no meat has entered China under this programme. Imported meat faces a tariff of nearly 40 per cent in the case of pork, and over 60 per cent in the case of beef. Traders, therefore, prefer to import meat through Hong Kong. The savings in tariff payments more than makes up for the extra cost of grey market transactions.

… but smuggling of meat increases

A highly visible campaign by the central government to halt all forms of smuggling, including meat, from Hong Kong, during the second half of 1998 appears to have had little impact. Although sharp changes in the volume of meat moving through Hong Kong occur from one quarter to the next, the underlying trend remains upward. However, traders have acknowledged that prices and thus profits have been hurt by the campaign. Margins for poultry, in particular, are said to be tightening, causing some small traders to abandon this trade to larger producers/traders and to concentrate on the more lucrative beef and pork trade.

Agricultural Policies

Market and support policies

A number of objectives have been shaping Chinese agricultural policies over the past two decades. They include self-sufficiency in staple food supplies, steady growth in farm incomes, food price stability, and secure urban food supplies. At the same time, China aspires to increase its participation in world trade. Despite the obvious incompatibilities between some of these objectives, the overall set of goals has remained remarkably stable over the past two decades. The emphasis on individual objectives, however, has shifted frequently during this period.

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First liberalisation steps under the household responsibility system were introduced in 1978

Current policies have their origins in the late 1970s and early 1980s, when the communal system was abandoned and farmers were given greater freedom of activity under the "household responsibility system". The introduction of the household responsibility system resulted not only in a production boom for grain and other food staples but also increased the output of vegetables and fruit, as well as industrial crops. By the early 1990s, the system of food rationing was abandoned as production exceeded consumption and experiments to allow activities of private agents in both domestic and international marketing of grains were permitted. In 1994, after a poor harvest, large exports of maize and rising grain prices, the government began to retreat from reforms towards greater market orientation (Box II.2.2 and Graph II.2.5).

The "governors' grain responsibility programme" of 1994…

Growing concerns raised by domestic and international analysts that China would have difficulty meeting its future grain requirements pushed central leaders to reformulate market reforms and to initiate the "governors' grain responsibility system" *("mi dai zi shengzhang fuzezhi").* This policy package was designed to promote adequate supplies of domestic grain at provincial levels whenever possible. While the various instruments of the "governors' grain responsibility system" aimed at preserving government control over the grain market, it was also expected that the policy changes would facilitate the transition from a policy of heavy government involvement in the purchase and supply system towards greater reliance on the market forces.

The main purpose of this policy change was to give provincial governors specific responsibilities concerning grain supply and demand. Based on supply-utilisation accounts for the grain economy of a province, a governor must determine his grain surplus or deficit status. If the province is in deficit, then the governor must first attempt to increase supplies by increasing the area sown to grain, raising the supply of inputs to raise yields, and providing subsidies to grain producers. The province must provide the list of the amounts and kinds of grains to be purchased domestically or to be imported. The governor purchases domestic grain through wholesale markets or receives imported grain from the central government. If the province produces a grain surplus, the governor maintains efficient grain production and supports grain sales to deficit provinces. This shift towards greater self-reliance in grain production also implies a shift in relative factor proportions that runs counter to the notion of specialisation according to comparative advantage. It has encouraged farmers to concentrate on the production of land extensive grain crops, a specialisation in which China has no advantage. At the same time this policy dampened economic factors, which encouraged farmers to specialise in producing labour intensive horticultural crops, where China has a comparative advantage. Overall, it caused new problems for China's agriculture and accentuated existing ones.

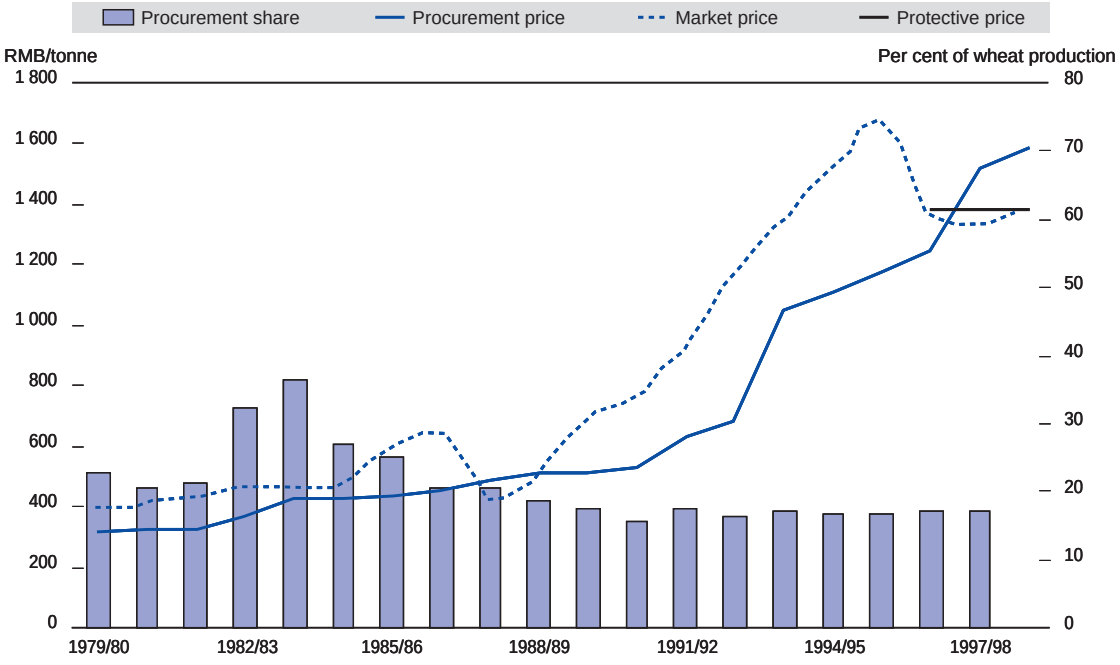
… added to mounting problems in the grain economy

The high grain stocks: The implementation of "governors' grain responsibility system" resulted in an expanding grain acreage, high input intensity and rising grain production, which stabilised at a record level of nearly 400 million tonnes (including rice in milled equivalent) over the past three years. At the same time, net grain

Box II.2.2. The two-tier price system for grains

The procurement price system for grains and rice is the backbone of agricultural price policies. The system requires farmers to deliver a fixed quantity (quota) of the grain produced at an administrative price (procurement price) to the government grain stations. For most of the last two decades, the procurement prices were kept artificially low, placing a considerable tax on producers of grain. This allowed keeping urban food prices low and helped meet the overall development objective of "supporting industrial development by assuring stable supplies of reasonably priced food". The effects of the system have changed markedly over the past four years. With renewed emphasis on food production following the reforms in 1994, market prices started to fall below procurement price levels. This meant that the implicit tax of the procurement prices on agricultural products turned into a subsidy (see graph). When prices for wheat and maize declined drastically in 1997, the government introduced another policy price for the remaining amount of grain farmers wanted to sell. This so-called "protective" price, though below the procurement level, should allow for cost coverage and include a small profit (Graph II.2.5).

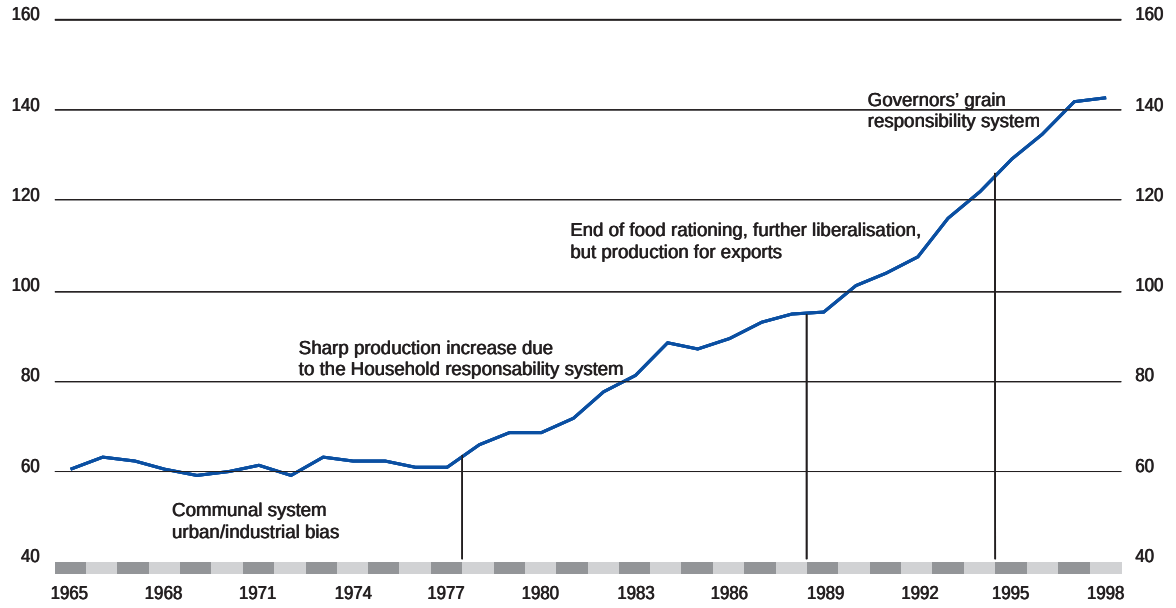
Graph II.2.5. **Market and procurement prices for wheat**



Source: OECD.

imports were transformed from a total of about 18 million tonnes in 1994/95 into an exportable surplus of more than two million tonnes in 1998/99. In parallel with increases in production, government inventories and on farm grain stocks rose sharply and market prices for grains declined, on occasion below the procurement price levels. The use of support prices and storage costs for about 200 million tonnes of grain (according to Chinese estimates) have become a great burden for the budget of the central government.

Graph II.2.6. **Farm policies and agricultural production in China**
Production per person, index, 1989-91 = 100



Source: OECD.

The deteriorating quality of stocks: Rising levels of stocks have been accompanied by a deterioration of the quality of grain in storage. A number of reasons have contributed to this development. Firstly, there was a clear lack of price incentives for the production of higher quality grain under the traditional procurement system. Farmers were only obliged to meet the quantity target of procurement, without quality constraints. High quality grain was only grown for on-farm consumption or marketing beyond procurement quotas, while the main body of grain production is of low quality from high yielding varieties, which helped to maximise profits per hectare planted. Moreover, the physical turnover of stocks has remained limited over the past 20 years. Much of the grain that has been accumulated over decades remained in stock and low quality grain delivered deteriorated due to inappropriate storage facilities. As a result, much of the grain in store (estimates range from 100 million tonnes to 250 million tonnes) is not suitable for human consumption, while some of it may not even meet the quality requirements for animal feed. The low quality of grain in stock also explains the continuous need for imports despite surplus production and rising stock levels. High quality imports can then be blended with low quality grain from domestic stocks to attain acceptable flour qualities for the food processing industry.

The liquidity problem of the grain bureaux: The procurement policy of the government forced the grain bureaux to purchase, store and bag grain, without necessarily having access to sufficient capital to finance these purchases. Moreover, where official government

finance has been made available, funds have not always been used to procure grain but ended up in other grain bureaux activities. Sharply higher supplies also meant that more and more grain purchased at the high procurement price had to be sold at a lower market price. High storage costs, procurement prices above market prices, insufficient capital endowment and misuse of government funds have resulted in a sharp increase of grain bureaux debt. In aggregate, the grain bureaux generated losses of RMB 214 billion over the past six years and accumulated debts of about RMB 169 billion. These debts have been rising against collateral (old, low quality stocks of grain) that is difficult to liquidate. The government has recognised this problem and has taken first steps to ease the liquidity problem. First estimates suggest that an additional amount of RMB 90 billion will be made available to grain bureaux through the Agricultural Development Bank.

The growing administrative costs: The launch of the "governors' grain responsibility system" has also exacerbated a number of existing administrative problems. Over-staffing of the grain bureaucracy has become the most pressing problem and resulted in an unsustainable burden for the state budget. A number of factors have contributed to this problem. China's military system pressured the grain bureaux to hire demobilised soldiers. College graduates and graduates from technical secondary schools have been assigned jobs in the grain bureaux, and persons already employed in the grain bureau system have been hiring friends, relatives, and job-seeking children of grain bureau employees. Currently some 4.1 million workers are employed in the system, and the state faces a major problem in determining how best to deal with laid-off workers and the millions of workers who have retired from the system over the last 20 years.

The lack of transparency in the grain storage and marketing system: In addition, there were growing problems arising from the vertical integration of the grain storage and marketing systems. Traditionally, grain bureaux have been charged not only with the operation of grain storage and distribution but were also controlling the entire downstream side from flour mills and crushing plants to hotels and restaurants. Vertical integration also meant that losses generated in the downstream operations could be merged with surpluses in other parts and thus be hidden in the overall balance sheet of the operation. There is growing pressure to separate these downstream activities from the primary grain handling functions of the bureaux, in order to increase the transparency and accountability of the various operations. The government tried to address these problems with the reforms of the grain economy launched in April 1998.

And growing fraud and misuse of subsidies: Although market prices for grain have fallen below the level of procurement prices, farmers have sold a growing share of their production to private traders. Limited procurement quantities and the fact that private traders offered cash (instead of vouchers offered by the grain bureaux) even if the grain was sold at a discount were the main factors contributing to this development. This booming private market segment increased marketing efficiency and facilitated inter-regional trade of

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grain. The system, which was illegal but tolerated, opened plenty of opportunities for fraud and misuse of subsidies. Many of the private grain traders were either employees of the grain bureaux or relatives of grain employees and used these connections to sell grain purchased directly from farmers at the lower market prices back to the grain bureaux at a premium. Their connections enabled them to received cash while farmers were put off with vouchers.

A growing recognition of the importance of these problems both for China's agriculture and its overall economic well being brought about a new reform initiative in April 1998.

The 1998 Reforms of China's Grain Economy

In April 1998, the central government announced a new policy package aiming at reform of the grain storage and distribution system. The package was launched after an intervention by China's Premier Zhu Ronji, who stated that the current system "… harmed the interest of farmers" and noted that "… the system failed to meet the need for development of the socialist market economy". Zhu charged that the grain bureaux were: *i)* too slow to change management mechanisms; *ii)* had surplus staff; *iii)* were poorly managed; and *iv)* diverted funds designated for grain purchases into other uses. To address these problems, reforms in five major areas were introduced. They were termed the "four separations and one perfection". Specifically, these include:

- *A separation of policy functions (administered by the state grain reserve) from the commercial functions.* In the past grain stations frequently operated businesses such as flour mills, crushing plants, hotels and restaurants. If these enterprises lost money, they turned to the grain station to cover their losses, which in turn asked the central government for loans. Because the funds for enterprises owned by the grain station were often mingled with funds used to manage government grain stocks, it was difficult to see where losses originated. Under the new reforms, the central government will no longer be responsible for covering losses generated by the grain bureaux as a result of the activities of their other enterprises.
- *A separation of central government-owned stocks from commercially held stocks.* Under the reforms stocks owned by the central government for national emergencies will be separated from stocks held by prefectural and local governments for short-term commercial purposes. In the past, poor accounting systems meant that the central government did not have adequate control over the stocks in local grain stations. There were reportedly occasions when the central government ordered local grain stations to release grain to put a brake on price increases, only to be told that the central government's grain had all been sold when prices were lower, and that everything left was owned by the local government. Under the reforms the central government's State Administration for Grain Reserves (SAGR) is supposed to manage the nation's strategic reserves directly, rather than mingling its stocks with those held by local governments.

- *A separation of the duties of the central government in stabilising grain markets from market stabilisation duties of the local administrations.* In order for the first two separations to succeed, there is a need for a clearer delineation between what the central government is responsible for and what the local government grain stations are responsible for. The central government is to be responsible for setting national food security policies and managing the nation-wide grain supply situation, including regulating imports and exports, controlling stocks assigned to the national reserve and regulating prices to ensure that farmers maintain the incentives to grow grain. The local government grain bureaux will be responsible for procuring grain (over and above those for the national reserve) and selling grain onward to wholesale users, such as feed and flour mills. In effect, the local grain stations are to operate as commercial enterprises. Buffer stocks for price stabilisation and disaster relief stocks will be the responsibility of the central government, while local governments will be responsible for stabilising local prices. The "governors' responsibility system" will be retained.
- *A separation of old and new grain debts.* By the end of 1997, China's grain bureau system, nationally, was reportedly losing RMB 14.5 billion (about US$ 1.8 billion) a month, through grain purchases, storage and loan servicing costs, as well as maintaining a bureaucracy that employed four million people. Most local grain bureaux have been running at a loss for several years and have accumulated substantial debts. Much of this debt overhang, the grain bureaux argue, is the result of previous government policies, which forced them to buy grain from farmers at high prices, and then to hold it off the market. They, therefore feel they should not be held accountable for this old debt. On the other hand, these local grain stations still possess the grain, which presumably has some value. Thus a compromise on all debt was reached: the central government is to be responsible for the interest on old debt while the local grain stations will be responsible for the principal. For new loans, the local grain bureaux will be responsible for both principal and interest. The current value of grain financing debt is approximately RMB 200 billion, of which RMB 130 billion is defaulted policy debt (debt overhang), with the balance representing borrowing for commercial operations. Each locality is to develop a 10-year repayment plan.
- The *"perfection"* of the system is intended to allow supply and demand elements within markets to set grain prices. In order to ensure the success of these four separations, the new policy takes a step back from market reforms by calling for increased state control over China's grain markets. The State Administration for Grain Reserves (SAGR) issued new regulations in June specifying that: *i)* Only grain bureaux can buy grain from farmers; *ii)* The grain bureaux must buy all the grain that farmers want to sell; *iii)* The grain bureaux may not sell grain at a loss.

A two-tier price system is to remain in place whereby farmers receive a fixed price for grain they are obliged to sell to the grain

bureau (called the "quota price"). A lower but still fixed price, called the "protective price", is paid for any remaining quantity they wish to sell. The grain stations are required under the new policy to sell the grain at a price, which covers costs and still includes a small profit. In practice, only the grain bureaux will possess grains in sufficient quantity to sell to commercial users. They should therefore be able to control supplies to keep prices high enough to cover their costs.

Evaluation of the 1998 reform package

Good intentions to stabilise farm incomes, to fight fraud and to address the grain quality problem…

Some of the measures may indeed help address the most pressing problems in China's grain economy. The introduction of the "protective price" as a minimum price for instance may help to stabilise farm-gate prices, while the monopoly granted to grain stations over the purchase of grain may help fight fraud and misuse of subsidies. In addition, measures have been approved to address the problem of low quality grain production and stocks. In order to encourage an improvement in the quality of China's grain supplies, and curb production of low quality grain for which there is no market, the grain bureaux have been given more flexibility to adjust procurement prices in line with the quality of the grain.

The 1998 reforms are also compatible with the shift in the overall development policy strategy. With the obligation to maintain the "protective price" as a minimum price level for the entire grain crop, grain bureaux are likely to raise their resale prices to industrial users and consumers, rather than cutting the procurement prices they pay to farmers. This pricing policy will, in effect, transfer resources from urban consumers to rural areas. This is consistent with a growing realisation that rural development is vital to China's continuing economic growth as policy makers look for new markets to replace markets lost to the Asian financial crisis. China's leaders are also responding to the widening gap between rural and urban incomes. Higher farm income is increasingly regarded as an objective in itself, rather than a means to increase grain production.

… come at the cost of losing market efficiency…

Nevertheless, these and other measures could also create numerous new problems. The re-monopolisation of the grain stations as the sole grain purchasing agency will limit the role of private grain traders. Private grain traders generally have much lower overhead costs than the grain bureaux, and they have often been able to undercut the grain bureaux' prices. Notwithstanding the problems of fraud in the private grain trade business, it should be noted that these private traders have also provided much needed services in procuring, storing and marketing grain.

… and market transparency

Fixing the price of grain and establishing a monopoly for the state grain stations could also bring about a loss in market transparency for all stakeholders in the grain economy. It may even affect the effectiveness of government policy implementation in the future. Over the past ten years, the functioning of local grain markets provided government authorities with valuable price information that enabled them to manage the grain economy. For example, market prices helped officials understand how China's domestic grain prices compared with

international prices, and helped them set appropriate fixed quota and support prices. If the functioning of local grain markets is impaired, authorities will find it increasingly difficult to establish the right prices and policy incentives for China's grain economy.

In addition, the role of private grain traders remains unclear…

The role of private grain traders also remains unclear. Private grain companies, feed and food processing mills, or other state-owned enterprises are not permitted to purchase grain directly from farmers and are not permitted to purchase grain in local open markets. They can only buy grain in wholesale markets at the county level and above (the government grain stations). Private traders will only be permitted to participate in wholesale/retail marketing (after procuring supplies from the state grain enterprises). It also remains unclear whether the basis for private and non-private competition will be equal in terms of similar access to output and credit markets, and consistent licensing and tax arrangements, etc. Also, the state enterprises may continue to suffer from operational handicaps such as over-employment or excess welfare responsibilities.

… and the fundamental problem of surplus production has not been addressed

Moreover, the reforms are unlikely to reduce the problem of excessive grain stocks. On the contrary, the fact that the grain stations are obliged to buy all grain at the relatively high "protective" price is likely to exacerbate the existing surplus situation. If the grain stations try to pass on the high purchase price to processors and consumers, grain demand is likely to decline and the need to store surplus grain is likely to grow. Alternatively, selling grain below the protective price would add to the existing debt burden of the grain stations and would run counter to the objective of avoiding new debt. On balance, the new policies appear retrogressive and may cause a return to the structure of the grain market of the late 1980s.

The reforms cured the symptoms not the cause

The 1998 reforms of the grain marketing and distribution system are an attempt to cure the symptoms rather than the causes of the problems in China's grain economy. They fail to address the fundamental problems, including chronic overproduction and an inefficient distribution system. In addition, the reforms reveal that China will continue to rely on state planning rather than free markets in the grain sector. While improvements can be made in their financial management, many of the problems that plague the grain bureau system remain untouched and new problems are likely to occur. The more efficient private grain traders will find themselves in an economic and legal environment that is more difficult to oversee and operate in. At the same time, state-owned enterprises, especially those that are part of the grain bureau system, are likely to be strengthened. Foreign investment in grain transportation and processing could be further discouraged. Farmers are unlikely to benefit from these reforms nor is social stability likely to be strengthened.

Other agricultural policies

Land tenure and tax policies remained largely unchanged

Agricultural policies in other areas remained largely unchanged in 1998. An unchanged farm policy environment is part of the strategy of the new government, trying to provide maximum stability for rural areas while focusing on what it deems to be the more urgent reforms required in the urban sector. The land tenure system based on the

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land contract system will not change. Farmland will continue to be owned by village collectives, which will continue to extend land contracts to individual farm households for 15 to 30 years. The government also intends to reduce the tax burden on rural households. It was stated that the tax burden on farm households should not exceed five per cent of net farm income.

Growth has accentuated pressures on the environment and sustainable development

The growth in China's agriculture, in common with growth in other sectors, has been based on mobilising more resources (land, irrigation, increasing cropping intensity) rather than on increasing the efficiency of resource use. With tight constraints on the most important resources (land and water), this growth pattern resulted in growing environmental problems. More and more marginal and environmentally fragile land was brought into production, resulting in an unsustainable use of the resource base. Deforestation and encroachments on marginal land along the banks of the major rivers brought about soil erosion and ground water pollution, and contributed to the floods in 1998. In response to the problems encountered during the floods, the government has announced a package of measures to promote reforestation and to reduce soil erosion.

Water scarcity is the main problem

In addition, there are growing concerns that the intensification of irrigation is resulting in massive problems for water supply. There is growing evidence that agricultural irrigation as the main user of water is competing with urban households and industrial plants for water and is a major contributing factor to the depletion of aquifers and falling water tables in the northern plains (Table II.2.3). There is also a growing recognition that water scarcity is a constraint that limits economic and social development. First measures have been taken to address this problem. In 1997, the third plenary session of the 15th Central Committee stated that the scarcity of water resources has gradually become a constraint to the development of agriculture as well as the economic and social development. The national awareness of the water crisis should be further enhanced and all the societal forces should be mobilised to give priority to the construction of water conservation projects, *"which can bring peace and stability to the people and prosperity to the country"*. Secondly, an explicit recognition of the economic value has been introduced in the *"Water Law of the People's Republic of China"*. Thirdly, a pricing mechanism for water use has been suggested, proposing a gradual adjustment in the price of water to its economic shadow price. For example, from a starting price of 0.008 RMB/tonne for irrigation water in 1988/90, the price has been gradually increased to 0.016 RMB/tonne from 1991 to 1996, and was lifted to 0.03 RMB/tonne in 1997.

Table II.2.3. **The development of water use by sector**

	1949		1993	
	Billion m^3	Per cent	Billion m^3	Per cent
Total volume	103.1	100	525	100
Agricultural use	100.1	97.1	385	73.3
Industrial use	2	1.9	115	21.9
Urban households	1	1.0	25	4.8

Source: China Rural Economy, 2nd issue, 1997.

Better policies hold the key to solving the water problem

Notwithstanding the attempts to raise the price of water and to introduce a more adequate pricing scheme, water is still under-priced and price has no significant restraining impact on the use of water. Current water prices do not even cover the financial costs of water supply, let alone the economic costs. This has brought about a number of problems. Most importantly, the excessive use of water at prices below the cost-recovery level has created a rising burden for the government budget. In addition, under-pricing of water has resulted in numerous environmental problems and the adoption of irrigation techniques (flood irrigation) that are extremely water-intensive. In 1997, for instance, the price relations for the use of agriculture water, industrial water and water for urban households were 1 : 5.3 : 3.3. These price ratios remained largely unchanged over the past decade, indicating that the price increase for irrigation water fell short of addressing the wasteful use of water in agriculture.

Summary and outlook

There is growing stress for China's overall economy…

China's overall economic growth declined for the third successive year in 1998. Real GDP growth slowed to 7.6 per cent in 1998, after 8.8 per cent in 1997 and 9.9 per cent in 1996. The slow-down in growth was a reflection of both a cyclical contraction and the impacts of the Asian crisis on the export markets. Recent data suggest that growth began to pick up again in the second half of 1998 in response to the government's fiscal stimulus measures.

In tandem with the slow-down in growth, a further moderation of price inflation was evident and there are indications of growing deflationary pressures. The rate of inflation declined to –2.5 per cent in 1998, compared with a positive rate of 0.8 per cent in 1997. In view of these deflationary pressures, the authorities have moved to ease monetary policy by lowering interest rates and increasing banks' liquidity. Consumption spending has lagged because urban households have become very cautious in the light of massive lay-offs from the state enterprise sector and the phasing out of the welfare system for state workers.

On the policy front, numerous challenges have arisen simultaneously. The main challenge is to stimulate growth and fight unemployment while at the same time continuing with the reforms of the state enterprise sector, address growing social problems and maintain the current exchange rate level. The government has stimulated economic growth through further fiscal spending, which helped prevent a major surge in unemployment. At the same time, the government has postponed the privatisation of small and medium-sized enterprises as well as housing reforms aimed at encouraging home ownership and at ending rent subsidies by state-owned enterprises to their employees. So far, China has resisted pressures to devalue the currency. Instead, tax and other benefits have been given to exporting firms to compensate for lost competitiveness.

… while the agricultural sector continues to expand

The agricultural sector as a whole experienced another strong year of terms of output growth. With the exception of maize and oil crops, production of all major agricultural commodities increased. Total grain production exceeded the mark of 378 million tonnes (including rice in milled equivalent), falling only about 10 million tonnes shy of

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the 1996/97 record harvest. The third good crop in a row added to plentiful private and public grain stocks and is likely to create an exportable net surplus in 1998/99 of 1.5-2.0 million tonnes. But growing self-sufficiency in grains comes – at least partly – at the expense of lower oilseed production. Coupled with robust demand for vegetable oils and oil meals, the drop in oilseed production resulted in new record levels for oilseed, oil and meal imports.

The basic features of China's livestock sector remained largely unchanged in 1998. Pork remains the preferred meat, accounting for more than 80 per cent of total meat consumption. On the supply side, the shift towards larger and more efficient units for pork production has gathered strength. A growing share of output is coming from specialised households or industrial operations, which benefit from scale economies and modern production techniques. But this shift may also mean that China's pork industry could be exposed to greater cyclical price changes, particularly if feed grain prices are allowed to fluctuate more freely.

It is interesting to note that the political priority given to grain production is largely ignoring the preference of the market for oilseeds and oilseed products. Urbanisation and vigorous income growth have resulted in a shrinking share of demand for grain and grain products, a demand segment that is increasingly characterised by low or negative income responsiveness. At the same time, higher incomes have spurred demand for vegetable oils and meat (demand for oil meals reflects derived demand for meat and livestock products) and driven imports of oilseeds and oil meals to new record highs.

Basic agricultural policies remain unchanged…

The main agricultural policy measures and objectives remained unchanged in 1998. The new government will continue to place emphasis on food security issues through the "governor's grain responsibility system". That policy boosted domestic grain production in 1995, 1996, and 1997, resulting in increased grain exports, reduced grain imports, large and growing grain stocks, and falling grain prices. To stimulate grain production in 1998, the government plans to continue using "protective" prices (support prices) that are set by the central government at 10 per cent below the government procurement price.

The land tenure system, based on the land contract system, will also remain unchanged. Farmland will continue to be owned by village collectives, which will continue to extend land contracts to individual farm households for 15, 30, and in some cases 50 years. In addition, the government will continue efforts to reduce the tax burden on rural households. The government has stated that the tax burden on farm households should not exceed 5 per cent of net farm income.

… except for the grain marketing and distribution system

In April 1998, the central Government announced a new policy package aiming at the reform of the grain storage and distribution system. These reforms aimed at addressing growing concerns about inefficiencies and fraud in the grain administration and distribution system. The grain stations were charged with: *i)* being too slow to change management mechanisms; *ii)* having surplus staff; *iii)* being poorly managed; and *iv)* having diverted funds designated for grain purchases into other uses. To address these problems, a reform

package comprising five major areas was introduced, known as the "four separations and one perfection". Specifically, these include:

- A separation of policy functions (the state grain reserve) from the commercial functions.
- A separation of central government-owned stocks from commercially held stocks.
- A separation of the duties of the central government in stabilising grain markets from market stabilisation duties of the local administrations.
- A separation of old and new grain debts.
- A "perfection" of the system that will allow supply and demand elements within markets to set grain prices.

The reforms were destined to improve efficiency, decrease staff, and separate policy functions from the commercial operations of the grain bureaux. In practice, the implementation of the reforms in practice may help strengthen government control over the grain economy but it will impede the functioning of open markets.

The impacts of the reform package are difficult to gauge at this early stage. In practice, the re-monopolisation of the grain stations will limit the role of private grain traders and is likely to result in a loss of market efficiency and market transparency. The reforms also fail to define the role of private grain traders and fall short of addressing the fundamental problem of surplus production. Instead, the reforms are likely to strengthen state control over the national grain system. Moreover, the reforms ignore the fundamental problems, such as chronic overproduction and the inefficient distribution system. Finally, there are also growing concerns that they will fail to solve the fiscal and management problems that plague China's grain bureaux system, which last year lost an estimated US$1.8 billion a month.

3. CEEC Region[14]

Overview of Developments in CEECs[15]

Protectionism in the CEECs increased in 1998 in response to…

Following several years of improving economic performance, the CEECs experienced a slowdown in economic activity in 1998. This slowdown was due to several external factors, in particular, the economic crisis in Russia as well as the general slowdown in demand in the EU and other export markets. After the demand driven commodity boom of the mid-1990s, agricultural commodity prices plunged to historic lows for several products in 1998. The prospects for any improvement in the short term are poor, while the medium term outlook will depend on a recovery in demand in East Asia as well as the supply response in OECD countries. The policy response in most of the CEECs has been to raise tariffs on selected agricultural and food imports and to raise public expenditures on agriculture. In addition, the more ambitious aims of the Central European Free Trade Agreement (CEFTA) and the Baltic Agricultural Free Trade Agreement (BAFTA) have been postponed. A further development has been a substantial increase in barter trade between several CEECs and Russia. In the longer-term however, the

… plunging agricultural commodity prices

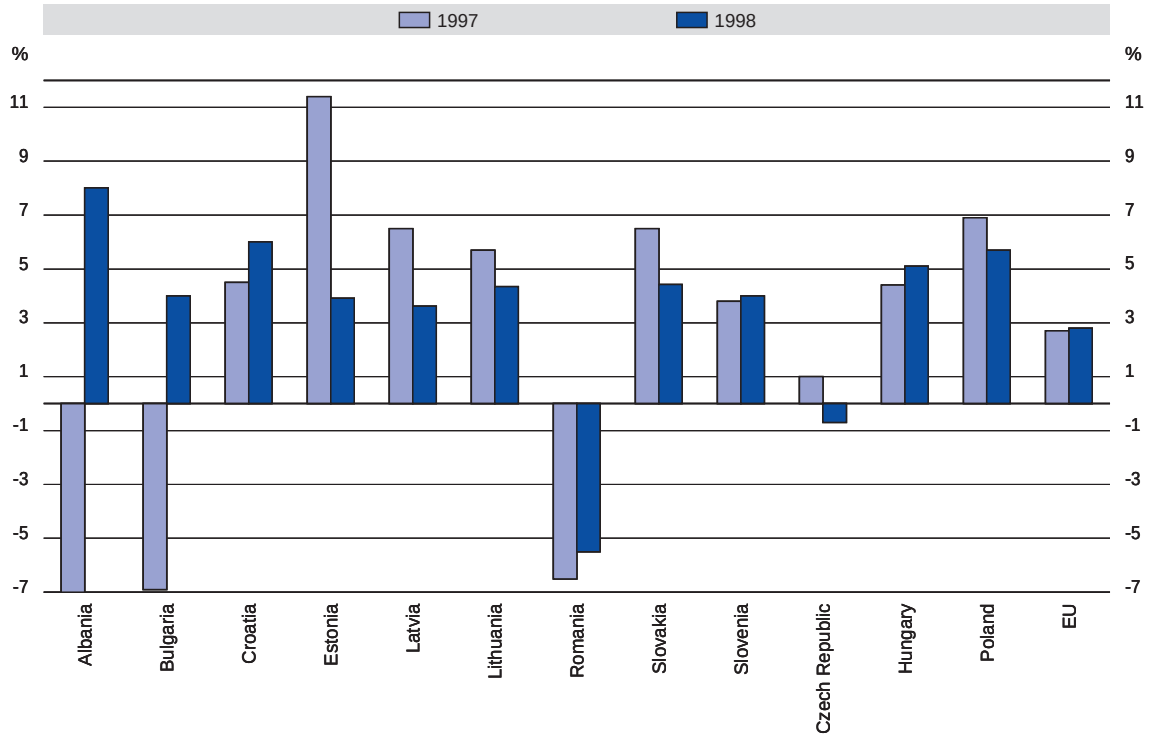
prospects for the agro-food sector are more favourable as economic growth in the region continues to expand the size of the domestic market and inflows of foreign investment increase. This section provides an overview of macroeconomic, production, trade and policy developments, with special focus on developments in 1998. It attempts to provide an assessment of the progress made in the privatisation and restructuring of the agro-food sector, as well as progress in the implementation of agricultural and trade policy reforms in the region.

Macroeconomic situation

A slower but modest increase in GDP growth was recorded

Economic growth was quite divergent across the CEECs in 1998, with slower, and modest growth recorded in all countries in the region, except for the Czech Republic and Romania (Graph II.3.1) Several CEECs experienced a slowdown in economic growth in 1998 due primarily to the spillover effects of the Russian economic crisis and to a lesser extent slower growth in western Europe. More specifically, following a severe economic contraction in 1996 and 1997, the Bulgarian economy showed some signs of recovery in 1998 with GDP growth recorded at about 4 per cent. This upturn can be attributed to the new macroeconomic stabilisation programme, which was introduced in 1997 and

Graph II.3.1. **Real GDP growth in CEECs and EU**
Annual percentage change



Source: Annex Table I.2.

aimed at structural reforms, privatisation and price liberalisation. The Albanian economy also rebounded strongly in 1998 with economic output increasing by about 8 per cent. In the Baltic region, GDP growth slowed significantly due primarily to the collapse in the Russian and NIS markets, and ranged from 6 per cent in Estonia to 5 per cent and 4 per cent in Latvia and Lithuania respectively. Poland, Hungary, Slovakia and Slovenia recorded GDP growth of between 4 and 6 per cent in 1998. On the other hand, economic output contracted for a second successive year in Romania, with GDP declining by an estimated 4 per cent following the 6.5 per cent decline in 1997. In Romania, delays in implementing structural reforms continue to hinder macroeconomic stabilisation and economic recovery. In the Czech Republic, GDP contracted by almost one per cent in 1998, reflecting to some extent the need to speed-up the pace of economic reforms.

Economic growth is expected to stabilise or increase slightly in 1999

In 1999, economic growth in the CEECs is expected to stabilise, or increase marginally, driven by stronger domestic demand in the region. However, low world commodity prices and export demand due to the ongoing economic crisis in Russia in addition to the slowdown in growth in OECD countries will continue to dampen the economic growth in the region. Of the CEECs, Poland, Slovakia and Slovenia have more or less recovered from the massive drop in output during the early 1990s, and have reached or exceeded their pre-1989 level of output. On the other hand, output in the three Baltic countries, Albania, Bulgaria, Croatia and Romania continues to be significantly (15-40 per cent) below its 1989 levels.

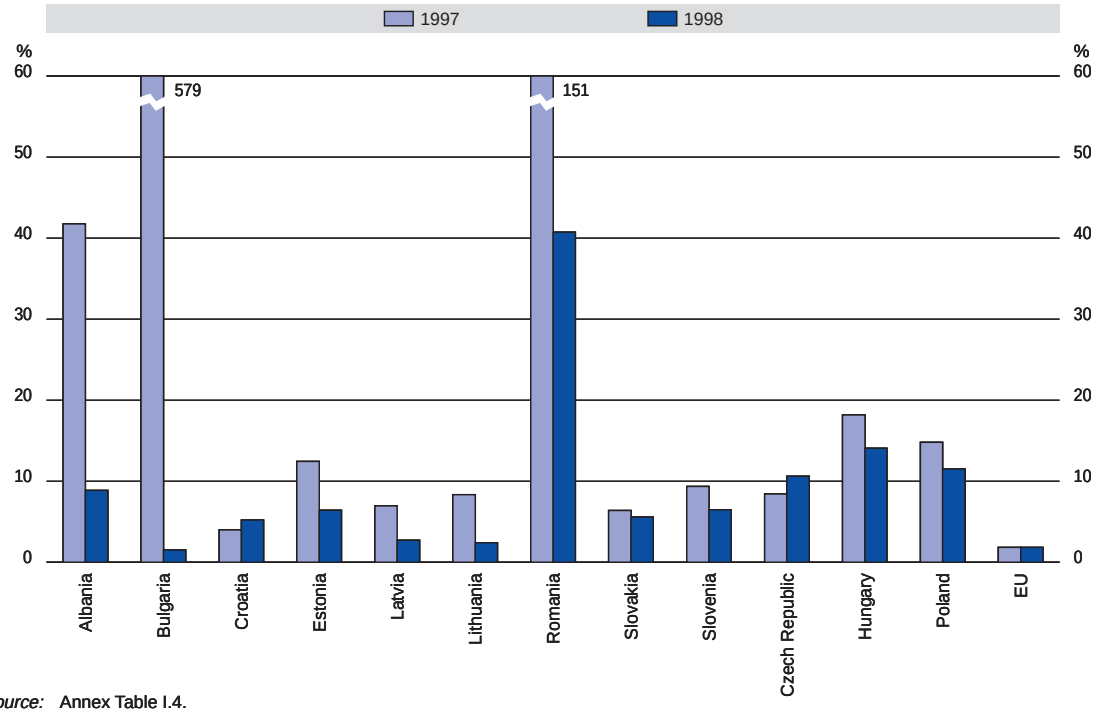
Inflation rates continue to fall in response to tight monetary and fiscal policies

Following the rise in the rate of inflation in the region in 1997, the inflation rate fell in most CEECs in 1998 (Graph II.3.2). The decline was particularly noticeable in Albania, Bulgaria and in Romania. The creation of a currency board in Bulgaria in the second half of 1997 has contributed substantially to the decline in the inflation rate, which, fell to 1.5 per cent in 1998. The rate of inflation rose slightly in Croatia, while it fell in Slovenia. In the Baltic countries, continued tight monetary policies and lower public expenditures added to the downward trend in the inflation rate in the area with the rate falling to 6 per cent in Latvia and Lithuania respectively, but remaining stubbornly high at about 11 per cent in Estonia. In the Czech Republic the inflation rate increased due to higher government expenditures, while the implementation of tight monetary and fiscal policies resulted in a continuation of the downward trend in Hungary and Poland.

The upward trend in the rate of unemployment continued

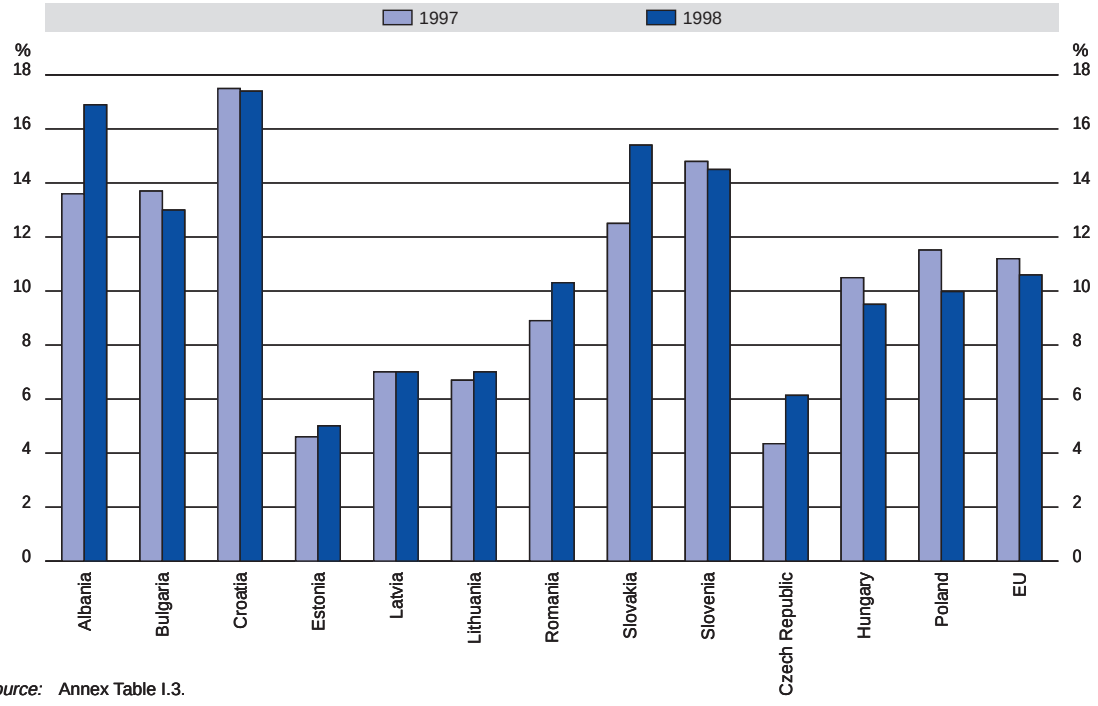
The CEECs experienced quite divergent trends in registered unemployment rates in 1998, with a general upward trend recorded for Albania, the Baltic countries, the Czech Republic, and Romania, and a marginal fall in the rates of unemployment in Bulgaria, Hungary, Poland, Slovakia and Slovenia (Graph II.3.3). Registered unemployment rates vary widely between countries in the region, but also within countries, with unemployment rates in rural areas often 3-4 times higher than in urban areas. Moreover, it should be noted that the official figures often underestimate the real level of unemployment, as they do not take into account the high levels of hidden unemployment and underemployment, particularly in rural areas. On the other hand, official figures may also mask employment in the "grey" economy.

Graph II.3.2. **Inflation rate in CEECs and EU**
Annual percentage change



Source: Annex Table I.4.

Graph II.3.3. **Unemployment rate in CEECs and EU**
Annual percentage change



Source: Annex Table I.3.

Growing current account deficits are a cause for concern

Of particular concern in several CEECs are the growing current account deficits which have reached unsustainable levels in several countries. For example, in Estonia, Lithuania and Slovakia the deficits now exceed 10 per cent of GDP. In 1998, the current account also worsened in Bulgaria, Latvia, Hungary and Poland, while some improvement occurred in Croatia and the Czech Republic. In Bulgaria, balance of payment constraints and difficulties in attracting foreign capital are likely to continue to impede economic recovery.

Inflows of FDI fell in 1999 in response to greater uncertainties

Inflows of foreign direct investment (FDI) to the region increased steadily during the 1990s up to 1997, but fell sharply in 1998 in response to the general increase in economic uncertainty associated with emerging and transition economies. In overall terms, the Czech Republic, Hungary and Poland have accounted for over two-thirds of all FDI inflows to the region in the 1990s. Of the total FDI inflows, less than 12 per cent has been invested in the food and beverages sector.

Implementation of structural reforms slowed down

The slowdown in economic activity in the region in 1998 resulted in a significant slowing in the implementation of structural reforms in several CEECs, for example, Croatia. However, Bulgaria and Romania continued to implement their new economic reform programmes, which were introduced in 1997, and further progress was made in the privatisation of state enterprises. Almost all the CEECs have moved ahead with the implementation of regulations and legislation, which are compatible with the EU, especially the 5 CEECs, which are currently in the first wave for enlargement.

Despite the shift in the direction of trade…

… the trade deficit increased for most CEECs

In 1998, total merchandise exports from the CEECs slowed due to a fall in demand from Western Europe, Russia and the NIS (Graph II.3.4). This resulted in a sharp rise in the foreign trade deficits of several CEECs, most notably Bulgaria, the Baltic Countries, Romania and Slovakia. Moreover, market conditions are expected to be rather difficult for CEEC exports in 1999, with an anticipated slowdown in GDP growth in Western Europe. The spillover effects of Russia's financial crisis has been largely limited to the NIS and CEEC regions. The shift in the direction of trade by several CEECs has sheltered them, to some extent, from the turmoil in Russia. However, the three Baltic countries have felt the brunt of the crisis due to their large trade exposure to Russia and the New Independent States, which absorbs 10-20 per cent of total exports, and over 40 per cent of agricultural and food exports.

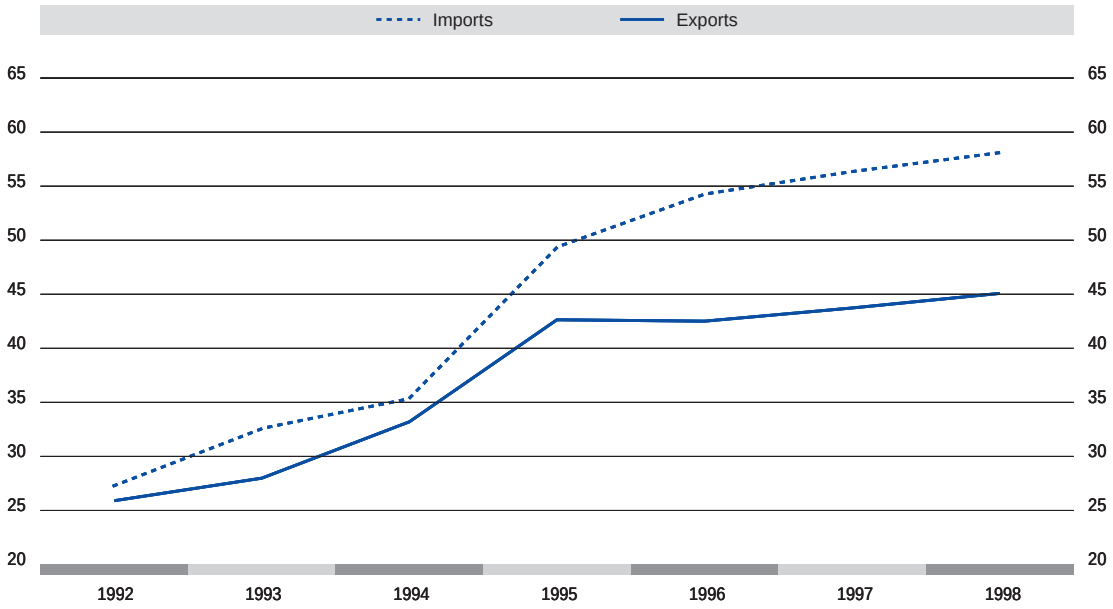
Agricultural situation

Agriculture's share of GDP and total employment continues to decline

In 1998, agriculture's share of GDP declined in all CEECs with the exception of Bulgaria, Lithuania and the Slovak Republic where it remained relatively stable (Graph II.3.5). Agriculture's share of GDP continues to be rather high in several CEECs, and is 18 per cent or higher in Albania, Bulgaria and Romania. In the Czech Republic, Estonia, Slovakia and Slovenia however, agriculture accounts for less than 5 per cent of GDP. In recent years Albania Bulgaria and Lithuania have had the largest rise in agriculture's share of economic output, mainly due to a decline in other sectors. As regards employment in the sector, agriculture's share in total employment has continued to

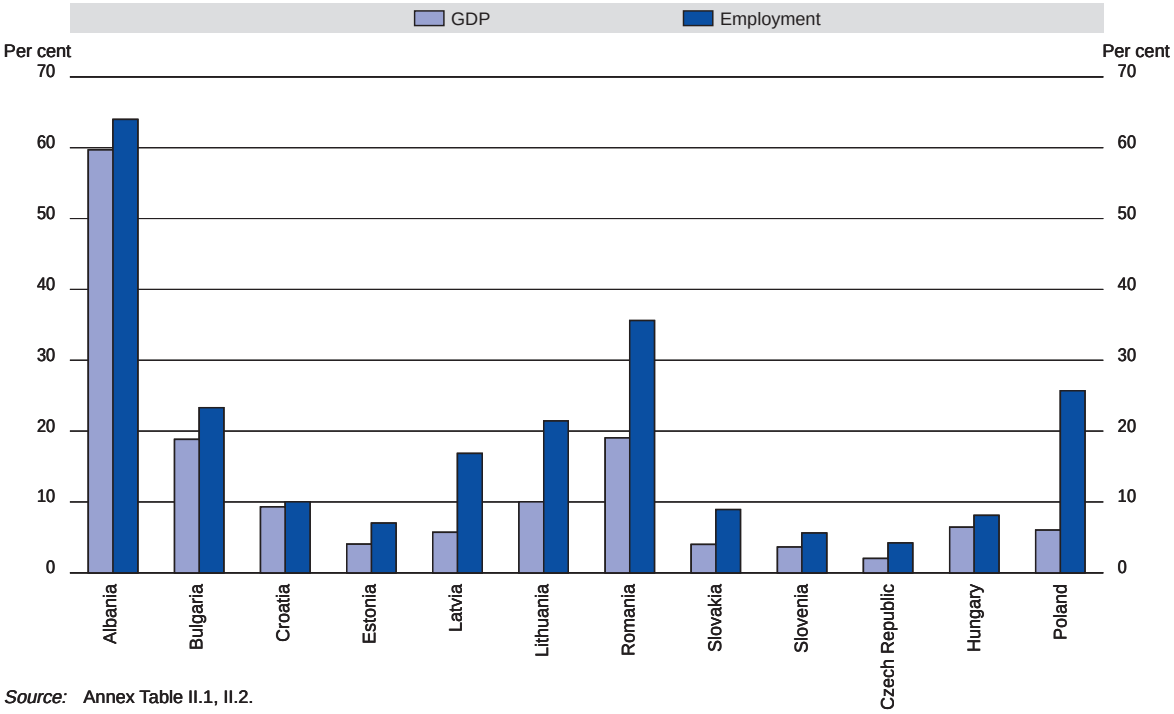
OECD 1999

Graph II.3.4. **Total merchandise trade in selected CEECs,[1] 1992-1998**
Billion US$



1. Includes Albania, Bulgaria, Croatia, Estonia, Latvia, Lithuania, Romania, Slovakia and Slovenia.
Source: Annex Table I.9.

Graph II.3.5. **Share of agriculture in GDP and employment in the CEECs, last data available**



Source: Annex Table II.1, II.2.

decline in most CEECs, except for Albania, Lithuania and Slovenia where the changes were only marginal (Graph II.3.5). It should be noted that agriculture continues to play an important buffer role in maintaining social stability in many CEECs, most notably in Albania, Lithuania and Romania. In 1998, the share of agriculture in total employment ranged from less than 4 per cent in the Czech Republic to over 60 per cent in Albania.

The performance of the agricultural sector was rather mixed, with output increasing in about half the CEECs, and declining in the rest

In 1998, the performance of the agricultural sector was rather mixed. Gross agricultural output increased in several countries including Albania, Croatia, the Czech Republic, Slovenia and Poland due mainly to an increase in crop production. In Poland, for example, agricultural production grew by about 7 per cent in 1998 as compared to 1997, with crop output increasing by about 9 per cent and livestock production by about 4 per cent. On the other hand, agricultural output declined in Bulgaria, following the surge in output in 1997, as well as in Latvia, Romania and Slovakia due to a fall in both crop and livestock production. The downward trend in livestock production would appear to have bottomed-out across the region, and even increased slightly in some countries, while crop production would appear to have returned to its longer term trend following the bumper harvests in 1996 and 1997 (Box II.3.1).

After two bumper harvests in 1996 and 1997, grain output fell in 1998

Total grain production fell in 1998, due to a combination of adverse weather conditions and lower sown areas (Graph II.3.6). With the exception of Poland, grain production fell in all the other CEECs, with sharp declines of 30 per cent and 15 per cent recorded in Romania and Bulgaria respectively. In the Baltic region, grain production fell by about 7 per cent in both Latvia and Lithuania, with a more modest fall recorded in Estonia. The downward trend in cattle, cow and sheep numbers continued in 1998, while pig and poultry numbers showed a small increase. Despite the fall in cow numbers, milk production increased, as did to a lesser extent, beef output, driven by increases in animal productivity (Graph II.3.7).

Farm gate prices for grains, pigs and poultry fell sharply across the region in response to large supplies

Depressed agricultural commodity markets in 1998 resulted in a sharp fall in farm gate prices and incomes across the region. More specifically, world prices for the major grains fell dramatically due to large harvests in North America and the EU as well as large carryover stocks, while demand remained subdued due to the economic crises in Asia and Russia. In the short term, the prospects for any improvement are rather slim, while in the medium term the outlook will depend on the pace of the economic recovery in East Asia as well as the supply response in OECD countries. As regards livestock, the main problem was pigmeat, where rising production in addition to increased imports, especially subsidised imports from the EU, caused a slump in market prices across the region. For example, farm gate prices for pigs fell by 25-30 per cent in Poland and Slovenia in 1998. Moreover, lower grain prices and adverse weather conditions have resulted in a substantial drop in the areas sown to winter cereals in several CEECs, in particular Hungary, the Czech Republic and Slovakia, which in turn is likely to result in a further fall in production in 1999.

The price-cost squeeze became more severe in several CEECs

Most of the CEECs experienced a deterioration in their terms of trade for agricultural products in 1998. Farm input prices for several

Box II.3.1. A Decade of Transition in Agriculture

What are the pre-requisites for successful transition to market in agriculture? The experience of the past ten years of transition has proven that without a stable macroeconomic environment and a well-functioning institutional structure, including respect for the rule of law, even the best designed agricultural policies are ineffective. Transition countries made remarkable, early progress in liberalising prices, reorienting trade, introducing legal reforms, establishing private product markets and expanding the small-scale private sector. The more difficult, time-consuming reforms have centred on large-scale privatisation, corporate governance, restructuring of productive activities and consolidation of major institutional reforms. Macroeconomic stabilisation must accompany all of these reform processes. This indispensable linkage has been highlighted in particular by the Asian and Russian crises, which have been weathered best by countries with strong economic fundamentals. The crises have accentuated the divergence in performance observed early in the transition between countries determined to reform and those less committed.

What have been the main transition problems? Agricultural production collapsed in the transition countries from 1989. The search for alternative market outlets to compensate the breakdown in CMEA trade took time. Reduced subsidies and household incomes brought down domestic consumption and moderated food price increases. Upstream, farm input prices rose to world market levels without a compensatory rise in producer prices to offset these increases. Downstream, the gap between farm output prices and retail food prices was aggravated by the dominance of monopolistic food processors and distributors. The resulting cost-price squeeze led to the poor economic performance of agriculture and disincentives to the emergence of private farming. The restructuring process in many countries created uncertainties for farmers and resulted in fragmentation of farms or ownership. Technical and business management skills for successful private farming were lacking. Previous linkages between farms and the up-and downstream industries broke down. Impediments to efficiency persisted throughout the agro-food chain. The lack of agricultural finance and credit, as well as investment, worsened the situation.

Has the situation improved? The most severe phase of the cost-price squeeze ended in 1993. Alternative export markets were developed, particularly with the European Union. In 1993, the decline in gross agricultural output (GAO) stopped for the CEEC region, and in 1994, the first output growth was observed in a number of countries. By 1994 the producer-retail price gap also appeared to stop widening in some countries. A continued recovery in output was observed in 1995 throughout the region. A turnaround in livestock production has also been observed in many countries, but the apparent bottoming out of the decline has yet to be confirmed. Most importantly, farmers appear to be increasingly responsive to relative price expectations and outcomes in making production decisions.

Has restructuring gone far enough? At the heart of agriculture's transition continues to be the issue of clarity of ownership rights. With respect to farm restructuring and privatisation, the methods applied involved basically two approaches, restitution to those with historic claims or distribution to agricultural workers. A widely diversified farm structure has emerged, with the domination of small-scale farms in some countries and a significant amount of land farmed in large units in several others. Legal and institutional (*e.g.* land registration, titling) problems remain to complete the land reform process. The search for economically efficient and viable farm structures continues throughout transition countries. As far as the restructuring of agro-food enterprises is concerned, the problems of going beyond privatisation on paper must be addressed. These include management restructuring, applying hard-budget constraints, modernisation and corporate governance.

Is agriculture still an important economic sector? In 1989, agriculture's share in the GDP of transition economies ranged from 4 percent in Slovenia to 60 per cent in Albania. By 1998, its share in the three OECD Members (Czech Republic, Hungary, Poland), the three Baltic countries (Estonia, Latvia, Lithuania), the four NIS and the Slovak Republic, had been reduced significantly, by a half or more in a number of countries. By contrast in Albania and Bulgaria, agriculture's share had increased substantially, while remaining constant in Slovenia. Changes in agriculture's share of total employment have not been as steep either way. The disparities between declining shares of GDP, on the one hand, and steady or increasing employment shares, on the other, reflect low labour productivity, but also agriculture's role as a buffer against rising unemployment, social instability, and food insecurity. Even in countries like Estonia and Slovenia, where agriculture's 1998 share of GDP at around 4 per cent is lowest among transition countries, this is double the OECD average.

What is the level of support to agriculture? It is striking that for all transition countries for which the OECD has calculated PSEs, they have fallen well below the OECD Member country average since 1992. However, in the current turbulent situation (see Box 1), the trend is up for 1998 in several transition and OECD countries alike. For CEECs, support policies applied are increasingly similar to those of the European Union, due to the accession process.

What problems remain? Problems persist, varying significantly from country to country. The income differentiation that has developed in countries like Russia, most particularly, has led to concerns about the composition of food consumption in terms of quantity and nutrient content. Even in countries where the average

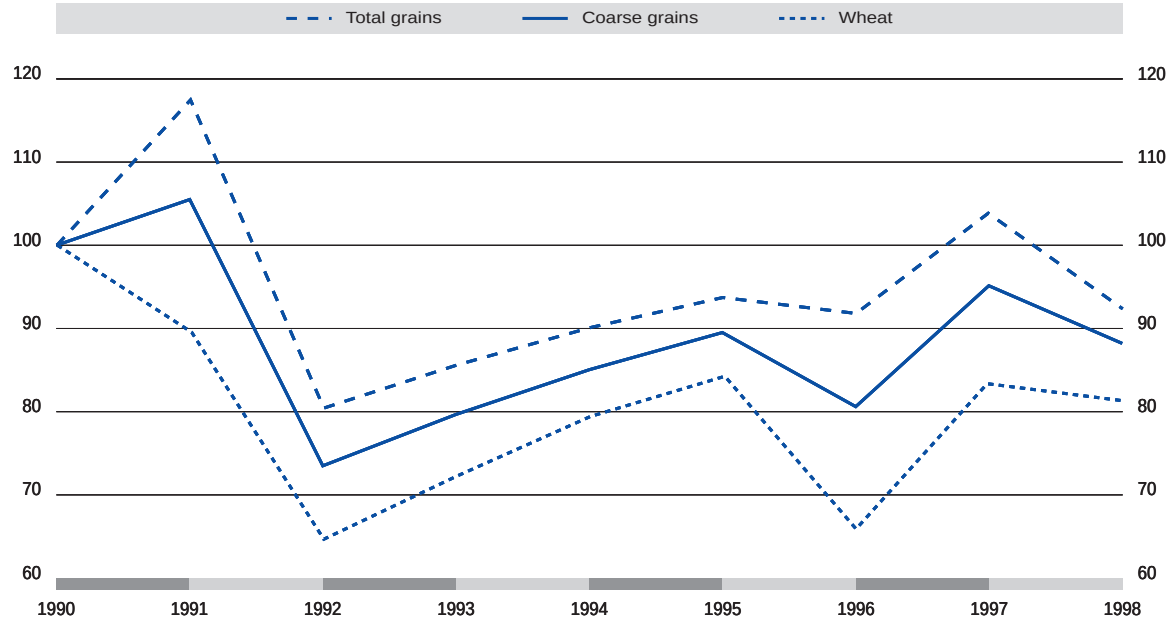
Box II.3.1. **A Decade of Transition in Agriculture** *(cont.)*

share of household income spent on food has declined, it remains two to four times higher than the EU and OECD averages. Since 1995, the CEECs as a group have experienced an agro-food deficit, pointing to the need to diversify and upgrade their product mix, while dealing with growing excess capacity problems. Progress is needed in developing land and land leasing markets, curtailing monopolistic practices, completing farm restructuring, linking the farm with the agri-food chain, and building up technical and managerial skills.

What are the challenges ahead? In addition to these problems, policy challenges are converging with those of the OECD more generally. Policymakers all need to take a holistic view of the entire agro-food chain in formulating strategic approaches for the future of the agricultural sector. They need to strengthen the movement towards greater market orientation, competitiveness and trade liberalisation. This includes institutional and regulatory measures to stimulate investment, research, innovation and efficiency. At the same time, they are increasingly faced with the multi-faceted nature of agriculture as an economic activity, which responds to societal objectives that go beyond food production per se. Environmental and rural development dimensions will increase the complexity of agricultural policy, as will consumer safety demands.

inputs increased significantly, in particular prices for fertilisers, chemicals and agricultural services. On the other hand, output prices fell due to a general decline in world prices arising from increased production as well as a loss of markets in Russia and the NIS. A sharp fall in farm incomes across the region has led to growing pressure on Governments to increase support to the agricultural sector. The decline in the consumption of the major food products

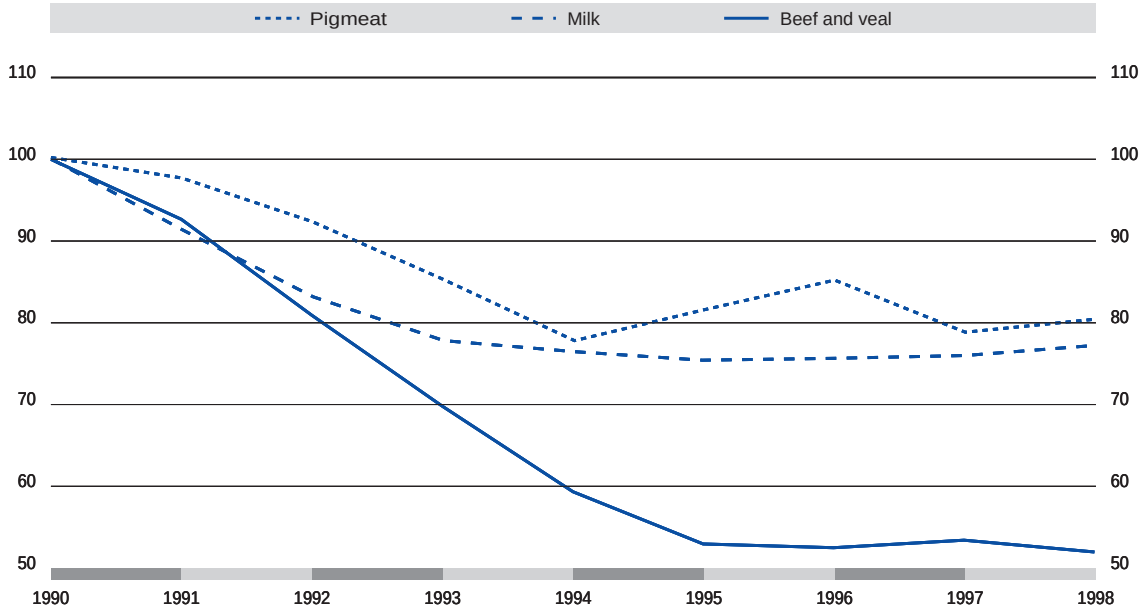
Graph II.3.6. **Total grain production in the CEECs, 1990-1998**
Index 1990 = 100



Source: Annex Table III.1, III.2 and III.3.

OECD 1999

Graph II.3.7. **Production of livestock products in the CEECs, 1990-1998**
Index 1990 = 100



Source: Annex Table III.5, III.6 and III.7.

continued in 1998. In Bulgaria, for example, the consumption of meat and milk products has fallen by 50-60 per cent since 1989 while the consumption of fruits and vegetables has fallen by about 30 per cent. The proportion of household income spent on food and beverages has continued to fall in most CEECs, but still ranged from 25 per cent in the Czech Republic, to 60 per cent in Romania and over 70 per cent in Albania.

Rationalisation and restructuring in the food processing sector slowed appreciably, despite the greater competition from imports

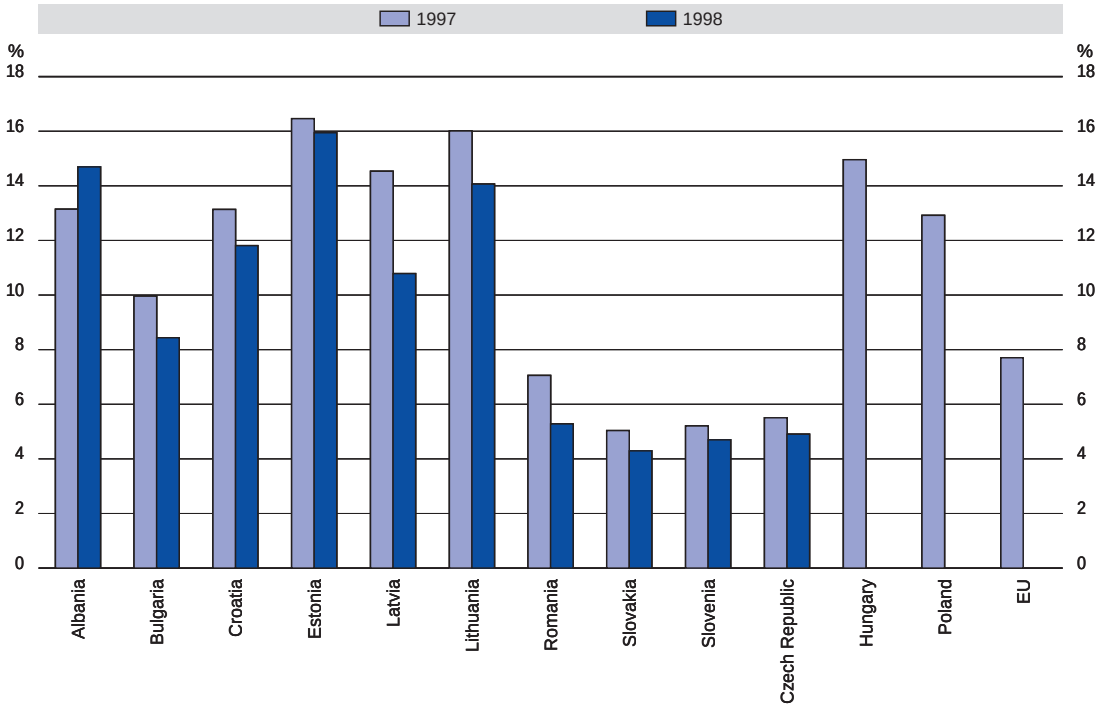
One area of growing concern in several CEECs especially in Bulgaria, Lithuania and Romania, is the large and increasing level of overcapacity in the food processing sector. While agricultural production has fallen significantly in the CEECs during the transition period, especially the production of meat, dairy products and vegetables, there has been little restructuring in the downstream food processing sector. Many processing firms continue to face severefinancial difficulties due to their lower capacity utilisation and intense competition from imports. Moreover, many small sized enterprises have emerged, especially in the meat, dairy, bread and pastry industries, using relatively low production technology, and with poor quality control and hygiene standards.

Agricultural trade flows

The share of agricultural and food products in total exports fell in all CEECs, with the exception of Albania

Agriculture and food products continue to represent a significant share of total CEEC exports. While the relative importance of this sector varies widely between countries in the region, it is steadily declining over time. Nonetheless, it is an important source of

Graph II.3.8. **CEECs and EU: share of agricultural and food exports in total trade**
Per cent



Source: Annex Table II.3.

foreign exchange for many CEECs, especially the Baltic countries and Albania. In 1998, agricultural and food exports accounted for less than 9 per cent of total exports in Bulgaria, the Czech Republic, Romania, Slovakia and Slovenia and between 9 and 17 per cent in Albania, Croatia, Estonia, Hungary and Poland (Graph II.3.8) .

Imports of agro-food products into the region increased in 1998

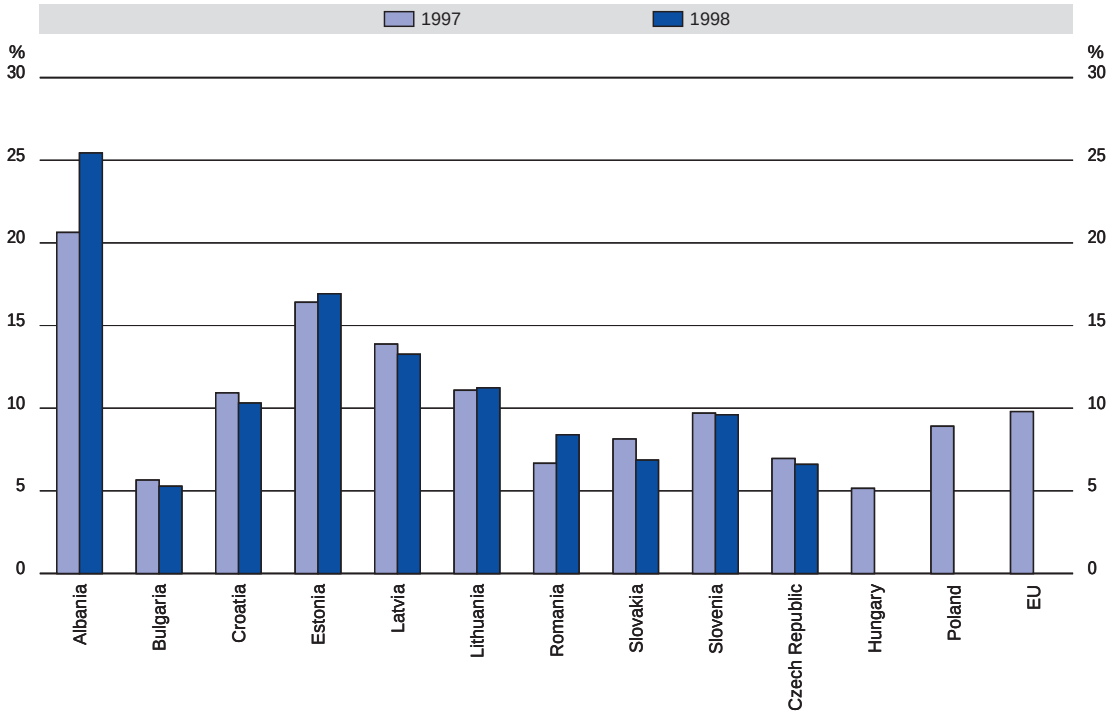
Concerning imports, the share of agriculture and food products in total imports increased in most CEECs in 1998, except in the case of Latvia, Lithuania and Slovakia where it fell marginally. This increase can be partly attributed to more subsidised food exports from the EU, as well as displaced food products from markets in Russia and the NIS. The share of high value added food products in total imports has continued to increase reflecting to some extent the changing consumer preferences in the region. In 1998, the share of agricultural and food imports in total imports ranged from about 5 per cent in Bulgaria and Hungary to about 25 per cent in Estonia (Graph II.3.9).

The agro-food trade deficit deteriorated in most CEECs

After a modest reduction in the agro-food trade deficit in most CEECs in 1997, the deficit increased once again in 1998, with some exceptions, notably Bulgaria and Hungary. This was due to exports falling at a faster rate than imports, or remaining stable, while imports increased. Of the 12 CEECs, only Bulgaria and Hungary have consistently recorded a surplus on their agricultural and food trade balances during the 1990s,

Graph II.3.9. **CEECs and EU: share of agricultural and food imports in total trade**

Per cent



Source: Annex Table II.4.

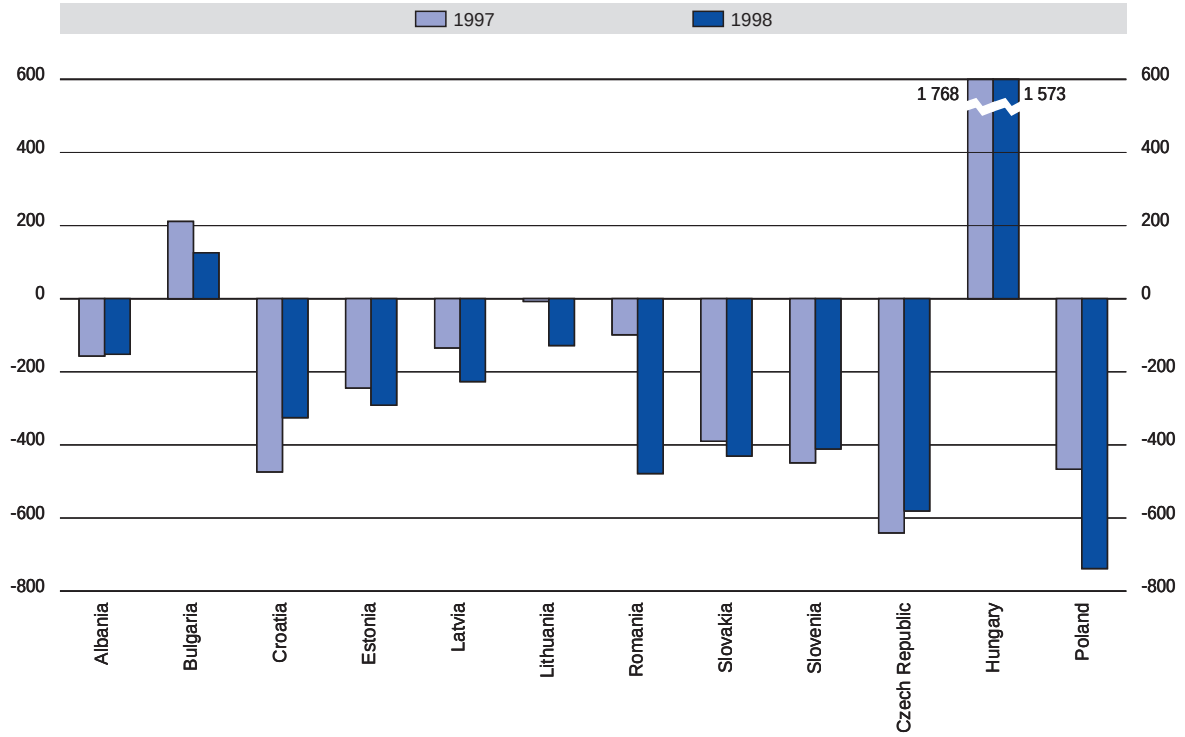
although the gap narrowed appreciably in 1998 (Graph II.3.10). The decline in agro-food exports from the CEECs in 1998 can be attributed to several factors; lower demand in Russia and other NIS, reduced demand in Western Europe due to domestic surpluses as well as strong competition in third markets from subsidised exports. On the other hand, the rise in imports in several CEECs reflected some further liberalisation of trade under various regional trading agreements, with a strong increase in trade amongst CEFTA and BAFTA members.

Exports of livestock products from Hungary, Poland and Romania fell sharply due to the collapse of the Russian market

The spillover effects of the Russian crisis on the CEECs agriculture depends on the share of agricultural trade conducted with Russia. While the three Baltic countries suffered the brunt of the crisis, Hungary, Poland and Romania also experienced a sharp fall in exports. In 1997, almost 29 per cent of Poland's agricultural exports were to Russia and a further 16 per cent to other NIS (Table II.3.1). Russia and other NIS accounted for about 68 per cent of Poland's meat exports, mainly low quality pork sausages, canned pork and beef. After the collapse in the Russian market in 1998, Polish exports to Russia fell by about 26 per cent over 1997, with most of the fall occurring in the latter half of 1998. Exports of livestock products from Hungary and Romania also fell by 20-30 per cent in 1998 compared to 1997. Of the livestock products, pigmeat and poultry exports were the most affected.

Graph II.3.10. **Agricultural and food trade balance in the CEECs**

US$ million



Note: Bulgaria figure is 6 months only.
Source: Annex Table IV.3.

There was a substantial increase in trade flows amongst the CEECs and between the CEECs and the EU

The geographic pattern of trade in agricultural and food products continued to evolve in 1998. The re-establishment of trade links with Russia and other NIS in recent years came to an abrupt halt in the third quarter of 1998 with the collapse of the Russian and NIS markets. This resulted in a substantial rise in trade flows between countries in the region, as well as some redirection of agricultural and food exports to OECD countries, in particular the EU. More specifically, trade between the CEFTA countries increased substantially

Table II.3.1. **Exports of agricultural products from selected CEECs by destination 1997**

Exporting country	Destination (per cent)			
	EU-15	Russia	Eastern Europe	Other
Croatia	17	3	71	9
Czech Republic	35	13	36	16
Hungary	41	15	27	17
Poland	38	29	5	28
Romania	27	13	11	49
Slovakia	25	6	50	19
Slovenia	27	5	62	6

Source: United Nations.

during 1998, with a surge in grain exports particularly from Hungary and Slovakia, and an increase in imports to Bulgaria, Poland and Romania. The rise in imports of agricultural and food products from the EU and some CEFTA countries has given rise to demands for greater protection of domestic markets, especially in Poland and Romania. In the Baltic region, trade in agricultural and food products between the BAFTA members increased aided by some further harmonisation of border measures.

Trade relations

With the ongoing economic crisis in Russia, several CEECs resorted to barter trade with Russia

One of the important spillover effects on the CEECs of both the Asian and Russian economic crises in 1998 was the growing imbalance in the world supply and demand for agricultural products, especially pigmeat. While production in the major producing regions such as the EU and CEECs continued to increase strongly, demand contracted sharply especially in Japan, Korea and Russia due to the ongoing economic crisis in the regions. In response to these marketing difficulties, the EU increased its export subsidies on pigmeat, which resulted in a surge in subsidised meat imports into the CEECs, in particular the Czech Republic, Hungary, Poland, Slovakia and Slovenia. The surge in imports contributed to the severe market disturbance in these countries and resulted in several CEECs threatening to increase import tariffs. However, in December 1998, the EU reduced export subsidies by 50 per cent on pigmeat exports to the CEECs. One of the worrisome developments resulting from the Russian crisis has been a rise in barter trade between some of the CEECs and Russia, for example, Bulgaria and Hungary.

Tensions amongst CEFTA members increased, when several countries introduced TRQs and raised import tariffs

In 1998, several CEFTA countries took unilateral action against other CEFTA members to limit imports of agricultural and food products and this resulted in some disruption of trade flows between members. For example, in 1998 Poland abolished most preferences granted to EU and CEFTA countries. The import tariff on maize imported from Hungary was raised to 20 per cent, 70 per cent on regular wheat, 83 per cent on pork and 60 per cent on poultry. The Czech and Slovak Republics imposed an additional tariff of US$71 per tonne on wheat imports from Hungary, but lifted the import duty on feed wheat in late 1998 after an agreement was reached on tariff rate quotas (TRQs) for Hungarian exports. Relations between Hungary and Romania became strained after Romania, invoking the safeguard clause of the CEFTA, raised import duties on wheat and flour to 60 per cent following a surge in wheat imports. Also relations between Slovenia and Hungary became strained when Slovenia raised tariffs on grain imports from Hungary. The normal rate of duty for CEFTA members ranges from 15 to 25 per cent. Exports of agricultural and food products from Poland fell sharply in 1998, especially exports of pigmeat to Russia, while imports increased. In an attempt to protect the domestic market, the Polish government increased tariffs on imported pork to 45 per cent for products imported from CEFTA countries, 50 per cent from Lithuania and up to 80 per cent from other countries.

Both the Czech and Slovak Republics introduced quota restrictions on trade under the Customs Union

Slovakia suspended import licenses for pork and pigmeat products following a surge in subsidised imports during the latter half of 1998. Moreover, in response to the widening agricultural trade deficit, Slovakia has requested a review of the terms of the Customs Union between the Czech Republic and Slovakia. In 1998, both the Czech Republic and Slovakia introduced quota restrictions on trade in certain agricultural products under the Customs Union Agreement. For example, Czech imports to Slovakia were limited by quotas imposed by the Slovak Government on beer, non-alcoholic beverages and fruit juices while the Czech Republic imposed import quotas on Slovak wine and sugar.

Latvia became a full member of the WTO

The Europe Agreement (EA) between the EU and Slovenia, which was signed in June 1996, came into force on 1 February 1999, following ratification by the EU member states. The EA replaces the Interim Agreement that has provided the legal basis for trade relations between the EU and Slovenia during the transition.

Following several years of negotiations, Latvia became a full member of the WTO in February 1999. The major benefit to Latvia is that membership will increase its access to markets in third countries, but it will also require some reduction in the level of domestic border protection. For example, from the year 2000, import tariffs on meat will be reduced from 40 to 36 per cent, and import tariffs on grain will fall from 75 per cent to 50 per cent. Estonia and Lithuania have also made substantial progress on accession negotiations to the WTO, with Estonia's negotiations completed, and both are expected to become full members in 1999.

Trade amongst the three Baltic countries increased, as a result of further deepening of the BAFTA

Trade in agricultural and food products between the three Baltic countries increased in 1998 aided by the harmonisation of veterinary controls between the three countries. Estonia, Latvia and Lithuania abolished their separate veterinary control measures on their respective borders and have agreed to implement the EU standards. With the deepening of trade relations under the BAFTA, there was some further convergence in both farm gate and retail food prices across the region in 1998.

The EU ban on dairy imports from Poland, imposed in December 1997 on hygiene grounds, was lifted in December 1998 and exports resumed from 5 approved plants. Also the EU restrictions on imports of pigmeat from Croatia due to health problems (swine fever) were lifted in 1998, and imports resumed. However, the EU restrictions on beef imports from Bulgaria have been retained and the situation is to be reviewed again in 1999.

Agricultural policy developments

Price, market and trade policies

In response to the difficult market conditions, most countries in the region responded by raising import tariffs, export subsidies, intervention purchases and direct payments

Agricultural policy developments were rather mixed in 1998 with several CEECs increasing substantially budgetary expenditures on agriculture while others continued to adopt more liberal market oriented policies. In the face of falling world market prices and rapidly increasing imports, several countries in the region responded by raising import tariffs, export subsidies, minimum prices, intervention purchases and

direct payments. For example, several CEECs increased export subsidies on agricultural exports in 1998, in particular the Czech Republic, Lithuania, Hungary, Slovakia and Slovenia. Most of the export subsidies were provided for livestock products, especially milk and pigmeat products, while some CEECs, for example the Czech Republic and Hungary, also supported exports through export credits. In 1997, Romania liberalised its agricultural policies and abolished its system of direct price controls and administered prices for agricultural products. At the beginning of 1999 Romania implemented a second phase of import liberalisation with a reduction in import tariffs to 45 per cent for sensitive imports such as meat and dairy products, and a lower rate for other products. Poland raised import tariffs on imports of wheat, maize and sugar products from other CEFTA countries.

Bulgaria removed all remaining controls on farmgate prices

Despite some rollback in the liberalisation of trade policies, several CEECs took steps to reduce trade distortions induced by domestic policies. For example, in Bulgaria following the partial liberalisation of farmgate prices in 1997, all remaining controls on domestic farmgate prices were removed in August 1998. With market controls abolished, domestic prices have trended upwards toward world market prices. Moreover, some CEECs improved their market orientation by reducing and/or redirecting expenditure on agriculture away from market price support to direct payments and structural measures. For example, in Slovakia, direct budgetary outlays were reduced by about 2 per cent, consisting of a 6 per cent reduction in expenditure on less favoured areas, a 5 per cent cut in input subsidies, and a 4 per cent cut in investment in plant and machinery. In Slovenia, although direct budgetary expenditures on agriculture increased in 1998, the structure of support shifted toward structural policies and away from input subsidies.

Romania increased expenditure on agriculture through its voucher scheme

Romania increased budgetary expenditure on agriculture by about 30 per cent in 1998. Of the total expenditure, almost 60 per cent was allocated to the vouchers for input scheme which was introduced in 1997. In 1998, Slovakia increased the administered price for milk slightly, while in the Baltic region, all three countries increased overall budgetary expenditure on agriculture substantially. During the 1990s, Slovenia maintained high price supports and border protection to ensure high farmgate prices for its producers. However, in October 1998 the Slovenian Government adopted a new Agricultural Policy Reform Programme (1999-2000). The key objectives of the programme are to further liberalise the agricultural sector, to reduce trade barriers and price regulation, to break-up the state monopoly for bread grains as well as to establish an intervention system for the main agricultural products (Box II.3.2).

Slovakia increased the administered price for several products, including milk

Most of the CEECs intensified the implementation of the elements of the Acquis

Policy measures in most of the CEECs, particularly in those countries which are in the first wave for EU Membership, continue to converge with policies being implemented in the EU, most notably in the areas of direct payments and structural measures. In most CEECs, expenditures on the agricultural sector rose significantly in 1998 as compared with 1997, while further increases are forecast in several CEECs in 1999. For the four CEECs, Estonia, Latvia, Lithuania and Slovakia, for which PSEs are calculated, support to agriculture increased substantially in 1998 (Box II.3.3). The rise in the PSE

Support to agriculture increased in 1998, due to higher market price support and to a lesser extent higher budgetary expenditures

Box II.3.2. Highlights of agricultural and related policy developments in OECD Member countries in 1998

The key developments include:

- increases in selected tariffs by a few Member countries and greater use of export subsidies (within UR disciplines) and export credits served to restrict market access and maintain agricultural trade distortions;
- resolution of some long-standing trade conflicts through various dispute settlement procedures combined with several new bilateral and multilateral trade initiatives contributed to longer term trade liberalisation;
- market price support increased by 14 per cent from 1997 for OECD countries, as world prices fell and some countries increased administered prices, indicating no or only weak transmission of price changes to domestic markets;
- budgetary payments increased by 6 per cent from 1997 due to higher expenditures under existing compensatory payment schemes triggered by falling prices and emergency assistance programmes introduced in response to falling farm incomes;
- emergency income assistance programmes were generally transparent and temporary, but masked market signals and may renew expectations of continued support (moral hazard);
- OECD countries seeking EU membership continued to align agricultural institutions with the EU and appeared to move closer to the EU system of support to agriculture, although their levels of support are lower;
- agri-environmental measures continued to favour producer payments for altering practices to reduce environmental harm (not always consistent with PPP and to improve environmental performance and there was more emphasis on setting specific objectives, targeting and evaluation;
- regulatory reform was the main means used to address food safety and quality concerns, which improved consumer confidence, but raised concerns about non-tariff barriers to trade, with increased attention to GMOs and animal welfare issues;
- agricultural policy and rural development programmes continued to merge with a focus on sector-wide structural adjustment aimed at increased competitiveness and industry-led business plans developed at the regional or sub-regional level.

Note: A summary of the main policy developments in OECD Member countries in 1998 is shown in Appendix 1.
Source: *Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999*, OECD, Paris, 1999.

estimates was due to a combination of an increase in market price support (as world prices fell, while domestic prices remained stable or fell less sharply), and to a lesser extent, an increase in budgetary expenditures on the sector. The Czech Republic and Slovenia increased their proposed expenditure on agriculture by 13 per cent in 1999 over 1998. These increases are largely due to increases in direct payments to producers. At the end of 1998, the Estonian Government announced a further modification in agricultural policies in order to harmonise domestic policies with the CAP. In addition to the introduction of direct payments to livestock and crop producers an intervention board has also been established for agricultural products. During the transition period, of all the CEECs, Estonia had the lowest share of the state budget allocated to agriculture, however in 1998 the situation changed and expenditures on agriculture increased to about 5 per cent of the total budgetary expenditures.

Box II.3.3. The Agenda 2000 Agreement and Eastward Enlargement of the EU

The Council of Ministers initiated the enlargement process on 30 March 1998, including the pre-accession strategy for all 10 central and eastern European countries (CEECs) and enlargement negotiation with six countries (Cyprus, Czech Republic, Estonia, Hungary, Poland and Slovenia). Furthermore a follow-up progress procedure was agreed for the five other CEEC countries (Bulgaria, Latvia, Lithuania, Slovak Republic and Romania).

In March 1999 the heads of government of the 15 national governments in the EU reached agreement on the Agenda 2000 proposals for structural funds, agricultural and budgetary reforms. The purpose of this package of budget and agricultural reforms is intended to stabilise the EU finances over the period 2000-2006 and to prepare the Union for eastward enlargement early in the next century, as well as to prepare the EU for the next WTO round of negotiations on farm trade. The Accord agreed to limit agricultural expenditure under the CAP up until 2006 to an annual average of 40.5 billion Euros and 4.35 billion Euros for rural development and accompanying measures.

Agreement was reached on phased cuts in EU support prices for beef, cereals and milk including: a two-step 15 per cent cut in cereal support prices starting in 2000-01, a three-step 20 per cent cut in beef support prices to be phased in over three years 2001-2003, and a three-step 15 per cent cut in milk prices beginning in 2005-06. In addition, there is a milk quota increase of 1.5 per cent (also in three steps) for all countries with the exception of Ireland, Spain, Italy, Northern Ireland and Greece for which a special quota increase in 2000 and 2001 has been decided. Totally this is equivalent to an overall EU quota rise of 2.4 per cent. Moreover, the dairy quota system is to be retained until 2006, but subject to a review expected in 2003. The reference rate for compulsory set aside is retained at a rate of 10 per cent until 2006, while voluntary set aside will be maintained. The agreement provides for a review of the oilseeds and cereal regimes as well as budgetary expenditure early in the period and for the Commission to make further proposals as appropriate.

Producers in the EU will be partially compensated for these price reductions by direct payments. In overall terms, these price reductions should bring EU farm prices closer to world levels and should result in some reduction in food prices to consumers. Although price reductions are less than originally proposed, they should contribute to reducing the gap in those sectors where a price differential exists between the EU and candidate countries.

Pre-accession expenditure will amount to 22 billion Euros. Much of this expenditure will be allocated to ensuring that new member states can meet the Community Acquis, particularly in the field of veterinary and phytosanitary requirements. Furthermore 46 billion Euro has been earmarked from EU-15 resources to the new members of the Union for current policies including agriculture and structural funds.

While progress has been made in stabilising the EU finances over the period 2000-2006, some uncertainties remain. For example, will the measures agreed be sufficient to solve the market imbalances in the main agricultural commodities? Will these measures eliminate the risk of intervention stockbuilding?

Structural policies and privatisation

Estonia introduced a new Land Reform Law, that is aimed at simplifying the procedures for land privatising and long-term leasing

Land privatisation has been largely completed across the CEECs, but the process of farm restructuring continued in 1998. While the majority of agricultural land was privatised via restitution, some countries such as Albania adopted the process of distribution to workers and rural residents. Of the 12 CEECs, only Hungary and Romania adopted a mixed strategy, whereby land is restituted to former owners and also distributed to agricultural workers (in the interest of social equity). In Estonia, where land privatisation had been lagging, some progress was made in 1998. A new amendment was made to the Land Reform Law in December 1998 that should simplify procedures for land privatisation and long-term leasing of agricultural land. In Romania, one of the main obstacles is the lack of clarity with respect to ownership rights for agricultural land. However, a new law is expected to be introduced in 1999, aimed at clarifying such rights.

Leasing of agricultural land continues to expand with a wide range of lease types emerging

In Estonia and the Czech Republic there are still some difficulties in the privatisation process, especially relating to the establishment of ownership rights and legal disputes over land plots. In 1998 substantial progress was made in resolving these issues. While the process of restitution has been completed, there is some evidence of rationalisation in the farm operating structures in several CEECs, resulting in some improvement in efficiency and the establishment of more viable operating units. Moreover, the land leasing market continues to expand in the region, with a wide array of contractual and informal arrangements. The percentage of leased land has been increasing in most CEECs in recent years and estimates suggest that between 70-90 per cent of agricultural land was leased in Bulgaria, the Czech Republic, Hungary and Slovakia in 1996-97. In Lithuania, about 56 per cent of all agricultural land is leased, with 22 per cent leased by households, 19 per cent leased by other legal entities and 15 per cent leased by agricultural companies. Most of the land is leased from the State in Lithuania.

A bi-modal farm structure is emerging in most CEECs

There is a wide diversity in the range of farm structures in the region with a bi-modal structure existing in most countries. Small and medium sized family farms tend to be dominant in Croatia, Lithuania, Poland and Slovenia while large scale corporate type farms continue to play an important role in agricultural production in the Czech Republic, Estonia and Slovakia. Moreover, a highly fragmented farm structure is emerging in Albania, with an average farm size of less than 2 hectares. The diversity in farm ownership structures continues to evolve in all countries in the region.

Most of the small-scale farms, which are emerging in the CEECs, are non-viable as full time units, and further restructuring, driven by market forces, is likely to occur in the medium term. Developing a more efficient, viable and competitive agricultural sector will depend on the on-going restructuring, and in particular, the operation of a functioning land market in the region. Moreover, with modest to strong GDP growth expected to continue in the region, more off-farm employment opportunities will be created thus facilitating the adjustment process.

Upstream and downstream privatisation

Severe overcapacity and lack of investment continue to impede the development of an efficient food processing sector

Privatisation of the upstream and downstream agro-food industries has been more or less completed in the CEECs; however, the process of rationalisation and restructuring of agro-food industries is at a rather early stage. With ever increasing competition, especially from food imports, the need for real restructuring in the agro-food sector is becoming more critical. While privatisation of the agro-food sector and change in ownership of food processing enterprises has been quite rapid across the region, there has been little change in the management and marketing structures, or in the modernisation of their plant and equipment. Moreover, the severe overcapacity problems, as well as lack of investment, in particular in the meat and dairy processing industries continue to impede the development of a modern efficient agro-food sector in the CEECs.

In Latvia and Lithuania, privatisation policies encouraged closer integration of primary agriculture with the food processing sector,

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and this has resulted in little pressure for restructuring of these enterprises. In other CEECs, such as Croatia and Slovenia privatisation has been through preferential share allocations to managers and workers with little real change in management structures. In Romania privatisation in the agro-food industry has been slow and the extent of private ownership is still relatively low compared with other CEECs. More specifically, most of the input and service providers as well as food processors are still dominated by state-owned enterprises. At the end of 1998, out of 70 grain assembly, storage and trade companies, only 14 were privatised, with the result that 36 per cent of the total storage capacity is now in private ownership. The privatisation process is most advanced in edible oil production, brewery, milling and baking industry with more than half of their capital privatised. But the process has been slower for fish canning, meat processing, vegetables and fruit production, where less than 10 per cent of the capital is in private hands. While the regional monopolies in the agricultural sector were restructured in 1998, the State continues to hold a majority share in all these enterprises.

Inflows of FDI to the agro-food sector are low, with the Czech Republic, Hungary and Poland receiving most of the inflows

Inflows of foreign direct investment (FDI) into the agro-food sector have been rather low in overall terms, but vary substantially between CEECs. For example, the Czech Republic, Hungary and Poland account for over three-quarters of all investment inflows during the 1990s. In 1998 inflows of FDI in general, and into the agro-food sector in particular, fell sharply in response to the economic crisis in Russia, and the increase in uncertainty associated with investing in transition and emerging economies. The most attractive industries in the agro-food sector for investors have been edible oils, brewing, milling and baking industries, while there has been little interest in fish processing, fruit and vegetable processing and meat processing. It should be noted that industries, which were privatised at an early stage of the transition process, have gained substantially from capital investment in modern technology as well as technical and management know-how. This has resulted in a significant improvement in productivity, product quality and competitiveness on both the domestic and foreign markets.

Industries that produce high value added food products account for the bulk of FDI inflows to agriculture

Investment inflows into agro-food industries have been impeded by several factors including the special preferences given to workers and/or producers during the privatisation process (*e.g.* Croatia, Lithuania), low level of profitability and technical know-how, as well as the special social constraints placed on investors in some CEECs. In general, the higher value-added food industries such as confectionery and beverages have received the bulk of FDI inflows. One of the major problems in the agro-food sector in many CEECs continues to be the rather heavy debt overhang, particularly in Lithuania, Romania and Slovakia.

Credit and investment policies

The lack of collateral continues to limit the availability of credit to the farm sector

Lending to agriculture in the CEECs is viewed as a high risk operation by most commercial banks, and most are unwilling to provide long term loans to the sector, while short-term loans are only provided at high interest rates.[16] This has prompted many governments in the CEECs to introduce subsidised loans and credit guarantees. For example, the Slovak Guarantee Bank guarantees operational credits for the purchase of farm inputs, and since 1997 this facility has been

extended to include processors and other buyers of farm produce. Thus, the credit risk is shared between the Guarantee Bank, the commercial bank and the farmer or processor. In effect, the Slovak Guarantee Bank guarantees 60-90 per cent of the principal, on a sliding scale basis. One of the major difficulties for farmers in the region is that the majority of commercial banks do not accept agricultural land as collateral for loans, as functioning land markets do not operate in any of the CEECs yet. While most CEECs have implemented the legal framework for the operation of land markets, demand for agricultural land is generally low or non-existent due, *inter alia*, to the low level of profitability in the sector.

Several countries in the region increased credit subsidies and investment guarantees in 1998, partly to speed up the adjustment process in the sector, and partly in response to growing pressures from producers arising from the collapse in farm gate prices. For example, the Romanian government set up a special Fund to provide farmers with short-term preferential credits over the period 1998-2000. This Fund is used by the Ministry of Agriculture to provide credits via commercial banks to both private and state-run farms with no current repayment defaults. If the credits are repaid on time, the beneficiary receives 70 per cent of the interest as a subsidy. In addition, a new line of subsidised credits was introduced in October 1998 for the purchase of livestock. Furthermore, in an attempt to speed up the pace of modernisation in agriculture, the Romanian government also introduced subsidised interest payments on loans for farm machinery purchases (up to 70 per cent).

In 1998 many CEECs increased credit subsidies and investment guarantees in response to growing pressure from producers

In 1998 preferential credits were also expanded in several other CEECs, most notably in the Czech Republic, Estonia, Hungary, Lithuania and Slovakia. Bulgaria introduced preferential lines of credit for wheat, maize, sunflower and sugar beet producers. Most of these credits were extended as short term credit paid directly to farmers and was subject to repayment at the end of the 1998 harvest. A small amount of these credits was also used for the purchase of future output, with actual delivery seldom enforced.

Lithuania established a market regulation agency in 1998 in an attempt to increase liquidity to farmers

In an attempt to increase liquidity in the grain sector, following several bumper harvests, the Lithuanian government established a Market Regulation Agency in 1998. This Agency operates in a similar manner to the Canadian Wheat Board by providing producers with an advance payment on their future grain crops. In 1998 the Lithuanian government guaranteed loans to the agricultural sector of about 260 million litas with the commercial banks. Over 90 per cent of these loans were granted to the Market Regulation Agency to purchase surpluses from the 1998 harvest after the collapse of the Russian market. In Bulgaria, the State Agricultural Fund is to continue providing subsidised loans to agriculture, with 84 billion leva earmarked for 1999. Loans are provided for the purchase of essential inputs for crop and livestock production, while a new commodity credit scheme has also been introduced.

In an attempt to overcome the problem of lack of loan collateral for producers, Bulgaria, Hungary, Poland and Slovakia introduced a new credit system based on “warehouse receipts” in 1998. This system is similar to the commodity credit programme that has been in

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operation in the US. In essence, the idea of this system is that banks would extend loans to farmers on the basis of products stored in licensed warehouses, and the receipts would act as collateral for these loans. While this system should improve the availability of short-term credit to agriculture, so far the experience with this new system of credit has been rather mixed.

The lack of credit, high interest rates and weak financial institutions continue to hinder development of the agricultural sector in most CEECs. The high degree of outstanding indebtedness, low farm profitability, high risk and uncertainty over property rights, as well as the lack of collateral, continue to be important impediments to the development of a sound rural credit system in the CEECs.

Environment and rural development policies

Several countries introduced measures that encourage more environmentally friendly farming practices

While agri-environmental policies continue to have a relatively low priority in many CEECs, nevertheless, there is a growing awareness of the "multifunctionality" of agriculture and the importance of developing a more sustainable agriculture and food sector. Several CEECs, including Lithuania and Slovakia have introduced policies that encourage farming practices that will lead to a reduction in the use of chemical inputs and the development of more sustainable farming practices. In several CEECs, one of the major obstacles to the introduction, implementation and monitoring of agri-environmental measures is the lack of an adequate legal framework and appropriate institutions. Most CEECs are in the process of developing agri-environmental programmes similar to those being implemented in the EU.

Continuing efforts are being made to harmonise rural policies with those of the EU

Several CEECs modified their rural development programmes in 1998 so as to reflect the growing problems in many rural areas. In 1998 Romania intensified its efforts to develop a more consistent and coherent rural development policy framework, including the development of a legal framework as well as greater harmonisation with EU rural development policies. More specifically, new laws were introduced in 1998, which are aimed at providing assistance to less favoured and under developed rural areas as well as defining rural development activities. In Lithuania, rural development policy is targeted to the following areas: to develop a sustainable agriculture, to create alternative off-farm employment opportunities, to develop rural infrastructure, and to preserve the national heritage and cultural traditions of rural communities. Major policy reform proposals were also introduced in Slovenia in 1998. These reforms not only set out to develop a more competitive agriculture, but also place strong emphasis on the provision of decoupled environmental payments to farmers as well as developing rural areas.

Conclusions

GDP growth and the implementation of structural reforms slowed down in most CEECs in 1998

The overall economic performance of the CEECs was quite mixed in 1998, with growth increasing in Albania, Bulgaria, Hungary and Slovenia, but remaining steady or falling in the other countries in the region. The implementation of structural reforms slowed in 1998 as the region faced

the adverse spillover effects of the Russian economic crisis, as well as a slowdown in economic growth in OECD countries. The trade deficits increased for most CEECs, with a sharp fall in exports and an increase in imports. Prudent monetary and fiscal policies resulted in a continuation in the downward trend in the inflation rate across the region, albeit at a rather high level in Bulgaria and Romania, while the inflation rates increased somewhat in Croatia, the Czech Republic and Slovakia. While the overall rate of unemployment fell across the region, especially noticeable in Bulgaria, Hungary and Poland, the unemployment rate increased in Albania and in the Czech and Slovak Republics. Inflows of FDI to the CEECs fell sharply in 1998 largely due to the increased concerns over economic growth in emerging economies.

Farmgate prices fell sharply for the main agricultural commodities

Preliminary estimates indicate that agricultural output in the CEECs fell in 1998, nevertheless, the combination of large stock carryover as well as a surge in imports of subsidised exports from the EU and displaced products from the Russian market led to a plunge in farm gate prices for the main agricultural products. The sharp fall in farm incomes in the region has resulted in growing pressure on most CEEC governments to increase their intervention in agricultural markets. As a result, some CEECs have responded by increasing tariffs on selected agricultural imports, raising direct budgetary support to producers as well as deferring further trade liberalisation under the BAFTA and CEFTA agreements. Moreover, in an attempt to overcome the spillover effects of the financial crisis in Russia, several CEECs have resorted to barter trade. Most of the CEECs, in particular Estonia, the Czech Republic, Hungary, Poland and Slovenia speeded up the implementation and harmonisation of their policies to those of the EU. Several countries in the region introduced direct payments to producers, intervention buying as well as structural and environmental and rural programmes compatible with EU policies.

Further deepening of trade relations amongst CEFTA members is unlikely, following the large increase in disputes during 1998

The sharp increase in trade tensions between CEFTA members in 1998, raises serious doubts as to the possibility of further liberalisation under the agricultural part of this Agreement. While most CEECs increased direct payments in 1998, in response to severe domestic market problems, these payments if continued, are likely to be very costly and could place a severe strain on the rather fragile budgetary situation in many CEECs. Moreover, there is also a danger that many of the measures introduced in 1998 may slowdown the restructuring process that is needed before these countries join the EU and in developing an internationally competitive agriculture.

The region is expected to have modest economic growth in 1999 with some recovery in demand for agricultural and food products

With slower growth forecast for western Europe, continuing economic difficulties in Russia, depressed world markets as well as large structural surpluses of the main agricultural commodities, the prospects of a recovery in the agricultural sector in the CEECs are rather slim in 1999. However, in the medium term the economic prospects are more encouraging as growth is expected to pick-up in 2000. In addition, modest economic growth in the region will translate into higher per capita incomes and an expanding domestic market for food products. For the countries in the Balkan region, the effects of the war are likely to depress economic activity. However, major foreign investment in infrastructure is envisaged on cessation of the war, and this will give a boost to economic growth across the region.

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Appendix 1

A SUMMARY OF THE MAIN POLICY DEVELOPMENTS IN OECD MEMBER COUNTRIES IN 1998

Over-supply in response to recent high prices combined with depressed economic conditions in the main emerging markets resulted in falling commodity prices. Responding to pressure on farm incomes, agricultural policies in 1998 were marked in many OECD countries by a resort to additional measures of support and protection, which were not always consistent with the longer-term directions of reform. Policy-makers gave higher priority to addressing public concerns over food safety and quality, through regulatory measures and information programmes. The trend over the last decade has been towards lower support, fewer trade distortions and greater market orientation, but developments in 1998 suggest that agricultural policy reform and trade liberalisation risk being stalled or reversed when market pressures emerge.

Agriculture Ministers set common goals: OECD Agriculture Ministers in March 1998 outlined a set of shared goals for the agro-food sector and agreed to a set of policy principles and operational criteria. Ministers stressed that agro-food policies should seek to strengthen the intrinsic complementarities between the shared goals, thereby allowing agriculture to manifest its multifunctional character in a transparent, targeted and efficient manner. The challenge is to use a range of well-targeted policy measures and approaches which can ensure that the growing concerns regarding food safety, food security, environmental protection and the viability of rural areas are met in ways that maximise benefits, are most cost-effective, and avoid distortion of production and trade.

Progress has been made on agricultural policy reform: There have been significant efforts to liberalise trade, in particular through the Uruguay Round Agreement on Agriculture, with its disciplines on market access, export subsidies and domestic support. Resolution of some trade conflicts through dispute settlement procedures, and new bilateral and multilateral trade initiatives in 1998 should help further integrate dagriculture into the multilateral trading system, although trade distortions remain. There has been greater attention to environmental and rural development objectives, and to facilitating structural adjustment and enhancing the efficiency of the agro-food sector as a whole. But it is not evident that the complexity of many measures is improving targeting and transparency.

The level of support to agriculture in 1998 increased: Total support to agriculture was estimated at US$ 362 billion, 1.4 per cent of GDP for the OECD in 1998. Support to producers, as measured by the share of the Producer Support Estimate (PSE) in total gross farm receipts, increased from 32 per cent in 1997 to 37 per cent in 1998, largely due to falling world prices not matched by a reduction in domestic prices, which was also reflected in the higher implicit tax on consumers. On average across the OECD, total farm gross receipts were 59 per cent higher than at world prices, as measured by the Producer Nominal Assistance Coefficient. But the OECD averages conceal wide variations in levels of support to producers among countries, from 1 per cent to over 70 per cent of total gross farm receipts in 1998. In some countries, levels of support were over 80 per cent for some commodities, with the highest levels of support generally recorded for sugar, milk and rice.

Market price support and output-related payments still dominant: The new OECD classification of agricultural support shows that market price support still accounts for over 65 per cent of support to producers, while commodity-linked budgetary payments accounted for a further 15 per cent in 1998. Consumers paid for two-thirds of total support to agriculture through market price support measures, with taxpayers financing the rest through budgetary payments. General services provided collectively to agriculture, decoupled from production and primarily in the form of marketing and promotion and infrastructure, represented about 20 per cent of total support.

Several policy developments in 1998 shielded agriculture from market signals: A number of additional income support measures were introduced. Although some at least partially respect the operational criteria of transparency, targeting and flexibility adopted by OECD Agriculture Ministers, such measures could generate expectations of continued support. In response to low commodity prices and weak demand in many non-OECD countries, selected tariffs were raised in some countries and there was a greater use of export subsidies and credits. Publicly held stocks of farm commodities increased, despite the continued use of quantitative measures to control production. The sharp increase in the level of producer support over 1997 reflected that, for many countries, trade barriers still prevent world price changes from being fully transmitted to domestic markets.

Source: Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999. OECD, Paris, 1999.

4. India

Macroeconomic situation

GDP growth has been robust during the 1990s…

During the Eighth Five Year Plan (1992-97), India achieved an average annual growth rate in GDP of 6.5 per cent. Economic growth peaked at 7.5 per cent in the 1996 fiscal year.[17] This impressive growth rate can be attributed largely to the significant policy reforms, which were introduced in 1991 and focused on trade liberalisation and privatisation. In the 1997 fiscal year, the growth rate slowed to about 5 per cent due to a sharp fall in agricultural output and a slowdown in the industrial sector. The slowdown was caused by a combination of supply and demand factors: high real interest rates and infrastructural problems on the supply side, and a sharp fall in exports arising from increased uncertainty in international markets on the demand side. Preliminary estimates indicate that GDP growth increased to 5.8 per cent in 1998-99, primarily due to strong growth in the service sector and a recovery in the agricultural sector.[18]

… with significant progress in economic reforms

India has made substantial progress in implementing economic reforms with the opening up of many sectors to foreign direct investment, deregulation of industry, elimination of controls on technology transfer and location, and the liberalisation of trade and capital markets. The State's share of economic output continues to decline and in 1998 accounted for about one-third of total output and slightly less than 30 per cent of investment. The service sector, in particular, has grown rapidly in recent years and now accounts for almost 40 per cent of GDP. Gross national savings and investment have also increased in recent years, with savings now estimated at 25 per cent of GDP.

External factors have caused a sharp fall in FDI…

While still relatively low, inflows of FDI grew steadily, from less than US$ 300 million in 1993 to over US$ 3.2 billion in the 1997 fiscal year. However, inflows in 1998-99 fell sharply due to a combination of factors including the imposition of sanctions (following the nuclear tests in May 1998), the downgrading of India's credit rating, and the general loss of confidence in emerging markets.

… and rising fiscal and current account deficits

The Ninth Five-Year Plan (1997-2002) sets out a medium term strategy with respect to growth, production and investment targets. The new Plan envisages an average annual growth rate of 6.5 per cent. While the rupee was devalued by almost 12 per cent in 1998 relative to the US dollar, it has appreciated *vis-à-vis* the currencies of other East Asian countries. This has resulted in an immediate price increase for imports from countries outside Asia, while the domestic supply response due to greater market opportunities will only materialise in the medium term. There is growing concern over the rising fiscal and current account deficits, which increased to 6 per cent and 2.5 per cent of GDP respectively in 1998-99. Moreover, the trade deficit increased to US$ 18.5 billion in 1998-99 or 5 per cent of GDP.

The inflation rate is still relatively high

The average annual rate of inflation has tended to remain at 7-8 per cent in recent years, and in 1998 was estimated at 7.3 per cent, despite the fact that food prices rose sharply due to supply problems in the sector. In an attempt to reduce underlying inflationary pressures, the Government has introduced several measures, including

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reform of the minimum support prices for agricultural products, as well as lower subsidies for fertilisers. Nonetheless, the continued high growth in money supply, which has averaged about 17 per cent in recent years, will continue to exert upward pressure on prices.

Trade policy is underpinned by the principle of self-sufficiency

India's share of world trade has shrunk from 2.4 per cent in 1951 to less than one per cent in 1998. Its trade policy has been guided by the general principle of self-sufficiency and import substitution, with export earnings used to cover the cost of residual imports. The overarching aim of the Government policy is to increase exports by moving towards a more open trading environment. Significant progress has been made in trade liberalisation and in reducing quantitative restrictions, licensing and discretionary controls over imports, as well as simplification of procedures and protection through tariffs and exchange rates. The Export Import (EX/IM) Policy of the 1992-97 plan was a major step in this direction. Further progress was made in the new EX/IM Policy of the 1997-2002 plan and additional modifications were made in April 1998. The revised policy increased the number of items that could be imported free of duties from about 6 200 to almost 7 000. For balance of payment purposes, the residual import restrictions amount to 2 714 tariff lines.

Economic crises in Asia and Russia have dampened demand in export markets

Although, India has been less affected than other countries in the region by the Asian financial crisis, the devaluation of the currencies of several export competing countries has undermined the competitiveness of India's exporters and manufacturers. The repercussions of the crisis have also affected India's main export markets of Western Europe and the US which account for over 50 per cent of its merchandise exports. India's export performance has been constrained by several factors including lack of marketing infrastructure, transport difficulties, poor quality products, relatively high inflation, as well as the general slowdown in world trade.

Exports of manufactured products and textiles are increasing, while agricultural exports are declining

The composition of India's exports has changed dramatically in recent decades, with a marked decline in some traditional primary exports and an increase in manufactured exports. For example, exports of jute and tea accounted for 40 per cent of total exports in 1960-61, but now account for only 2 per cent. The most important export items are engineering goods, cut diamonds, chemicals and pharmaceuticals, leather goods, fish products and garments. While some export disincentives have been removed, efforts are continuing to implement structural reforms and to further deregulate the economy.

The direction of trade is shifting to OECD countries

The direction of trade shifted significantly during the 1990s with the share of Eastern Europe in total trade falling from about 18 per cent in 1990 to less than 3 per cent in 1997. Japan's share has also declined from over 9 per cent in 1991 to less than 6 per cent in 1998. In 1997-98, Asia's share increased to 23 per cent from about 14 per cent in 1990. There is some anecdotal evidence to suggest that in 1998-99 the EU and US accounted for a larger share of total exports, while exports to countries in East Asia fell sharply. On the other hand, imports from other Asian countries increased.

Disparities are increasing between regions

Despite the strong growth rates achieved during the 1990s, there is a wide divergence in economic activity and growth rates across the

different regions in India. Some estimates indicate that almost one-third of the population still live in poverty. The high growth regions include Maharashtra, Gujarat, and parts of Utter Pradesh and Andhra Pradesh. Poverty is particularly evident in the northern and eastern regions, notably Bihar and Orissa.

Situation of the agricultural sector

About 70 per cent of the population still depend on agriculture

Agriculture is an important sector in the Indian economy and still accounts for about 27 per cent of GDP. Almost 70 per cent of India's population live in rural areas and depend on agriculture for a living. About 72 per cent of India's land is classified as either agricultural or forest (15 per cent). Some 30 per cent of the land area is irrigated and most land is cultivated at subsistence level. Foodgrain production dominates agricultural output, with rice and wheat the dominant crops, followed by oilseeds, pulses, cotton, sugar and tea. Agricultural output increased steadily during the 1990s, but fell by 1-2 per cent in 1997. In 1998-99 the agricultural sector showed a strong recovery, with preliminary estimates indicating that output rose by about 5 per cent.

Foodgrain production has risen by an annual average rate of 2.7 per cent

Since the 1950s, India has followed a regime of planned economic growth (based on a series of Five Year Plans) to boost agricultural and industrial output. In spite of agriculture's importance, the sector has not received much attention in the reform process. Many of the reforms in agriculture have concentrated on investment in irrigation systems, research and education. The spread of high yielding varieties of rice and wheat, combined with the use of high quality inputs and an efficient delivery system led to the green revolution in India's agriculture. One of the most important successes of the green revolution has been the quadrupling of foodgrain production, which reached 201 million tonnes in 1998-99. Impressive growth has also been achieved in the production of fruits and vegetables, as well as in crops such as oilseeds, sugarcane, cotton and livestock products. In overall terms, foodgrain production rose by an average annual rate of 2.7 per cent over the period 1968-1997.

Post harvest foodgrain losses can be as high as 10-20 per cent of total production

The contribution of high yielding varieties, which has been the basis of the green revolution in the 1970s, has now plateaued and there is hardly any new contribution to growth in yields. Moreover, there is growing awareness that a substantial proportion of foodgrain output is lost after harvest, with estimates of losses ranging from 10-20 per cent. While large parts of India have benefited from the green revolution, the increase in output has not been evenly spread. Large landholders have been better able to afford essential inputs and labour. On the other hand, the potential gains have been limited by the small size of landholdings, over intensive cropping, inappropriate use of fertilisers and lack of irrigation. The downstream food processing sector is highly underdeveloped and only 2 per cent of agricultural output is processed. In order to overcome this situation, one of the important new policy objectives involves greater emphasis on developing the food processing industry and the creation of employment, especially in rural areas.

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Agricultural production[19]

Crop production

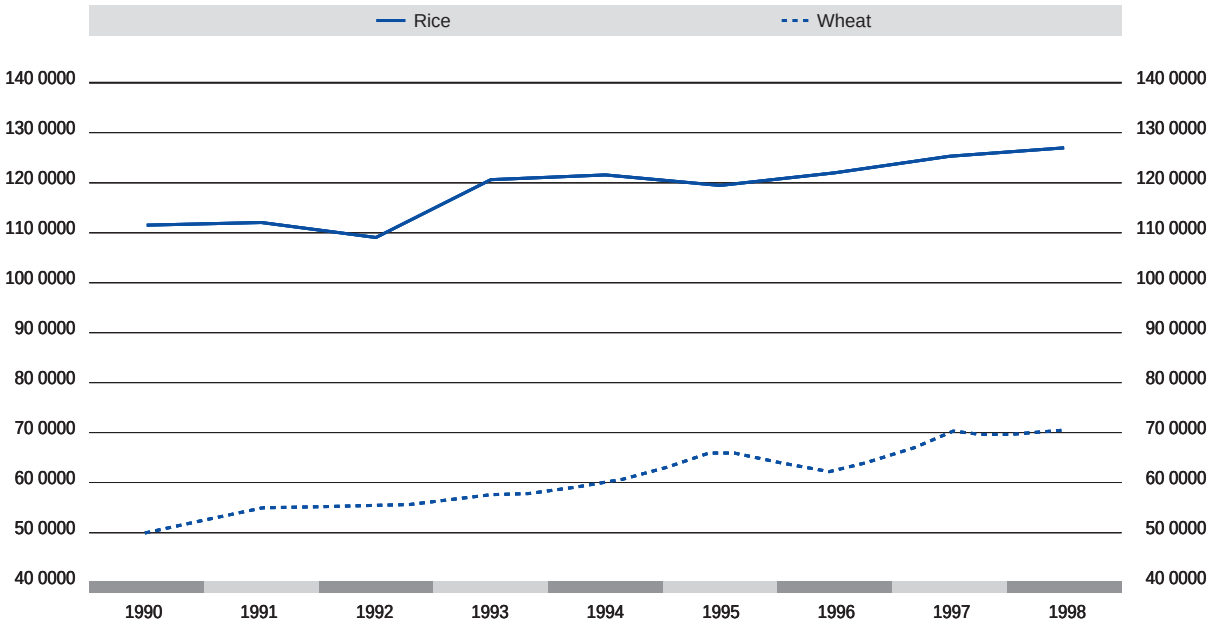
Crop output recovered in 1998-99, with an increase in production of most crops

Agricultural output is dominated heavily by crop production, in particular, foodgrain crops such as rice and wheat. Crop output accounts for about 75 per cent of gross agricultural output. The main foodgrain crops, as well as some cash crops (oilseeds, cotton, jute and sugar) depend heavily on the south west monsoon, which brings 80 per cent of India's rain, usually in a three-month period from June to mid-September. Most of the winter crops of wheat and coarse grains are grown in the northern states.

Production of foodgrains reached a new record of 201 million tonnes in 1998-99

Total cereal production increased steadily during the 1990s from 194 million tonnes in 1990 to 225 million tonnes in 1997. This increase was largely due to improved yields, arising from the use of higher yielding varieties. More specifically, the rise in cereal production has been largely due to a substantial increase in rice and wheat output, which rose to 125 million tonnes and 69 million tonnes respectively in 1997 (Graph II.4.1). On the other hand, barley and maize production has remained fairly stable while sorghum production has fallen. In 1998 however, despite the 18 per cent increase in barley production, total cereal production fell by about 3 per cent (to 219 million tonnes). This was primarily due to a decline in other coarse grains. As regards the other major crops, vegetable production increased marginally to 55 million tonnes, while the production of potatoes, roots and tubers remained stable at 19 million tonnes and 26 million tonnes respectively.

Graph II.4.1. **Wheat and rice production in India: 1990-1998**
Thousand tonnes



Source: OECD.

Coarse grain production continues to fall

In 1998-99 crop production grew by about 4 per cent compared to a 6 per cent fall in 1997-98. Foodgrain production is estimated at 201 million tonnes, a new record level of production. Preliminary estimates indicate that both wheat and to a lesser extent rice production increased. Uttar Pradesh, Punjab, Haryana and Madhya Pradesh are the main wheat growing States. In 1997-98, total wheat output was estimated at 66 million tonnes, while estimates for 1998-99 indicate that production reached 70 million tonnes. While the average level of productivity in agriculture has improved significantly over the last 20 years, it is still rather low by international standards, especially for crops. Moreover, there is some anecdotal evidence to suggest that productivity in the grain sector is starting to decline.

India grows a wide range of pulses, with annual production varying from 12 to 15 million tonnes. Production has remained largely unchanged over the last 30 years as there have been no technological breakthrough in improving productivity. The downward trend in coarse grain production continued mainly due to a decline in the sown area. Less than 10 per cent of the coarse grain area is irrigated. Production in 1998-99 fell to less than 30 million tonnes.

Groundnut production still accounts for over one-third of total oilseed output

Of the nine major oilseeds, groundnut is still dominant and accounts for over one-third of total oilseed production, or 24 million tonnes, followed by soyabean and rapeseed/mustard, which accounts for 28 per cent and 26 per cent respectively. The downward trend in groundnut production is expected to continue. Production of oilseeds increased by about 9 per cent in 1998-99, while cotton output increased by 27 per cent. Sugarcane production increased by 5 per cent to almost 290 million tonnes, while tea production increased marginally to 820 000 tonnes. India is the largest producer of fruits in the world, and second largest producer of vegetables. More than 100 million tonnes of fruits and vegetables are produced annually. Since fruits, vegetables and flowers are highly perishable, quality deterioration and post harvest losses can be heavy, with some estimates suggesting that post-harvest handling losses can be as high as 37 per cent of production, due to losses in storage, grading and packaging.

While reforms in the marketing system have been largely confined to the foodgrain sector, the fruit and vegetable sectors have received little attention. There is some evidence to suggest that there is a much larger price spread between producer and consumer prices due to a large number of intermediaries operating in the markets.

Livestock Production

Livestock and livestock products account for 25 per cent of GAO

Livestock production in general, and dairy production in particular play an important role in the socio-economic development in India. Livestock and livestock products account for about 25 per cent of gross agricultural output. This sector is significant in supplementing family incomes and in generating employment in rural areas, particularly among the landless, small and marginal farmers. Employment in the livestock sector is estimated at almost 10 million with a further 9 million in associated industries.

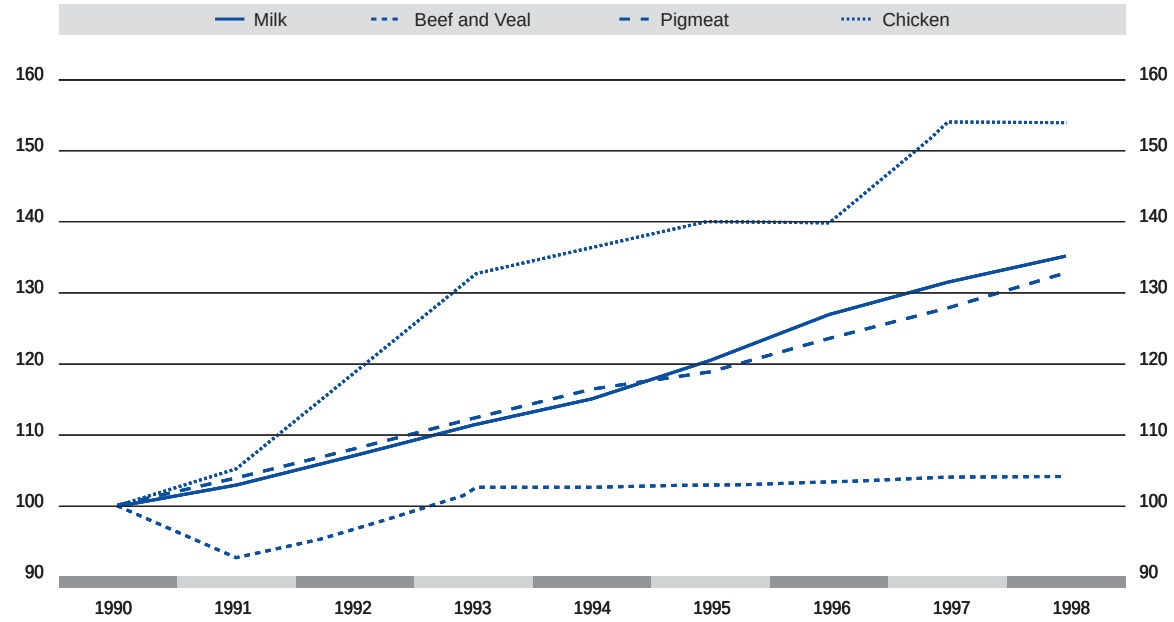
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Milk and meat production continue to increase

The production of all livestock products increased during the 1990s, especially milk and meat production. More specifically, between 1990 and 1998, total milk production increased by about 30 per cent, while total meat production increased by 21 per cent. The rise in meat production was mainly due to an increase in pigmeat production and to a lesser extent beef production. In 1998, total milk production exceeded 74 million tonnes, while meat production reached 4.6 million tonnes. This increase was due to a higher output of pigmeat, as beef and chicken output remained rather stable. India has now become the world's largest producer of milk.

In order to promote the rapid growth of the livestock sector, under the framework of the Ninth Five Year Plan, the Government has introduced several new programmes for the sector. The goal of these programmes is to upgrade the genetic base of the sector and to improve productivity and production of livestock products. Particular emphasis is being given to developing the appropriate infrastructure, feed-management and health care services (Graph II.4.2).

Graph II.4.2. **Production of livestock products in India: 1990-1998**
Index 1990 = 100



Source: OECD.

Agricultural policy developments

Structural policies

Farms are small and fragmented

The structure of land holdings today closely reflects the historical, political and social developments in India since independence. Although the land reform efforts have tended to limit the

size of holdings, nonetheless, a semi-feudal land tenure system persists in some regions. For example, the most recent figures indicate that 10 per cent of households farm 53 per cent of all cultivated land. Moreover, many small farmers have fragmented landholdings and poor access to credit and modern agricultural inputs.

Farms are classified into five categories based on the size of holding. Holdings of less than one hectare are marginal farms; 1-2 ha – small farms; 2-4 ha – semi-medium farms; 4-10 ha – medium farms; while farms in excess of 10 ha are classified as large farms. There is no formal land market and most land is transferred via the hereditary system. There were an estimated 107 million agricultural holdings in 1991; of which, 78 per cent were small and marginal farms, 20 per cent were semi-medium and medium, while large farms only constituted 2 per cent of the total. It is rather difficult to assess structural change in agriculture, as data on farm structures are only available for about 20 years or so.

The underlying trend suggests a further decline in farm size and an increase in the number of marginal farms

However, from the data available, it would appear that the underlying trend indicates an increase in the number of marginal farms and a decline in the number of large farms. More specifically, the share of marginal farms in total land use has increased from 9 per cent to 15 per cent while the proportion of large farms has fallen from 31 per cent to about 17 per cent. The average size of farm holding has also declined from 2.3 ha in 1970/71 to about 1.5 ha in 1998.

While the average farm size is small and is continuing to decline, it varies substantially between the different States. States with relatively large average farm size include Rajasthan, Madhya, Punjab and Haryana. Large populous states such as Uttar Pradesh, Bihar and West Bengal have a low average size (less than 1 ha). In the south, Kerala has a very low average size of operational farm holding of only 0.33 ha. Tamil Nadu also has an average farm size of only 0.9 ha.

Labour adjustment

Conflict between landowners and landless workers is increasing

While the size of the labour force in India increased to over 314 000 in the early 1990s, agriculture's share in the workforce has continued to fall, albeit slowly. In 1997 the share of the labour force engaged in agriculture was estimated at about 65 per cent. With increasing emphasis on economic diversification, this share is likely to continue to fall, even though the overall size of the rural population is growing. A significant proportion of the labour market still remains outside the official recorded system. One area of growing concern to policymakers is the increasing number of landless agricultural workers. In an attempt to overcome the growing conflict between landowners and the landless agricultural labour several States have extended their social security schemes to all sections of the working population, including landless agricultural labour. The introduction of reforms in the early 1990s has resulted in a steady increase in employment in the manufacturing sector, especially in the larger towns and cities.

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Agricultural policy objectives and new policy developments

The key policy goals include land reform and investment in rural infrastructure

For several decades agricultural policy objectives have been underpinned by four key elements and were aimed at:

- removing institutional bottlenecks to agricultural growth;
- ensuring food security for an ever growing population;
- modernising agriculture and promoting the adoption of new technology;
- reducing regional inequalities.

The policy measures adopted to achieve these goals included; major institutional changes such as land reform, as well as investment in rural infrastructure including irrigation, power, research and development. These policies have been supplemented by substantial market intervention for the major commodities as well as price policies, especially for foodgrains. In addition to direct market intervention, there have been substantial public expenditures on inputs such as seeds, fertilisers and credit.

Price policy has a dual goal of providing an incentive to producers to adopt new technology, while ensuring low prices to consumers

It should be noted that in implementing price policy, an important balance has to be struck between ensuring a reasonable price to producers to encourage the adoption of new technology while at the same time ensuring low prices to consumers. A comprehensive food management system of procurement, storage and public distribution of food grains was established. Buffer stocks of the major foodgrains are kept in order to ensure the smooth running of the Public Distribution System and to stabilise market prices. In essence, price policy has been designed primarily to help consumers. Farmers have been given low administered prices even though they had to pay higher prices for domestically produced industrial inputs because of protection given to local industry. In addition, a large proportion of the costs of inefficient para-statal organisations is borne by farmers.

The new agricultural policy aims to improve economic viability, promote sustainable development…

… and reduce State barriers on the movement of agricultural products

In 1998 the government drafted the first National Policy for Agriculture, aimed at accelerating sustainable development and ensuring economic viability. Essentially, this policy seeks to promote sustainable development and improve technology and management of natural resources including land, water, and animal and plant genetic resources. Moreover, the policy seeks to expand rural infrastructure through increased public and private investment, to revitalise rural credit institutions, to promote agricultural exports, to integrate Indian commodity markets with global markets and to accelerate land reforms. Other elements of the policy relate to strengthening the basic health and education facilities in rural areas, to facilitating supplementary employment through poverty alleviation schemes and to distributing foodgrains through the Public Distribution System at concessional prices to those living below the poverty line. One of the first areas to be tackled relates to the reduction and elimination of domestic restrictions on the movement of agricultural products between states. The policy also seeks to create a more favourable climate to encourage farmers to invest in their farms by developing a more open price and trade regime.

A Pricing Policy Review Committee was established in the latter half of 1998, to identify ways of promoting a more balanced use of fertilisers, to deregulate the fertiliser industry, and to re-evaluate agricultural subsidies and pricing policies.

India continues its policy of self-sufficiency in foodgrains, with a system of buffer stocks to maintain market stability

A policy of food self-sufficiency has been the driving force behind agricultural policy in India. This is particularly the case with respect to foodgrains. Since the mid-1970s, India has maintained significant buffer stocks of the major foodgrains to protect against failed harvests and seasonal fluctuations. However, this policy has had an adverse effect on the production of several cash crops. For example, the production of sugar, cotton, jute, vegetable oil, tea and coffee has been managed to meet domestic consumption first and trade in these products has tended to be a residual. As a result, exports have been erratic and imports have often been difficult to predict, causing periods of shortages and surplus. Several recent studies indicate that India has unexploited potential as an exporter of rice, cotton and many types of fruit, but is producing excessive amounts of oilseeds.

Reduction in poverty

Agricultural growth has resulted in a reduction in the incidence of poverty in rural areas…

One of the most important consequences of accelerated growth in agricultural output has been a substantial reduction in poverty in rural areas. The poorer sections of the population had greater access to food due to several factors. First, the real price of wheat and rice fell over a period of time because of rapid growth in productivity. In general, the gains of the productivity increases were shared by both producers and consumers. Second, the proportion of per capita income required to buy food declined over time. Third, the introduction of several anti-poverty programmes like the Integrated Rural Development Programme (IRDP), the Rural Landless Employment Guarantee Programme (RLEGP) and the National Rural Employment Programme (NREP). In addition, special programmes have been introduced to deal with food scarcity problems as well as difficulties arising from adverse weather conditions.

… but the extent of poverty continues to be a cause of great concern in some States

While there has been a significant reduction in the incidence of poverty since the early 1980s, nevertheless, the extent of rural poverty continues to be very high in absolute terms. This issue continues to be a key factor in designing agricultural policies. While the incidence of poverty varies widely between States, in general, it would appear that the poverty is much lower in those States that have recorded high growth in agricultural output.

Rural development

A special Fund aims to improve infrastructure in rural areas

One of the key elements of the Ninth Five Year Plan (1997-2002) focuses on the development of rural infrastructure. A new Rural Infrastructure Development Fund (RIDF) has been established, with funding coming mainly from the scheduled commercial banks. One of the main goals of the Fund is to provide loans to the State governments for a period up to 5 years for specific infrastructure projects in rural areas.

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Agricultural credit and investment

Several new measures were introduced in 1998-99 to improve the availability of credit to farmers

There are three main sources of funding for the farm sector: commercial banks, regional rural banks and co-operative banks. Of the total institutional lending to agriculture in 1998, commercial banks accounted for about 48 per cent, co-operative banks 46 per cent and regional rural banks about 6 per cent. Short term credit accounts for over two-thirds of the total institutional lending to agriculture. In order to improve the flow of credit to the farm sector, several new measures were introduced in 1998-99.

Several measures were introduced in 1998-99 to improve credit flows to the farm sector including:

- the simplification of the credit delivery procedures though the rationalisation of internal returns of banks;
- the delegation of more powers to local branch managers;
- the introduction of cash credit limit to farmers, introduction of new loan products with saving components, cash disbursement of loans, dispension of "no due certificate" and discretion to banks on matters relating to margin security requirements for agricultural loans;
- the establishment of at least one specialised agricultural bank in each state to cater to the needs of high-tech agriculture;
- more flexibility in settling disputes over unpaid arrears.

Public investment in agriculture accelerated up to the 1970s, but declined during the 1980s and 1990s. Between 1991 and 1998, public investment in agriculture fell by about 25 per cent. Private sector investment in agriculture has partially offset this decline in public investment in the sector. However, in overall terms, the total level of investment in the agricultural sector continues to fall.

Other supports

Agricultural subsidies relate mainly to the food and fertiliser sectors

Most of the direct agricultural subsidies are allocated to the food and fertiliser sectors, which together account for more than one per cent of GDP. Fertiliser subsidies are allocated partly to the fertiliser industry and partly to farmers. These subsidies have tended to impede adjustment in the sector by covering the costs of inefficient manufacturers as well as inefficiencies in the distribution system. Apart from direct subsidies, there are large indirect subsidies that support the provision of many goods, especially those provided by the State. For example, there are substantial state subsidies on power, irrigation water and other agricultural inputs. These subsidies have tended to be inequitably and inefficiently distributed and have led to inappropriate use of scarce resources as well as impeding both domestic and foreign investment.

Support was introduced to increase cold storage facilities for fruits and vegetables

One area of growing concern is the lack of cold storage facilities for fruits and vegetables. In order to overcome this deficiency, the government introduced additional grants, subsidies and soft loans to encourage the private sector to build new storage facilities. Almost 90 per cent of cold stores are privately owned. Following the sharp increase in potato and onion prices in the second half of 1998, the

Government intensified its efforts to increase cold storage facilities so as to increase the buffer stocks of these products. This in turn would help to reduce market price volatility for both products.

Agricultural trade

Export growth has slowed

Following three successive years (1993-95) of agricultural export growth in the range of 18-20 per cent, export growth in US dollar terms plunged to 4.5 per cent in 1996-97 and 2.7 per cent in 1997-98. The fall in exports was largely due to a fall in demand in the main export markets in south east Asian countries as well as a loss in competitiveness due to the relative appreciation of the rupee *vis-à-vis* the currencies of India's major competitors. While overall exports increased marginally in 1998-99, the share of agricultural exports in total exports declined to less than 16 per cent from over 20 per cent in the early 1990s. The largest decline has been for rice, fruits and vegetables, oil meals and meat preparations.

Some products are still subject to export restrictions

Export licenses are still maintained for some products, while some items consumed domestically, such as tea, are subject to quota restrictions. Only a few items, such as tropical wood and beef are banned from export. A ban was imposed on onion exports in the latter half of 1998, due to a sharp rise in domestic prices resulting from supply difficulties. However, this ban was removed in February 1999. In 1998, the sharp fall in tea exports to Russia, due to the financial crisis, caused severe problems in the industry and increased calls for greater protection of the sector. Russia accounts for about 50 per cent of India's total tea exports.

However, exports of processed food products are increasing

The total value of exports of processed foods, fruits, livestock and other agricultural products increased by about 6 per cent between April and September 1998. Both wheat and non-basmati rice sales recovered strongly from a decline in the previous year. Non-basmati rice exports almost doubled after falling 16 per cent in 1997-98. Wheat exports also recovered. Other strong export performers included basmati rice, floriculture and seed products. However, exports of livestock, dairy and meat products declined. Among the processed food products, there was a rather mixed performance with processed fruits and vegetables rising by 11 per cent, while exports of other processed foods fell, especially groundnuts.

Under the obligations emanating from its membership of the WTO, India is committed to phasing out trade restrictions on several products including consumer goods, fish and agricultural products. While quantitative restrictions are scheduled to be abolished by 2003, these products are still subject to tariffs, which have been generally set at a very high level. For example, import duties were reduced from a maximum rate of 150 per cent in 1992-93 to about 40 per cent in 1998.

Summary and outlook

Despite the Asian economic crisis, GDP growth increased in 1998-99

India managed to sustain reasonably strong growth despite the ongoing economic crisis in the region. In 1998-99, GDP growth was estimated at 5.8 per cent, a slight increase over the previous year. Devaluation of the rupee by almost 12 per cent in 1998 gave a boost to exports, especially to countries outside the region. The slowdown

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in industrial output, exports and capital inflows continued in 1998-99, but strong growth was recorded in the service sectors and agricultural output recovered. For 1999-2000, GDP growth is forecast to remain at about 6 per cent. While the rate of inflation increased in 1998-99, mainly due to increases in food prices, there are some signs that inflationary pressures will ease during 1999, which in turn will exert further downward pressure on interest rates.

Rising fiscal and current account deficits are an increasing cause for concern

Rising external and fiscal deficits are a cause of growing concern in India. Preliminary estimates indicate that the fiscal gap increased to about 6 per cent of GDP in 1998-99 and the current account deficit rose to 2.5 per cent of GDP. Because of the relatively greater slowdown in exports compared to imports, the trade deficit rose to almost 5 per cent of GDP. In an attempt to redress these problems the Government introduced new measures in its February 1999 budget, which focus on reducing non priority expenditures, untargeted subsidies and to broaden the tax base. The slowdown in industrial output is expected to continue in 1999-2000 due to weak demand in both the domestic and export markets. Many of India's trade difficulties appear to be structural and further cuts in tariffs accompanied by liberalisation of small scale industries and improvements in infrastructure would help to overcome these difficulties. With subsidies accounting for almost 14 per cent of GDP, a large fiscal overhang is holding down economic growth.

The upturn in agricultural output is expected to continue

Growth in agricultural output resumed in 1998-99, increasing by about 5 per cent, following a decline the previous year. More favourable weather was the main factor contributing to the recovery in agricultural output in 1998. Production of foodgrains increased to almost 201 million tonnes, a new record level of production. Oilseed production increased by about 9 per cent, while output of cotton, sugarcane, fruits and vegetables also increased substantially. In 1998, the government drafted the first National Policy for Agriculture, and is aimed at promoting sustainable development, improving technical efficiency and management of national resources, expanding rural infrastructure, revitalising rural credit institutions, as well as land reform. Livestock production also increased, especially milk. Forecasts for 1999-2000 indicate that the strong growth in agricultural output recorded in 1998 will continue, with output expected to increase by about 5 per cent. However, growth and development in the agricultural sector continue to be constrained by several factors including the lack of market infrastructure as well as imperfections in agricultural credit markets and lack of investment. As a means of alleviating poverty, the Public Distribution System has not been very effective or efficient, as it is not well targeted to the poor and monitoring of the programme has been rather slack. Public sector investment in agriculture has fallen from 28 per cent of total investment in 1993 to about 21 per cent in 1998, while private investment in the sector has been rather sluggish. One area of increasing concern to policymakers in India relates to the environmental impacts of agricultural production and the need to focus more on sustainable development.

Further progress in price and trade liberalisation and in structural reforms would benefit the agricultural sector

India's system of trade protection has resulted in taxation of the agricultural sector, which has been partly offset by subsidisation of agricultural inputs. In addition to increasing the fiscal burden, this subsidisation may also have encouraged the inefficient use of

resources such as water and electricity. Agricultural growth is also inhibited by substantial State intervention in agricultural markets and trade through controls on the processing, movement and storage of agricultural products. Greater liberalisation of trade and internal movement of agricultural products as well as the reduction in subsidies would facilitate agricultural growth and development. The supply response in agriculture will not only depend on improvements in general infrastructure and markets, but also on the adoption of new technologies as well as improvements in health and education in rural areas.

5. Russia and other major NIS

Russia, Ukraine, Kazakhstan and Belarus are the most important agro-food producers and consumers among the 12 New Independent States. In 1998, these four countries accounted for about 90 per cent of the grain, meat and milk produced by the 12 NIS. However, in light of Russia's importance in the region the emphasis of this chapter is put on developments there.

Macroeconomic situation

Crisis in Russia…

In 1998, events in the NIS countries were dominated by the crisis in the Russian economy. During the first half of 1998, the real economy in Russia was partly isolated from the financial crisis, reflecting the rather limited dependence of most Russian enterprises on the financial markets. But a fall in consumer expenditure, disruption of the payment system, low liquidity, and the overall chaotic environment following the August crisis contributed to a fall in GDP of 4.6 per cent in 1998. By the end of December the rouble had lost 70 per cent of its end-July value, the unemployment rate had risen to 11.8 per cent and the year-on-year inflation grew to 84.4 per cent.

… through direct trading relations and policies of international investors…

The Russian crisis has impacted other countries in the region in two main ways:[20]

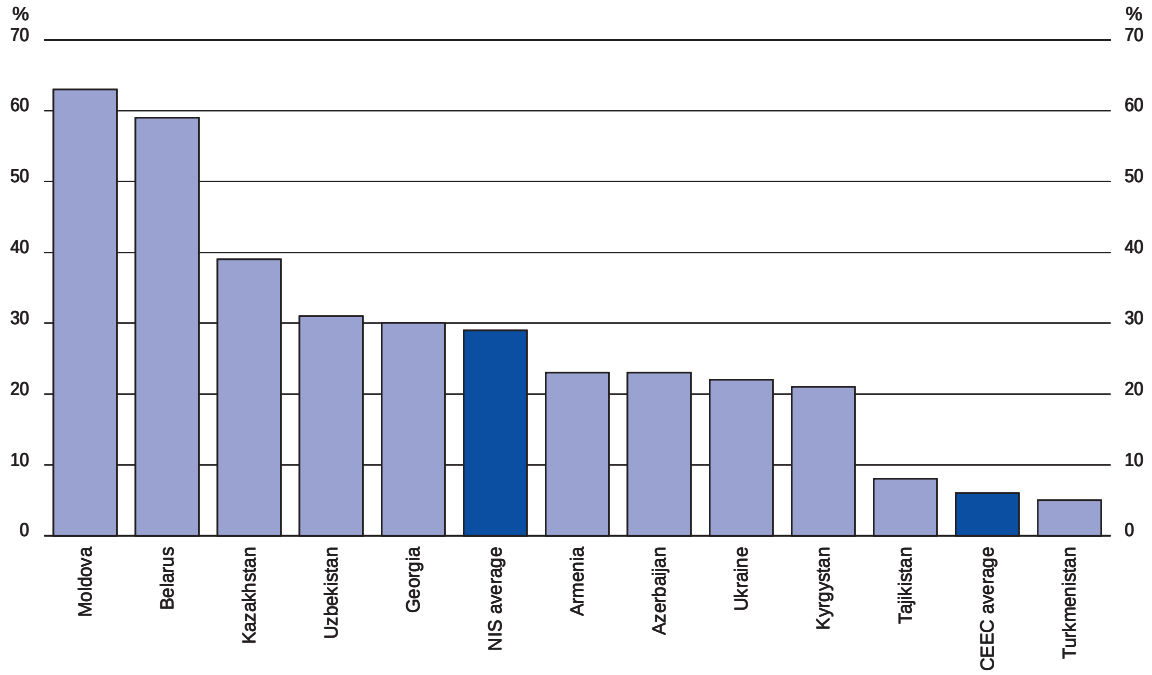
- Firstly, those countries with strong trading relations with Russia have been affected directly by the collapse in their exports to Russia. This has also put pressure on domestic banks that have either a high dependence on crediting trade activities or exposure through loans or investments.
- Secondly, the indirect impact on these countries has been through policies of international investors who have withdrawn to a large extent from emerging markets due to the combined effects of crises in Russia and East Asia. The countries most concerned by this effect are those with weak macroeconomic fundamentals and the highest needs for external sources of financing.

… severely impacted other NIS countries

The three NIS countries have been strongly affected by these two factors. The share of exports to Russia in the total exports of these countries has been high and varied from almost 60 per cent for Belarus to above 20 per cent for Ukraine in 1997, compared to the CEEC average of 6 per cent (Graph II.5.1). Fiscal and external imbalances, driven largely by internal forces and combined with delays in

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Graph II.5.1. **Exports to Russia as percentage of total exports in 1997**



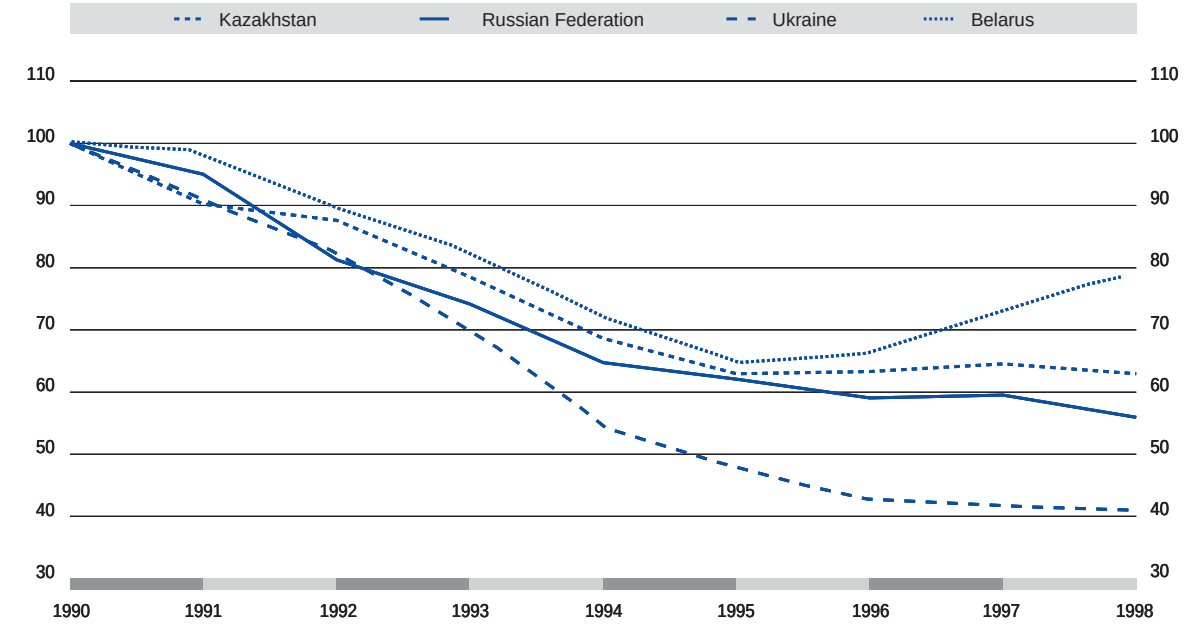
Source: EBRD, 1998.

structural reforms made them particularly susceptible to the external shocks. The reactions of the governments to the crisis have ranged from reductions in budgetary expenditures and tighter monetary policy demonstrated by Kazakhstan to the even stronger reliance on purely administrative measures applied in Belarus. The Ukrainian government tried to combine the two approaches.

Tight fiscal and monetary policies and administrative controls failed to prevent sharp depreciation of currencies

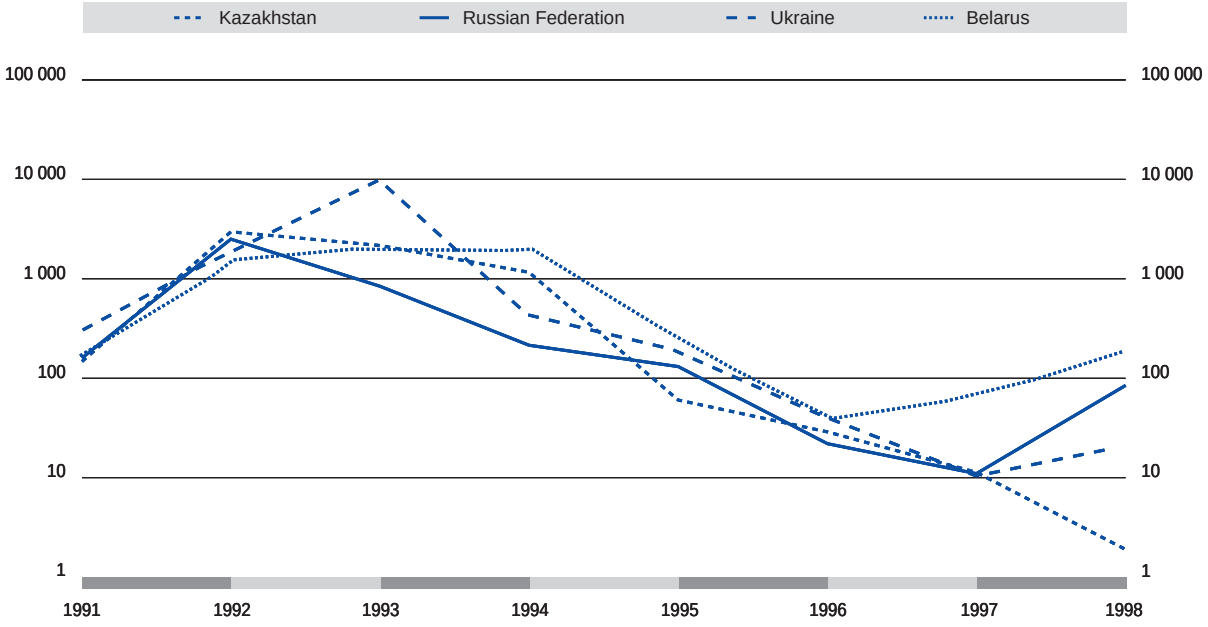
Budgetary cuts and tight monetary policy enabled Kazakhstan to reduce the end-year inflation rate to 2 per cent, but the reduction of total exports by 15 per cent put an end to a two-year period of economic growth and GDP fell by 2.5 per cent in 1998. Falling gold and currency reserves forced the Kazakh government to let the tenge float at the beginning of April 1999, which resulted in a 24 per cent depreciation of the Kazakh currency. Ukraine also applied austere fiscal and monetary measures combined with administrative controls at the exchange market, but they did not prevent a sharp depreciation of the hryvnia in September-October 1998 to 56 per cent of its value in August. Nor did Ukraine manage to sustain a fragile GDP growth registered in the first 8 months of 1998. Annual GDP fell by 1.7 per cent and the rate of inflation grew to 20 per cent (Graphs II.5.2 and II.5.3). The apparent growth in GDP in Belarus was based on Soviet-style direct controls over the real sector, extensive provision of cheap credit from the central bank, continued money emissions and sharp depreciation of the Belarusian rouble. Another problem is the reliability of the official statistics in Belarus. The government's attempts to curb the rise of prices (by 182 per cent in 1998) through administrative measures led

Graph II.5.2. **Four NIS: GDP growth, 1990-1998**
1990 = 100



Source: Annex Table I.2.

Graph II.5.3. **Four NIS: inflation rates, 1991-1998**
In per cent, logarithmic scale



Source: Annex Table I.4.

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to growing shortages, rationing of foodstuffs in cities and the expansion of the black markets.

Situation of the agro-food sector

Agricultural production fell

Agricultural production contracted between 0.4 per cent in Belarus to 19 per cent in Kazakhstan. Due to the disastrous drought, crop production declined sharply in all four countries from 9 per cent in Belarus to 30 per cent in Kazakhstan. Animal production continued to decline in Russia and Kazakhstan, but increased in Ukraine (for the first time since the transition started) and Belarus. Some positive signs appeared in poultry meat and egg production in Russia, in milk, poultry and egg production in Ukraine and in milk and egg production in Kazakhstan. Productivity gains helped to offset the continued reduction in the number of animals, leading to stabilisation or even a slight rise in production in these sectors. In Belarus, where an increase in animal production was reported for the second consecutive year, livestock inventories continued to fall, but official reports claimed substantial increases in animal productivity.

The share of household plots increased

In all four countries large farms continue to dominate grain, fodder and sugar beet production, while the majority of total milk, meat, potato, fruit and vegetable production originates from numerous, but tiny household plots. In Russia the fall in production on household plots was much smaller than on other types of farms, bringing their share in total agricultural production to above 50 per cent. The share of large agricultural enterprises fell to about 47 per cent and the share of family farms remained at 2 per cent. The same trends have been observed in Ukraine, Kazakhstan and Belarus.

Agricultural terms of trade improved in Russia

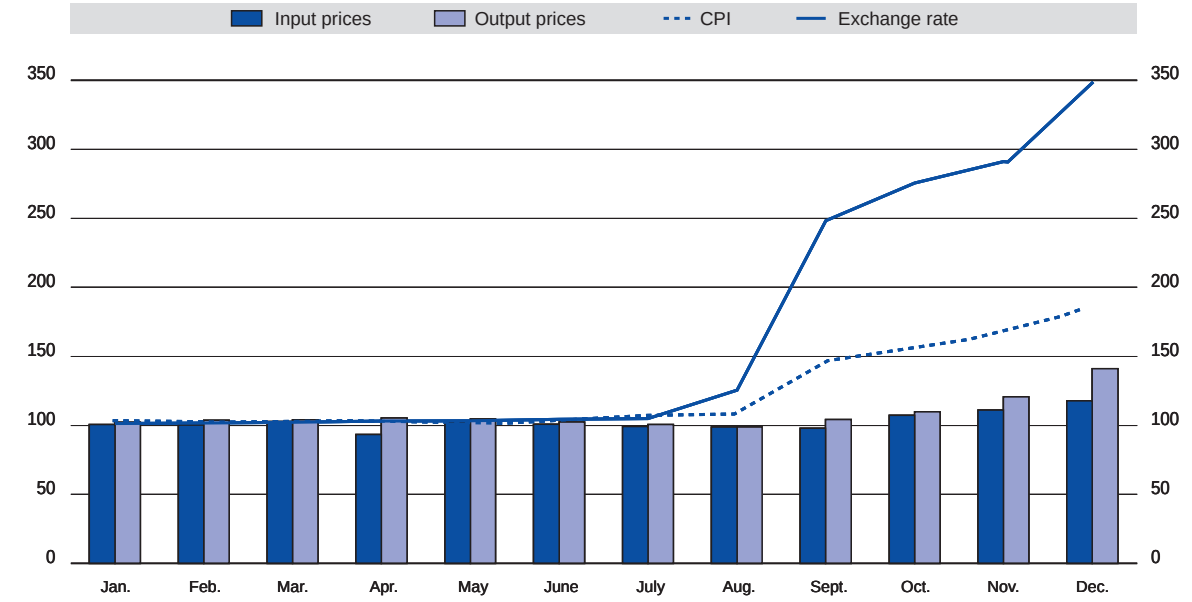
In Russia, agricultural terms of trade improved in 1998, in particular in the second half of the year, with output prices rising by 41 per cent and input prices by 18 per cent in December 1998 compared to December 1997 (Graph II.5.4). Movements in agricultural input and output prices were much slower than the overall rate of inflation and, in particular, the rate of the rouble depreciation. This provided a competitive edge for both domestic input suppliers and farmers over importers. The improvement in terms of trade did not, however, change the adverse financial situation of the sector in Russia. According to official figures the share of large agricultural enterprises making losses increased from 82 to 89 per cent. The financial situation of large farms remains critical also in Ukraine and Kazakhstan with the percentages of large farms reporting losses at 90 per cent and over 80 per cent, respectively. In Belarus, the percentage reported was lower at 44 per cent, but rose over the previous year.

Agriculture plays a "buffer role" in labour markets

In all four countries there is an important disparity between agriculture's sharply declining contribution to GDP and high (stable or even growing) share of the sector in total employment (Graphs II.5.5 and II.5.6). These tendencies reflect both the slow process of farm restructuring in the NIS and a lack of non-agricultural employment opportunities in rural areas. In fact, large farms along with household plots play a so called "buffer role" in labour markets, providing some employment, food and income to vulnerable groups in the society (see Part I.2). The consequences of such a situation are growing hidden unemployment in rural areas, declining output per farm worker, low wages paid by large

Graph II.5.4. **Nominal exchange rate of the rouble and prices in Russia in 1998: input, producer, consumer**

December 1997 = 100



Source: Goskomstat, Moscow.

farms and a deteriorating financial situation for large farms. However, in Russia after the initial rise in farm employment at the beginning of transition, the number of employed in agriculture fell from 9.7 million in 1995 to about 8.2 million in 1998 which may mean that the poor financial situation of farms forced some farm managers to cut labour costs and reduce the number of farm employees.

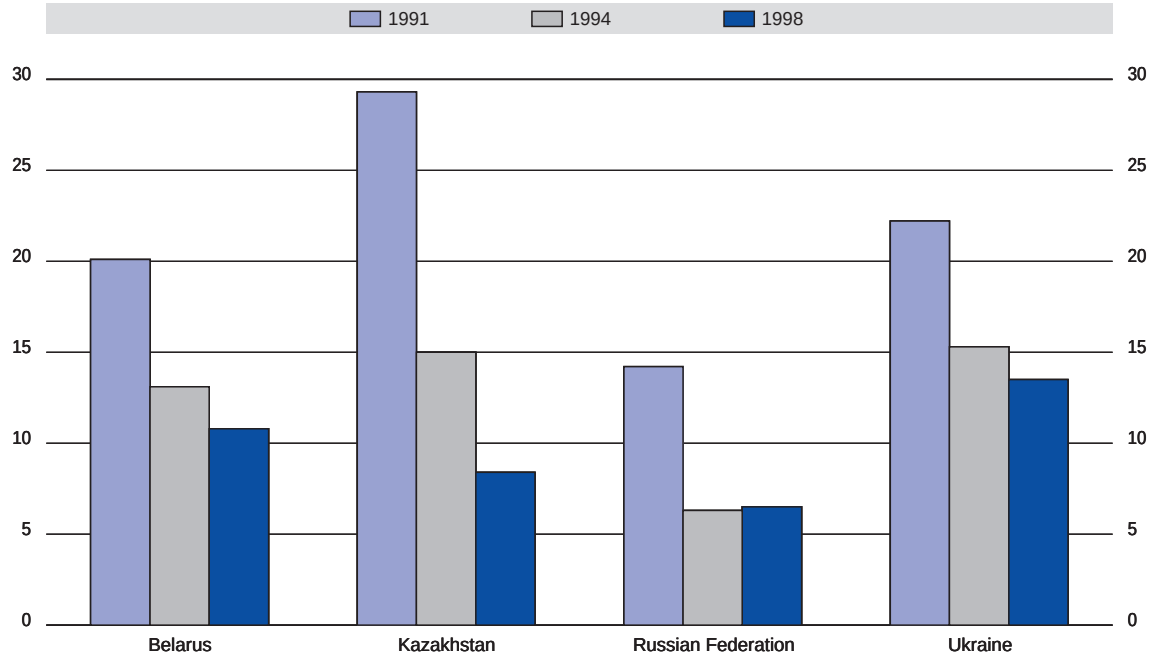
Agricultural production and food consumption

Crop production

The fall in total area sown…

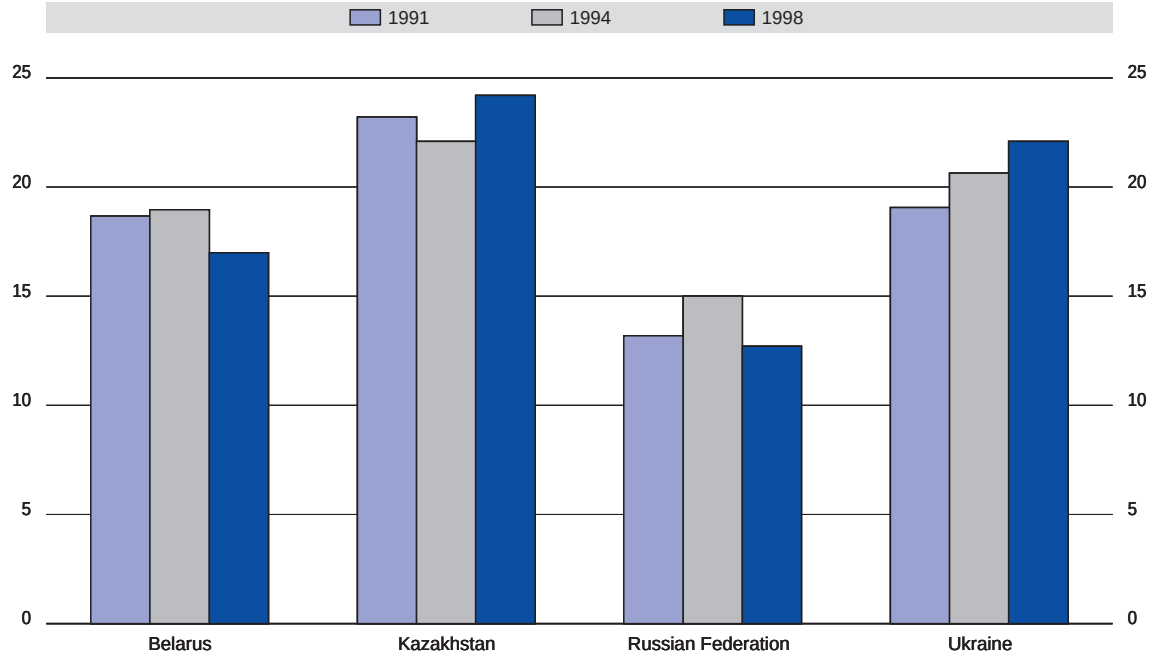
The total area sown in the four countries shrank by 6 per cent to 145.1 million hectares in 1998. This decline brought the total reduction in area sown since 1990 to 46.3 million hectares, nearly four times the total of 12.3 million hectares sown in Poland, the largest agricultural producer among the CEECs. However, the change since 1990 has been differentiated across countries with the sown area strongly declining in Kazakhstan and to a smaller extent in Russia and Ukraine, but remaining fairly stable in Belarus (Graph II.5.7). The fall reflects the poor financial condition of the majority of large farms in Kazakhstan, Russia and Ukraine, which often do not have sufficient means to cultivate available land, but also more effective use of resources since marginal lands, where production costs are higher than expected crop returns, have been left uncultivated. In Belarus,

Graph II.5.5. **Four NIS: per cent share of agriculture in GDP, 1991-1998**



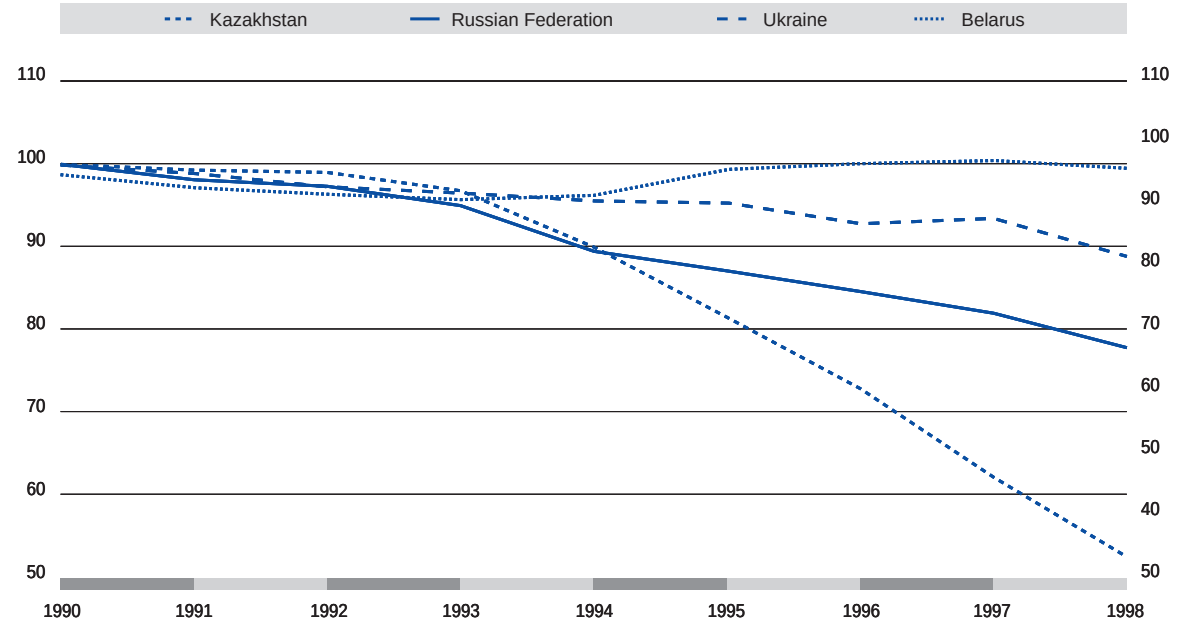
Source: Annex Table II.1.

Graph II.5.6. **Four NIS: per cent share of agriculture in total employment, 1991-1998**



Source: Annex Table II.2.

Graph II.5.7. **Four NIS: total sown area, 1990-1998**
1990 = 100



Source: Annex Table III.12.

agricultural producers are still largely shielded from market forces, and thus from the need to adjust the amount of resources used.

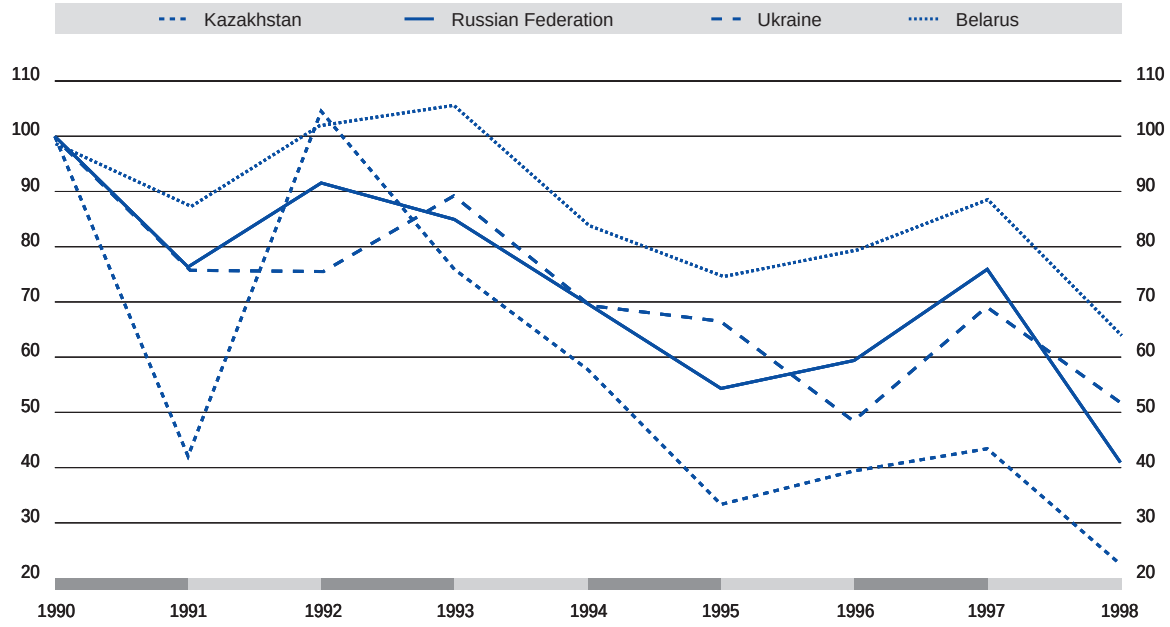
… and the disastrous drought led to a sharp drop in grain production

The total grain area declined by about 7 per cent but its share in the total area sown remained at 56 per cent in 1998. The reduction in grain area combined with the disastrous drought led to a substantial drop in grain production. The fall ranged from 25 per cent in Ukraine to 48 per cent in Kazakhstan. The fall in grain yields ranged from 15 per cent in Ukraine to 43 per cent in Russia. In total, grain production in the four countries amounted to 86 million tonnes, *i.e.* 40 per cent below the 1997 level and 58 per cent below the 1990 level (Graph II.5.8).

Administrative barriers on interregional trade in Russia were stepped up

In Russia, the 1998 grain crop was the worst in 40 years. The August crisis combined with the effects of disastrously low grain production led local administrations in Russia to step up administrative barriers on interregional trade in Russia as well as price and mark-up controls on food products. As soon as Moscow's and other major cities' suppliers started to look for domestic producers in other regions to replace imports, many regions began imposing restrictions on the transport of food to other areas to stabilise their own markets and to protect their own consumers. For example, the Russian internal republic of Tatarstan banned "exports" from its territory of 13 staple foods, including meat and meat products, flour, vegetable oil, sugar, tea, salt and baby food. At the same time several main food companies were to receive funds from the local government to buy raw materials outside the republic. Grain and bread prices are the products most regulated by regional authorities. As a result, in November

Graph II.5.8. **Four NIS: all grain production, 1990-1998**
1990 = 100



Source: Annex Table III.1.

bread prices in Russia were only 8 per cent higher than in July compared to the overall rise in prices of 77 per cent over the same period. Artificially low bread prices limited the purchasing power of milling plants and contributed to the depressed domestic grain prices. Regional embargoes are anti-constitutional and the government warned that the regions applying them would be punished, but the enforcement of this law remains weak.

Total availability of grain in Russia is close to the total domestic consumption in 1998/99

As the net annual grain consumption requirement of Russia is estimated at about 70 million tonnes, total grain production of 47.8 million tonnes in 1998 combined with about 20 million tonnes stored from the bumper 1997 crop meant that the total availability of grains in the 1998/1999 season was close to the total domestic consumption. However, no reserves would be left for the next crop year and some shortage of grains could develop just before the 1999 harvest. Among others, this has been an argument for the Russian government to seek food aid (see below). The Russian Ministry of Agriculture and Food forecasts 1999 grain production at 68 million tonnes. Since no grain will be left from the 1998 crops, Russia's grain consumption requirement will again be above quantities produced domestically which may mean further requests for food aid and/or more grain imports on commercial terms.

Livestock production

The favourable 1997 grain crop benefited the livestock sector in 1997/98

Increased grain stocks and lower feed costs following the favourable 1997 grain crop benefited the livestock sector in 1997/1998, in particular pork and poultry production, and the contraction of

inventories slowed down in 1998 in all four NIS countries with hog numbers in Ukraine increasing (Graphs II.5.9 and II.5.10). Also milk production fell by just 1 per cent, much less than in previous years. Several NIS countries registered animal productivity gains, which partly offset the reduction in the inventories. For example, in Russia milk production per cow increased from 1 950 kg per year in 1995 to 2 233 kg per year in 1998. Between 1990 and 1998, cattle and hog inventories as well as meat production, were roughly halved in the four NIS, with the sharpest decline in Kazakhstan and the most moderate in Belarus. Over the same period, milk production fell by about 40 per cent, ranging from declines of 44 per cent in Ukraine to 29 per cent in Belarus.[21]

The poor 1998 grain harvest will impede livestock production in 1999 despite lower meat imports

Livestock production in 1999 will be driven by two main contradictory forces, in particular in Russia. On the one hand the small 1998 grain harvest will diminish grain availability and will increase feed costs, at least until the new harvests; on the other hand the strong devaluation of the rouble has raised the cost of imported food and provided Russian meat industry and agriculture with an opportunity to recover competitiveness. However, the lack of normally functioning markets, the predominance of barter transactions, accumulated debts and the failure to establish an appropriate financial system for agriculture may prevent livestock producers from benefiting from the devaluation. If closer marketing links are not established between meat producers and meat processors, livestock production will continue to decline on large farms. As in previous years, this decline will be partly offset by a rise in production on household plots.

Food consumption

The preliminary 1998 data indicate a continuation of the food consumption trends observed in previous years with a fall in consumption of products with high income elasticities, such as meat (Graph II.5.11) towards cheaper grain products, vegetables and potatoes.

Food consumption fell at the end of 1998…

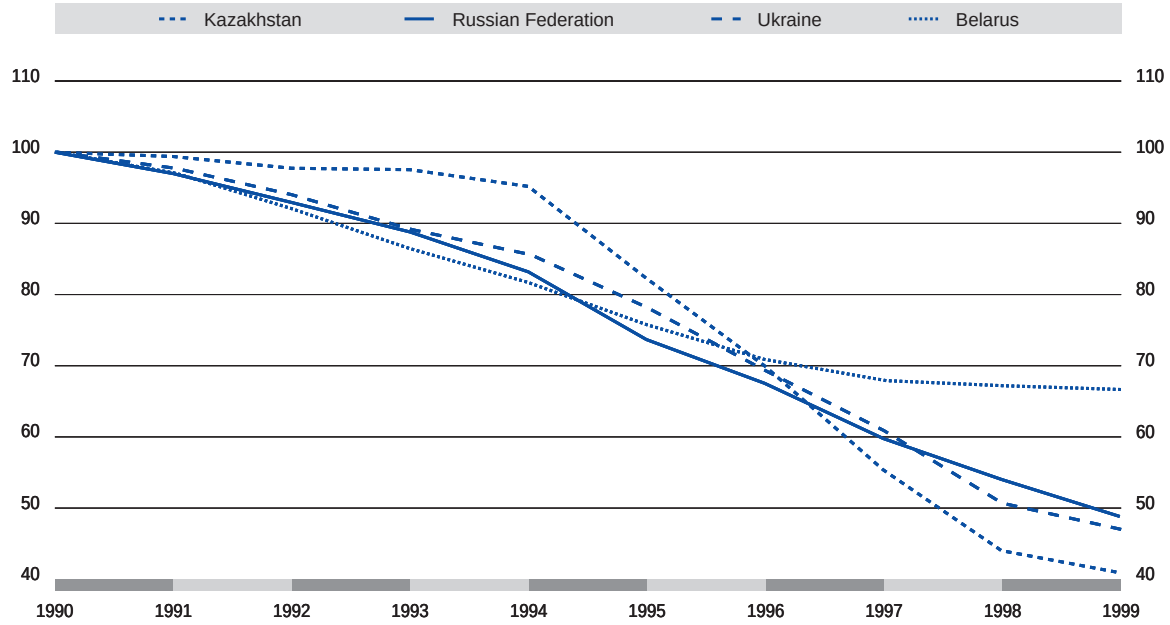
In 1997 and the first months of 1998 imports provided about one-third of Russia's consumption of meat and meat products and about 13 per cent of consumption of milk and milk products. The devaluation of the rouble led to a sharp rise in prices for imported food. However, just after the August crisis consumer expenditures accelerated as the devaluation of the rouble stimulated inflation expectations and consumers tried to spend money before it lost its value. However, already in October the impact of falling real incomes became visible and consumer expenditure, including on food, fell sharply.

… and will remain low in 1999

The economic crisis in Russia resulted in a sharp drop in real incomes. It is estimated that real personal income in Russia in the last quarter of 1998 was about 30 per cent lower than in the last quarter of 1997. Moreover, the share of population below subsistence level grew from about 20 per cent to about 29 per cent over the same time period. The impact of the fall in real incomes on food consumption is not yet reflected by the 1998 food consumption statistics, but as real incomes are expected to remain low, this will be much more apparent in the 1999 data.

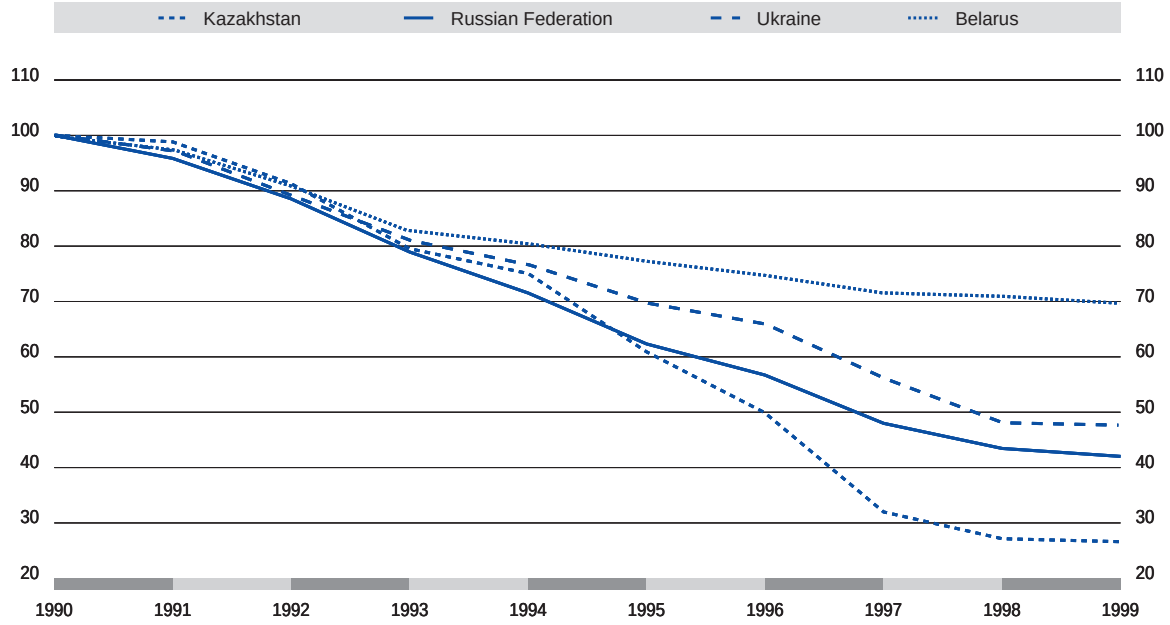
OECD 1999

Graph II.5.9. **Four NIS: cattle inventories, 1990-1999**
1990 = 100



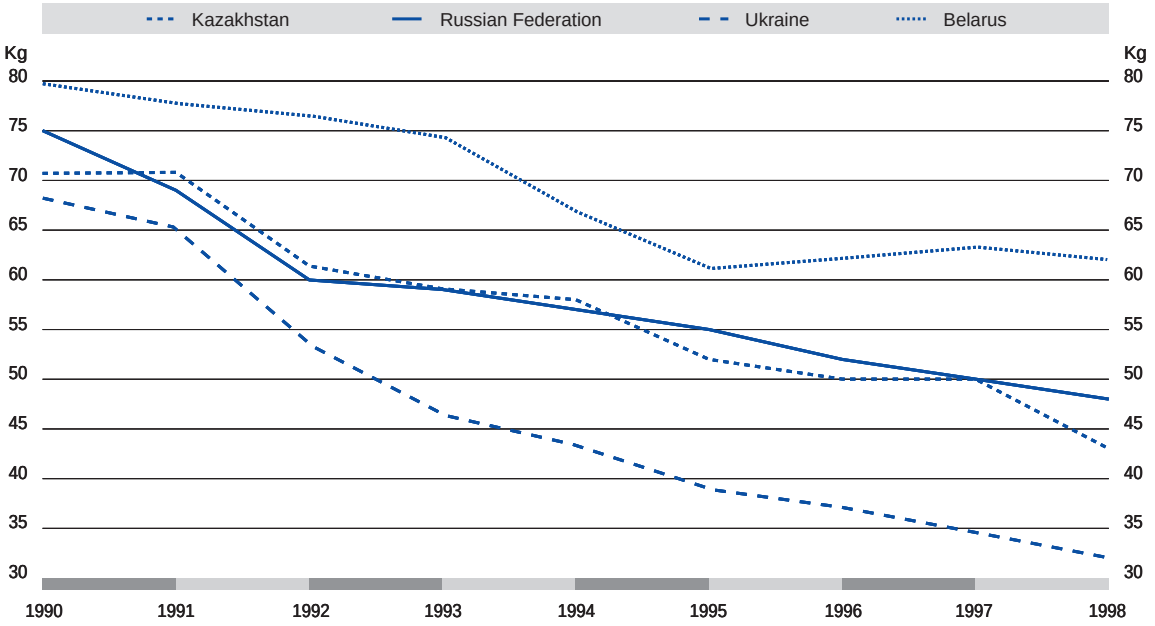
Source: Annex Table III.14.

Graph II.5.10. **Four NIS: hog inventories, 1990-1999**
1990 = 100



Source: Annex Table III.15.

Graph II.5.11. **Four NIS: annual per capita consumption of meat and meat products, 1990-1998**



Source: Annex Table III.8.

Agricultural trade

Trade flows

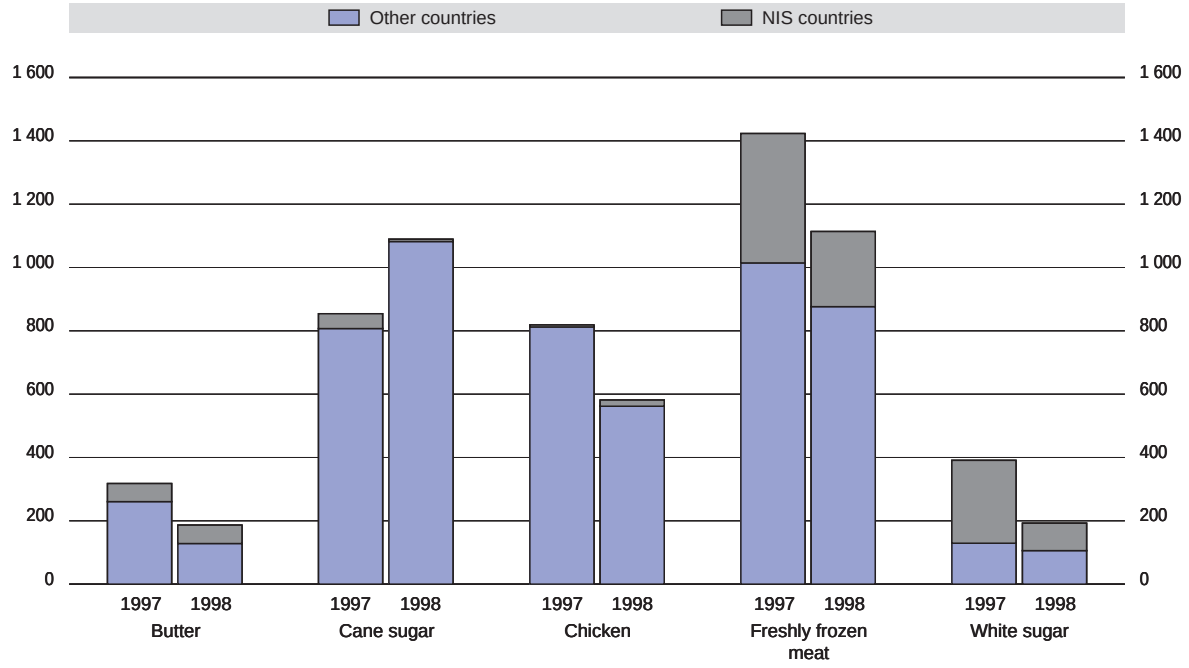
Russia's food imports fell sharply…

The financial and economic crises resulted in a sharp reduction in food imports into Russia. The strong devaluation of the rouble made imports much less competitive; the decline in real incomes induced a reduction in demand for income elastic products such as meat and milk; the collapse of the banking sector in Russia exacerbated payment problems for imports; and price and mark-up controls at the regional level made sales of imported products unprofitable. According to preliminary data (not including the non-registered trade), agro-food imports declined from US$12.7 billion in 1997 to US$ 9.8 billion in 1998. While agro-food imports increased by 17 per cent in the first half of the year, they fell by more than 50 per cent in the second half. Despite some fall in agro-food exports, Russia's deficit in agro-food trade shrank from 11.3 billion in 1997 to about 8.9 billion in 1998.

… for almost all food products…

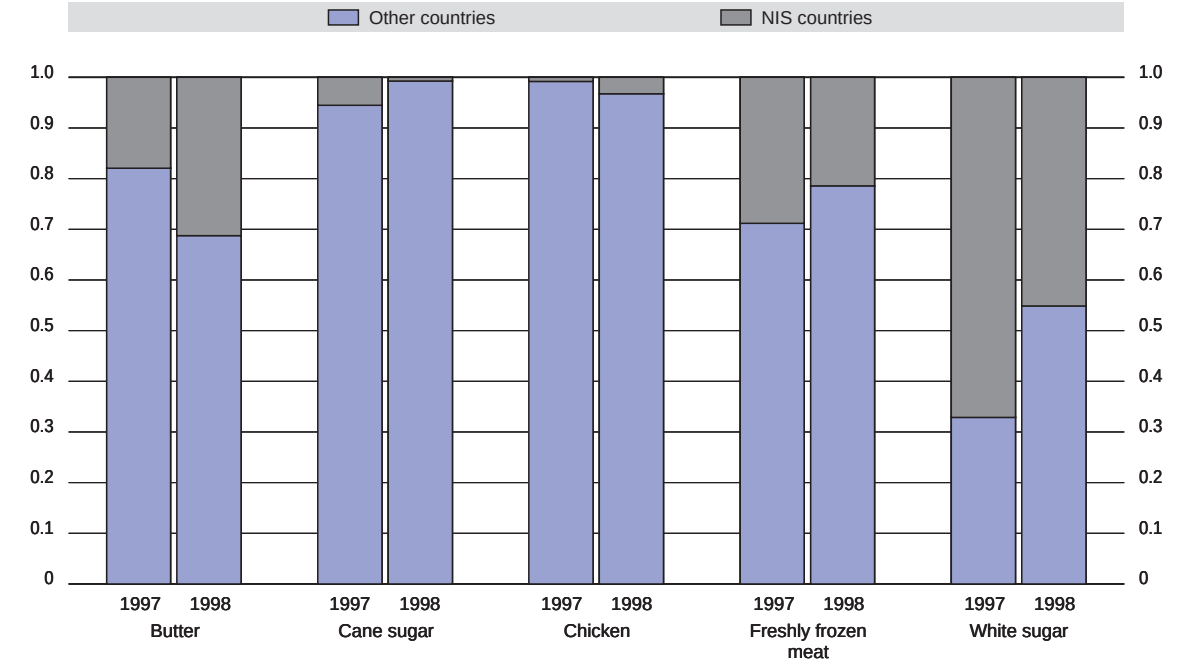
In 1998, Russia's imports of all main agro-food products fell (Graph II.5.12). The only exception was raw cane sugar whose imports was particularly high in the first half of the year, but fell sharply in the second (Box II.5.1). The shares of the NIS countries in Russia's imports fell for white sugar and freshly frozen meat, increased for butter and remained negligible for cane sugar and chicken (Graph II.5.13).

Graph II.5.12. **Russia's imports of selected agro-food products, 1997-1998**
US$ million



Source: Goskomstat.

Graph II.5.13. **Russia's imports of selected agro-food products, 1997-1998**
Per cent



Source: Goskomstat.

Box II.5.1. Russia's sugar imports from Ukraine

Russia's sugar imports from Ukraine, its traditional supplier, fell sharply from 1.5 million tonnes in 1995 to just 0.04 million tonnes in 1998.

The total volume of Russian sugar imports has remained relatively constant in the post-reform period at around 3 million tonnes, including white and raw cane sugar, but increased substantially to 3.8 million tonnes in 1998. Traditionally, Russia imported raw cane sugar from Cuba and white sugar from other Soviet republics, in particular from Ukraine exporting to Russia on average 2.5 million tonnes of sugar in the second half of 1980s. The collapse of traditional production ties between the FSU republics at the beginning of the 1990s and new trading arrangements with Cuba led to a substantial fall in Russian imports of white sugar from the NIS and of cane sugar from Cuba. This fall was compensated by a corresponding jump in Russian sugar imports from other countries. By 1995 the NIS market had recovered and accounted for nearly 80 per cent of Russian white sugar imports (from 13 per cent in 1992). In 1996, the share increased to 92 per cent, including Ukraine's share at almost 90 per cent. Also Cuba regained its strong position as a cane sugar supplier.

Up to 1996, sugar imports from Ukraine were stimulated by low prices and duty free access to the Russian market, but in May 1997 Russia imposed a 25 per cent duty on white sugar imports claiming that unrestricted Ukrainian imports were undermining the Russian sugar industry. Ukraine, on the other hand, maintained that the duty violated the free trade agreement signed by the two countries in 1993. In November 1997, an agreement was reached between the Russian and Ukrainian governments on the annual customs quota for tariff-free import of 600 000 tonnes of Ukrainian sugar into Russia. Sugar bought above and beyond the 600 000 tonne limit would be subject to a 25 per cent duty. According to the Russian government resolution, the customs quota was to be divided into lots and distributed between the state and private enterprises on a tender basis.

However, low availability of Ukrainian sugar due to low sugar production in the 1997/1998 season combined with high domestic prices for sugar in Ukraine, delays in Russian tenders among freight companies to handle the deliveries and, in particular, massive imports of cheap raw sugar by Russian refineries made Ukrainian supplies uncompetitive. In the first half of 1998 Russia's raw sugar imports rose to 2.9 million tonnes, a 180 per cent increase over the same period in 1997, with almost one half of imports originating from Cuba and 30 per cent from Brazil.

In August 1998, Russia introduced additional import duties on raw and white sugar for the remainder of the year to protect domestic sugar beet producers. The duty rose from 1 to 78 per cent for raw sugar (or no less than ECU 160 per tonne) and from 25 to 48 per cent for white sugar (including a 3 per cent import surcharge; or no less than ECU 55 per tonne). These measures halted Russian raw sugar imports and improved the competitive position of Ukrainian exporters, profiting from the tariff-free quota, and of CIS Customs Union members (Belarus, Kazakhstan and Kyrgyzstan) having tariff-free access to the Russian market. However, the August devaluation of the Russian rouble, only partly compensated by the subsequent devaluation of the Ukrainian hryvnia, again made Ukrainian exports too expensive. In fact, Ukrainian wholesale export prices ex-Ukraine were quoted at between US$370 and US$400 per tonne, almost twice the international average and higher than sugar prices on the Russian market. The banking crisis in Russia introduced turmoil into the payments mechanism for imports, making sugar exports to Russia even more unattractive for Ukrainian traders. As a result, even if sugar production in Ukraine of 1.9 million tonnes in 1998 would allow for exports of about 0.3 million tonne, actual tariff-free sugar exports to Russia amounted to 40 000 tonnes only in 1998, compared to 1.3 million tonne exported in 1996 and 0.5 million in 1997. Ukraine's share in Russia's white sugar imports fell to about 10 per cent in 1998 (54 per cent in 1997). In December 1998 Russia extended the 1998 quota until 31 March 1999, which allowed Ukraine to export an additional 30 000 tonnes of sugar.

At the end of 1998 Russia lifted the special tariff on cane sugar, but extended the 20 per cent special import tax for white sugar (on top of the base rate) until 15 February 1999. Moreover, the Russian government passed a resolution increasing base import duty rates for sugar. The base rate for raw cane sugar has been increased from 1 per cent to 5 per cent and for white sugar from 25 per cent to 30 per cent. The government also plans to impose a temporary seasonal tariff of 45 per cent for both white and raw sugar to be introduced from 1 August 1999 and to last until 30 November for raw sugar and until 1 February 2000 for white sugar. If implemented, these measures will again favour raw sugar imports, but will also allow for a quite substantial competitive edge for the white sugar providers from the CIS Customs Union members and from Ukraine if the new agreement on the tariff-free quota for 1999 is signed between the Ukrainian and Russian governments.

… while grain exports rose in the second half of 1998

Despite very low harvests in 1998, Russia's grain exports reached 1.04 million tonnes in the period from July 1998 to February 1999, above the record volume in 1997/1998. This is partly due to the

devaluation of the rouble, but also to the administrative control over grain and bread prices in most Russian regions (see above). As a result, grain prices in Russia remained stable in rouble terms until December meaning a substantial decline in US$ terms from US$88 per tonne in July to US$32 in October-December compared to world market prices at about US$120-130 per tonne. Since then grain prices in Russia started to increase to about US$70 per tonne in March 1999, still well below the world market levels. At the same time, a sharp rise in the rouble price of imports led to a fall in grain imports. Between July and December 1998, total imports of wheat fell to 0.3 million tonne from 1.5 million tonne over the same period in 1997. Consequently, Russia was a net exporter of grains in the second half of 1998.

Trade relations

Export subsidies, food aid…

The Russian financial crisis has had a strong impact on trade relations with other countries. Major agro-food suppliers to Russia from the EU and the US tried to secure their presence on the Russian market through increased export subsidies (EU) and food aid programmes (US and EU; see Box II.5.2). In November 1998, the European Commission increased export refunds for carcass pigmeat to Russia from ECU 40 to ECU 70 per 100 kg and in February 1999 bumped up export refunds for processed pigmeat products from EUR 25-34 to EUR 40-50 per 100 kg.

… and bilateral trade agreements were used to secure exporters' presence on the Russian market

In turn, NIS countries tried to sign bilateral agreements with Russia based in most cases on barter terms. For example, Ukraine, Belarus and Moldova proposed food shipments to Russia in exchange for clearance of payments arrears for Russian energy supplies. Moreover, according to the preliminary agreement signed in March 1999, Belarus will supply R 2.5 billion worth of agricultural machinery to Russia in 1999 in payment for natural gas supplies. Russia plans to sign a similar agreement with Ukraine to a sum of R 1 billion. The supply of beet and potato combine harvesters is being considered. Most of the central and eastern European countries, including the Baltics, whose agro-food exports to Russia were reduced by the Russian crisis and, in addition, pushed out from the Russian market by export subsidies applied by the EU, turned to unconventional trade deals such as exporting agro-food products to Russia in return for fighter jets, oil and gas.

A ban on Russia's agro-food exports to Kazakhstan was imposed

The rouble devaluation practically blocked traditional Kazakh grain and meat exports to Russia. At the same time depressed grain prices in Russia made Russian exports to Kazakhstan profitable. Trade flows tended to reverse. The Russian government's concern about the food outflow from the country and the Kazakh government's worry about the "dumping" effects of Russian exports on the Kazakh domestic market led the two governments to sign an agreement in December 1998. The two governments decided to introduce a 6-month ban on agro-food exports from Russia to Kazakhstan. The ban related to 21 items, including wheat, maize, rice, flour, meat, milk and eggs. Further limitations on Russian agro-food exports to other countries result from the

Box II.5.2. Food aid for Russia

In October 1998 Russia requested food aid to ease pressures on the domestic food markets resulting from substantial falls in food imports and very poor harvests and to provide food during the expected hard winter to the regions and groups of population suffering from the economic crisis and not able to purchase food on commercial terms. In November two food aid packages for Russia were announced first by the US and shortly afterwards by the EU. The agreement on food aid was signed between Russia and the US on 23 December 1998 and the memorandum of understanding between Russia and the EU, on 20 January 1999. On 5 February 1999, in accordance with the two agreements, the Russian government announced its plan for the distribution of the food aid. Supplementary agreements on the technical implementation of the EU programme were finalised on 18 February followed by a memorandum on the EU food aid to Russia signed on 19 February 1999, which enabled the EU food aid programme to begin.

The **US food aid** package involves above 3 million tonnes of commodities and is worth about US$ 900 million. It consists of three parts. First, under Food for Progress, Russia will receive 100 000 tonnes of non-perishable foodstuffs as humanitarian aid. Under the same programme, Russia will obtain 15 000 tonnes of corn and vegetable seeds as a grant. Second, under Section 416(b) of the Commodity Credit Corporation (CCC) Chart, the US will give Russia a donation of 1.5 million tonnes of US wheat. Third, under the PL 480 Title I, a credit line of US$ 600 million has been agreed to buy 1.5 million tonnes of US food products. The loan is to be repaid in 20 years with a two per cent annual rate and a five-year grace period. The loan is to be used to buy 500 000 tonnes of maize, 500 000 tonnes of soybeans and soymeal, 200 000 tonnes of wheat, 100 000 tonnes of rice, 120 000 tonnes of beef, 50 000 tonnes of pork, 50 000 tonnes of poultry from the US as well as to cover transport costs.

In the framework of the **EU food aid** package the EU will grant grain, meat and dairy aid valued at EUR 400 million, including one million tonnes of wheat, 500 000 tonnes of rye, 50 000 tonnes of rice; 120 000 tonnes of beef, 100 000 tonnes of pig meat; and 50 000 tonnes of milk powder.

By signing the agreements the Russian government agreed to abide by a strict set of conditions for the supply and distribution of the aid. Under the agreements, the EU food aid will be delivered to the northern regions and regions struck by a poor harvest and will not be supplied to Moscow and St. Petersburg. These cities will receive a large part of the food supplied by the US. Russia will suspend exports and re-exports of grain and meat at least for six months, except for sales contracts signed prior to the entry into force of the food aid agreement. Food aid will be suspended if donors discover Russia is re-exporting the same commodities onto the world market. Russia agreed to accept those foodstuffs that meet the quality of EU intervention stockpiles. Most of the food given to Russia under the two deals will be sold at market prices in Russia and the revenues will be transferred to a special account of the Finance Ministry from where cash will be credited to Russia's Pension Fund. A total of R 18 121 million (about US$ 750 million) is expected to be earned in this way. On the Russian side three large companies Roskhleboproduct, Rosmyasomoltorg and Prodintorg have been authorised as official agents to handle both the EU and US food packages.

Administrative delays, new measures to prevent corruption and hijacks by criminal gangs, and additional Russian sanitary and veterinary demands related to the quality of meat to be provided in the framework of the EU package have stalled deliveries originally planned for the beginning of the year. Only in the second half of February 1999 did the US, and at the beginning of March did the EU, announce tenders among American and European companies to supply food aid to Russia. The first shipment of seed for green peas supplied in the framework of the US aid arrived on 12 March and the first shipment of meat from the EU at the end of March 1999.

conditions attached to the food aid packages offered to Russia by the US and the EU (Box II.5.2).

In February 1999 the third summit meeting in the framework of the Partnership and Co-operation Agreement (PCA) between Russia and the EU was held in Moscow. The summit reaffirmed that the key aim of the PCA is to promote a continued expansion of two-way trade and investment, with the ultimate objective of a bilateral free trade area.

In December 1998 Kyrgyzstan was formally admitted to the World Trade Organisation as the first former Soviet republic to accede to this Organisation. Other NIS countries are among 30 countries still negotiating their accession.

OECD 1999

Agricultural policy developments

Structural policies

There were no major changes in the land use pattern in 1998…

In 1998, there were no major changes in the agricultural land use pattern and no major progress in farm restructuring. The farm structure in the NIS remains polarised between large farming enterprises operating on between 80 and 90 per cent of agricultural land and many small household plots and gardens using between 10 and 15 per cent of agricultural land. A third category represented by individual farms uses from 1 per cent of agricultural land in Belarus to 6 per cent in Russia. However, there was some decline in the amount of land used by large farms and an increase in the amount of land operated by the two other categories of land users. Moreover, there is evidence from various regions, particularly in Russia, that the actual size of land used by household plots might be much larger than shown by official statistics. A part of household plots may in the future turn into more viable family-type farms. Some developments in this direction have been observed *e.g.* in the Tyumen region in Russia. However, due to a lack of start-up capital, legislative and political uncertainty, hard macroeconomic conditions, difficult access to credits, markets and information, and a lack of tradition and experience with individual farming, only a small proportion of farm workers has established private farms. In fact, the number of family farms in Russia declined between 1995 and 1998 and in Ukraine has stabilised since 1997. However, those still operating are becoming larger and the share of total agricultural land used by them has been slowly growing.

… nor any major progress in farm restructuring…

In Russia, Ukraine and Kazakhstan large farms had already been re-registered under new names at the early stage of the transition, but this process has had little impact on the institutional structure, management practices, or agricultural techniques. In most cases, the new "joint stock companies" or "collective agricultural enterprises" are organised in the form of share-based ownership where land and non-land assets are owned by collectives as a set of individuals, who are present and former employees. In Belarus, the command-type economic environment and the lack of legislation on farm privatisation does not allow for any farm reorganisation. In Russia the law on insolvency, effective from 1 March 1998, provides some possibilities for the restructuring of large agricultural enterprises. In cases of evident insolvency the enforcement of the law could lead to the break-up of nonviable enterprises into smaller production units some of which could be liquidated. According to some statements by MAF officials at least 20 per cent of large-scale enterprises could qualify for bankruptcy. However, by the end of 1998 no practical steps had been taken, except for a new programme of farm debt restructuring (see below).

… and the deadlock on land legislation in Russia and Ukraine continued

No significant progress was made on land legislation in 1998 either. In Russia the deadlock on the Land Code continued. The latest draft of the Code, which was adopted by the State Duma and by the Federation Council in the spring of 1998, would establish a legal framework preventing the creation of a free land market. In June, the draft was vetoed by the President. In his view, the provisions were

unconstitutional and failed to meet the compromise tentatively agreed between different parties in December 1997 allowing for land sales except to foreigners and non-farmers. Also in Ukraine continued disagreements between the government and the Parliament over land issues prevented any substantial progress in land legislation. However, in October 1998 the "Law on Lease of Land" was adopted setting a more elaborated legislative base for land leasing. Both in Kazakhstan and in Belarus agricultural land remains state property with the exception of land owned by household plots. In Kazakhstan, the draft law introducing private ownership of agricultural land is under consideration. It is envisaged that at the initial stage individual farms will receive ownership rights to the land they use. In Belarus (March 1998) the size limit of individual farms was increased from 50 hectares to 100 hectares and the possibility of the transfer of land use rights between various land users was made possible. In general, it seems that land lease as opposed to land sales transactions encounter much more positive attitudes of both legislators and population in the NIS countries and this will be the direction in which the land market transactions will develop in these countries. This should help to reallocate resources to more efficient producers.

Budgetary support policies

Budgetary support for agriculture…

As in previous years, low farm profitability, growing outstanding debts, high real interest rates, continued uncertainty over property rights and weak financial institutions led all NIS governments to continue to allocate budgetary resources to support agriculture in particular in the form of preferential credits for working capital and investments and debt restructuring programmes.

… fell sharply in Russia, but…

In Russia, the financial crisis led to a sharp reduction in the federal budget support provided for agriculture in 1998. According to preliminary data the fall was above 70 per cent in nominal terms and about 80 per cent in real terms compared to 1997. The fall in the support provided by regional budgets was much smaller and, consequently, the share of regional budgets in total budgetary support increased from about two-thirds in 1997 to about 80 per cent in 1998, which resulted in further regionalisation of agricultural policies in Russia. The amounts actually spent by the federal government amounted to 27 per cent of the planned allocations to agriculture compared to an average of 64 per cent for the federal budget on the whole. As a result, the share of agriculture in the consolidated budget fell from 3.6 per cent in 1997 to 2.3 per cent in 1998.

… soft credits were provided…

In 1998, the Soft Credit Fund for the agro-food sector in Russia continued to extend loans to farmers at a quarter of the Central Bank refinancing rate. Loans were distributed by 12 banks that won the tender at the end of 1997. However, five banks distributed 86 per cent of actually disbursed credits and two-thirds of local administrations co-operated with one or two banks only. Thus, there was no real competition among banks, which was the main objective of the 1997 tender. Moreover, due to the high indebtedness of the agricultural enterprises, the banks extended the loans not directly to farms but to processors, procurement agencies, input suppliers or even to

the local administrations. As a result, according to the survey in several provinces, farms received only between 12 and 30 per cent of the total amount of loans actually extended. The repayment of 1998 loans was slow with only a third of the total repaid by the end of the year.

… and farmers' debts were again restructured

To ease the financial situation of farms, the Russian government decided in October to restructure farm debts of up to R 5.7 billion, including fines and other penalties. Farms will be required to make repayments in regular instalments to begin on 1 January 2000 over a period of five years, at an interest rate of just 5 per cent annually. However, it will be up to the Ministry of Finance and tax offices to decide who gets the deferrals. Under the resolution farmers will also be given the opportunity to postpone payments to extra budgetary funds under the same terms. The maximum deferrals for the industry as a whole will be R 10 billion for the Pension Fund, R 2.5 billion for the Social Insurance Fund, 1.5 billion for the compulsory Medical Insurance Fund and R 1 billion for the Public Employment Fund. Also in Kazakhstan and Belarus a major part of budgetary support was used to cover farms' overdue debts and/or for debt restructuring.

In Ukraine the state supported barter agreements and provided tax concessions

In Ukraine, the major support schemes relied on the provision of State guarantees on the advance supplies of agricultural inputs in exchange for grains. In the framework of various barter schemes applied in 1998, agricultural producers were to repay in total 4.7 million tonnes of grains for such inputs as fertilisers, diesel fuels, gasoline, machinery and spare parts. However, only about 40 per cent of the debt had been returned by producers by the beginning of 1999. Moreover, the Ukrainian government introduced in 1998 and at the beginning of 1999 several other measures which were aimed at easing the financial situation of agricultural producers. The measures included a new subsidy scheme for meat and milk producers based on transfers of the VAT collected from meat and milk processors back to meat and milk producers; interest concessions for machinery deliveries by the State Leasing Fund; partial debt write-off and debt restructuring schemes; tax reductions in the framework of a single tax regime for agricultural producers; and a four-year tax holiday on VAT payments. In general, most of these measures rely on tax concessions and, thus, foregone budget revenues. It will necessitate either further cuts on budget expenditures or higher taxes on other sectors of the economy.

Price, market and trade policies

More administrative measures are applied

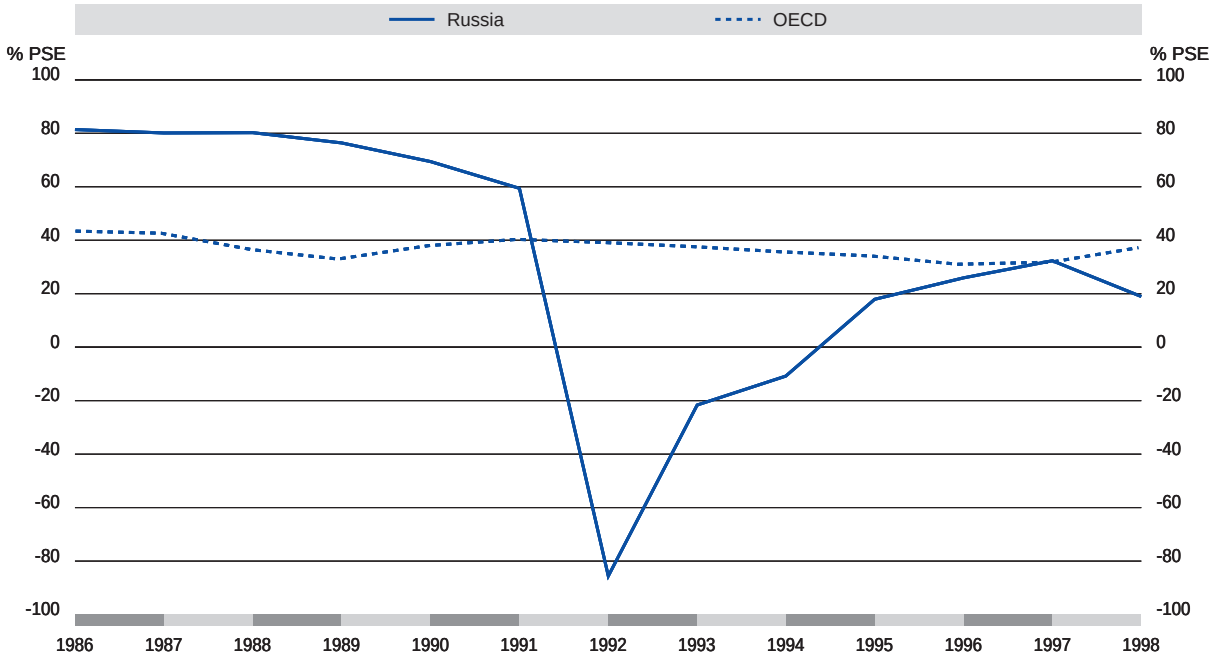
At the federal level, domestic price support policies did not change substantially compared to 1997 and ranged from a fairly liberal policy applied in Kazakhstan to the highly regulated policy regime in Belarus. However, in Ukraine the government moved towards a more regulatory system with the distribution of input supply quotas tied to future farm produce deliveries. Moreover, the discussion on the need to restore the system of state guaranteed prices for agricultural producers was revived. The level of weighted average tariff for agro-food imports was traditionally higher in Ukraine at about 27 per cent compared to about 8 per cent for all imports. In Russia, while policies at the federal level remained largely unchanged in

1998, many more administrative measures are being applied at the regional levels (see above). However, in February-March 1999, the Russian government announced several policy measures, including the "Resolution on Pricing Policy in Agro-industrial Production" which, if implemented, would mean stronger administrative control over the agro-food sector in Russia.

Russia temporarily lowered import charges

Just before the crisis, the Russian government introduced new border measures, which included an additional 3 per cent import tax on food imports charged in excess of the effective import duties. Moreover, additional charges on imports of sugar were introduced (Box II.5.1). However, following the crisis the Russian government decided to temporarily reduce charges on food imports and to introduce some taxes on exports. In the second half of October 1998 the government decided to repeal the extra 3 per cent duty on imports; temporarily reduce VAT on imports of all principal agro-food products (from 20 to 10 per cent); and temporarily cut import duties by 5 percentage points on selected unprocessed or semi-processed agricultural products. Moreover, Russia lifted at the end of 1998 special tariffs on cane sugar and in February 1999 on white sugar (Box II.5.1). In an attempt to alleviate shortages threatening livestock farmers and the oil pressing industry in November 1998 the Russian government made exports of unprocessed oilseeds subject to licensing and in January 1999 introduced 10 per cent duties (but not less than EUR 20 per tonne) on exports of oilseeds.

Graph II.5.14. **PSE in Russia and OECD average**



Source: Annex Table V.11.

PSEs fell in Russia in 1998

Between 1994 and 1997, in Russia there was a substantial increase in the level of support measured by the Producer Support Estimates (PSEs) reaching 32 per cent in 1997. This reflected the strong real appreciation of the rouble, particularly in 1994, the repeal of export taxes and the introduction of border protection against imports of many agricultural products. In 1998, as a result of the strong devaluation of the rouble in the second half of the year, substantial cuts on budgetary support for agriculture and some reduction in charges on food imports, the PSEs fell to 19 per cent, compared to the OECD average of 37 per cent (Graph II.5.14). The Total Support Estimate (TSE) as a share of GDP fell from a high 3.9 per cent in 1997 to 2.0 per cent in 1998, compared to the OECD average of 1.4 per cent. This ratio is still high in Russia, which shows that the cost of the agricultural support for a country with a relatively low GDP may be large, even if PSEs are much lower than the OECD average.

Summary and outlook

Structural reforms lag…

One of the major conclusions from the Russian crisis is that the necessity of achieving a degree of price and exchange rate stability should be accompanied by structural reforms that will make the macroeconomic stabilisation sustainable. Slow progress in structural reforms in Russia contributed to the collapse of the impressive macroeconomic stabilisation efforts that Russia had made. Also the effects of the Russian crisis on other NIS countries largely depend on achievements in structural reforms, macroeconomic stabilisation in these countries and, more directly, on trading linkages with Russia.

… and the macroeconomic situation remains uncertain

The macroeconomic situation in all four NIS countries remains highly uncertain. Russia's GDP is predicted to fall again and the rate of inflation to escalate in 1999 before some improvements appear in 2000. High potential for instability exists, but prospects for 1999 and for the medium term depend on the government's policy choices. If the government decides to issue money to support incomes and the crisis-hit banks then an inflationary spiral could be triggered. On the other hand, responsible financial policies could provide the basis for achieving some degree of stability in 1999. Developments in the first four months of 1999 would suggest that the latter scenario is more likely. The situation in the other three NIS countries will to a large extent be driven by the developments in Russia.

Agricultural policy responses are mixed

The agricultural policy responses to the overall economic crisis have been mixed with the continued fairly liberal policy applied in Kazakhstan, the highly regulated policy regime in Belarus, more regulatory policy measures applied in Ukraine and further regionalisation of agricultural policies in Russia with a wide variety of administrative measures applied at the local levels. There is a possibility that in 1999 the federal government in Russia will also resort to more administrative policy measures.

Crop production is likely to increase, but livestock production, to decline in 1999…

Short-term prospects for agricultural production in the NIS countries clearly differ between crop and livestock products. Crop production should rebound from the extremely low 1998 levels in all four countries. Grain production should not be smaller than the 1995-1996 average of 110-112 million tonnes that would be about one-fourth above the 1998 level. Such an amount should be enough to meet

the NIS domestic consumption within the region, most probably with the exception of Russia that will be forced to rebuild its reserves depleted after the disastrous 1998 harvest. However, due to low input use crop production in the NIS countries became more vulnerable to the weather conditions meaning that the possible rise in crop production in 1999 will not be sustainable if other conditions do not improve. Livestock production is expected to drop in Ukraine, Belarus and Kazakhstan in response to lower feed availability and higher feed costs. In Russia the situation is more complex. On the one hand, as in the other NIS countries, higher feed costs will undermine livestock production, but on the other hand the very strong devaluation of the rouble has raised the cost of imported food and has provided the Russian meat industry and agriculture with an opportunity to recover competitiveness. There is some anecdotal evidence supported by substantial rises in farmgate prices for the majority of livestock products, that cuts on imports have made domestic meat processors seek local suppliers. This may contribute to the stabilisation of livestock production in 1999. However, if marketing links between meat producers and meat processors are not established, livestock production will continue to decline on large farms which, as in previous years, will be partly buffered by a rise in production on household plots.

… and tighter competition from imports is expected in the mid-term

Altogether, the macroeconomic developments in 1998 and agricultural policy responses in NIS countries do not create overall conditions that could induce a sustainable recovery in agricultural production over the medium-term. Moreover, since the majority of agricultural products are tradable goods, one may expect that after initial strong devaluations of local currencies in all four countries producer prices will rise in the mid-term at a faster rate than the rate of the currency depreciation. This will lead again to tighter competition from imported agro-food products on domestic markets, in particular in Russia.

6. South Africa[22]

Country background

Natural resource base

In South Africa some 1.3 million rural households farm 13 per cent of the land, while 60 000 commercial farmers own 85 per cent of the land

South Africa's land area totals 122 million ha of which about 83 per cent is used for agriculture and forestry purposes, 10 per cent for nature conservation and the rest (7 per cent) for urban settlement and businesses, roads and other non-agricultural purposes. Of the approximately 101 million hectares used for agriculture, 85.2 million hectares (85 per cent) belong to about 60 000 commercial farmers and 17.1 million hectares belong to millions of Black farmers with land holdings of various sizes, but generally too small to provide more than supplementary household production.

Conditions for agriculture are limited by a dry climate and inhospitable terrain…

The average annual rainfall in South Africa of approximately 500 mm is considerably less than the world mean of 860 mm. There are also large variations in both rainfall and run off. Rainfall varies from

100 mm per annum in the west to more than 1 000 mm per annum in limited eastern parts of the country. More than 65 per cent of the country receives an annual rainfall of less than 500 mm. While 86 per cent of the area receives summer rainfall, a small winter rainfall area is situated in the south western tip of the country. Only 3 per cent of the country receives rain throughout the year.

About 31 per cent of South Africa's surface is level or gently undulating, while 19 per cent is steep, rocky or mountainous. Factors such as precipitation and topography limit the area available for conventional cultivation to a maximum of 15 per cent of the total surface area. Only 1.3 million ha is currently under irrigation.

… but the variety of climatic conditions and natural resources allows for a variety of agricultural products

The country is situated in the temperate zone. Major parts of the country have an elevation of 1 200 to 1 800 metres. Severe winter frost in high lying inland areas can cause damage to crops. Hail occurs regularly over most of the summer rainfall areas.

In summary, in terms of various physical and biological attributes most of the natural agricultural resources in South Africa can be described as of poor quality. In contrast to this, the great variation in climatic conditions and natural resources is a strength that permits South Africa to produce a large variety of agricultural products.

Significant political and institutional changes have been introduced during the post-apartheid period

Politics and population distribution

Like so many African countries South Africa's local history over the past two centuries has for the most part been strongly under European influence, in South Africa's case notably from Dutch and British origin, with a strong French influence due to immigration in the earlier years.

More recently a new Constitution in South Africa was implemented in 1994 after a long history of apartheid. This heralded drastic change in the government system. It not only ensured full political participation for the previously excluded majority of the population, but also altered the structure of state institutions. In this respect the former four provinces and homelands were abolished and nine provincial governments established. The constitution defined which public functions shall be allocated to the national, provincial and local tiers of government.

Responsibility for agriculture is shared between the national and provincial tiers of government…

A complex process of allocating responsibilities to the different national and provincial tiers of government then ensued. Notably agriculture is a concurrent responsibility between national and provincial departments. This means that the allocation of responsibility must be negotiated between the two tiers of government. Broadly, the principle that applies in such cases is that the national structure is responsible for formulating policy, setting norms and standards, and monitoring and evaluation of policy implementation. In areas such as trade policy and broader regulatory functions that must be implemented without variation, the national tier takes responsibility.

… and local authorities determine investment in local infrastructure to support agriculture

The process of delineating responsibilities at the different levels of government is not as simple and clear cut as might be imagined. A complex process of negotiations to establish agreed policy posi-

tions is required to ensure that implementation takes place. The role of local authorities in agricultural transformation should also not be underestimated. This tier of government has responsibility over local infrastructure such as local roads and market facilities, and therefore determines the level of public investment in public infrastructure of direct benefit to agriculture.

Population is growing at 2.36 per cent per year

According to the 1996 census, the South African population was 40.6 million, with an average annual growth rate of 2.36 per cent. South Africa is more urbanised than the rest of the African continent, with only 46 per cent of the population still living in "non-urban" areas.[23] However, this varies greatly between provinces, and five provinces can be described as relatively rural, with generally two thirds or more living in the rural areas.

Agriculture's share in GDP has dropped to 4 per cent

During the last few decades the South African economy has reflected the typical changes in structure experienced by growing economies. The primary sectors, agriculture and mining, have showed declining importance to the economy. Their contribution to GDP halved from 25 per cent to 12 per cent between 1960 and 1995. In contrast the service sectors have shown a gradual increase in importance, from 48 per cent to 52 per cent between 1960 and 1990, and then to 56 per cent by 1995. The manufacturing sector has showed a slow increase in importance increasing its share from 27 per cent to 31 per cent at present.

Average per capita income masks wide income disparities

South Africa is classified as a middle income country. With average per capita income in 1996 of US$3 160 (R13 588 @ 4.30 = US$1). However, this average camouflages the wide disparity of incomes between the racial groups, by province, between rural and urban, and by gender.[24] The extreme unevenness in income distribution is a typical characteristic of the South African economy and society as a whole, with differentiated access to resources, opportunities and wealth along racial lines resulting from the previous political system.

Macroeconomic environment

The current government inherited an economy that had gone through a long period of slow growth and stagnation due to apartheid and the consequent socio-economic instability. In 1994 the new government introduced a policy document called the Reconstruction and Development Programme (RDP) whose main objectives were redistribution and the provision of basic needs to all South Africans through economic growth.

The new government's policies and programmes to create jobs redistribute income, and increase productivity and social stability…

In 1996, a new macroeconomic strategy[25] called GEAR, further articulated the broad economic objectives as the creation of a competitive, fast-growing economy to generate jobs; income redistribution with increased opportunities for the poor; and increasing productivity and social stability.

At the time of GEAR's conception in 1996, the concern was that the 3 per cent growth rate that had persisted in the past three years was not reversing the unemployment crisis in the job markets and generated insufficient resources to expand the delivery of social services.

… are grounded in sound macroeconomic policies…

GEAR thus set out a number of targets to be achieved by 2000 (Box II.6.1). The document clearly indicated the government's com-

Box II.6.1. **GEAR targets**

- 6 per cent annum annual economic growth rate by 2000;
- creation of 400 000 jobs per annum;
- an accelerated growth exports to reach a 10 per cent growth rate for non-gold exports;
- for inflation to stabilise at 7.5 per cent annum;
- private sector investment of 17 per cent per annum;
- reducing the fiscal deficit from 5.1 per cent in 1996, to an annual average of 3 per cent.

Source: Growth, Employment and Redistribution: A macroeconomic Strategy, Department of Finance, 1996.

mitment to sound macroeconomic policy, and that the achievement of its targets would require a major transformation of both private and public sectors. This transformation was to be achieved through sound fiscal and monetary policies and trade liberalisation.

The challenge for policy was to reduce the budget deficit while at the same time increase public expenditure for social services for the poor. This required fiscal prudence and restructuring of the public sector to increase the efficiency of both capital expenditure and service delivery. The government also intended to expand expenditure on infrastructure to address the backlogs in non-White areas. This required budget reform to increase the redistributional thrust of public expenditure.

All departments were expected to reprioritise their activities through the budget process and to indicate how they were to transform their spending structures to achieve the objectives of fiscal policy in the development of their medium term expenditure budgets (3 year plans). In addition, fiscal policy reform required restructuring the civil service with the intention of reducing the government wage bill in the long-term. There was also to be restructuring of state assets.

… and reduced government intervention

The strategy also included monetary policy reform. Consistent monetary policy would be maintained to prevent the resurgence of inflation. Foreign exchange controls would be gradually relaxed and exchange rate policy would aim to keep the real exchange rate stable at competitive rates.

The challenge for policy was to reduce excessive government intervention, a characteristic of apartheid policy. Thus there was fundamental change to trade and industrial policy to shift the economy away from import substitution to an export-oriented strategy based on trade liberalisation, and hence integration with the global economy. Import tariffs would be reduced to a simple average 6 per cent by year 2000 to contain input prices and facilitate industrial restructuring. Industrial development through the SMMEs was seen as a major factor in the creation of jobs in industry. This macroeconomic policy provided the environment within which agricultural policy had to be reformed.

Performance of the economy

Slow GDP growth is due to…

The South African economy had been in a long period of stagnation before 1994. Gross domestic product then accelerated by an aver-

age annual growth rate of 3 per cent until 1996. However growth has tapered off to 1.5 per cent in 1997 and 0.5 per cent in 1998. This has been well below the 3 per cent growth rate hoped for 1998/99 (Dept of Finance 1998). In addition, with the failure to lift economic growth, there has been a loss, rather than a gain, in employment. The GEAR, while providing excellent economic fundamentals, has not yet been able to tackle the economy's greatest economic problems.

… decline in output in the real sectors, including agriculture…

Decline in the growth of GDP is partly explained by decline in output in the real sectors. In particular, a decline of 1 per cent in the real value added by agriculture in 1997 contributed to slow economic growth that year.

… vulnerability to the financial crisis in emerging markets…

In the last two years, the economy has also been affected by the financial crisis in emerging economies, which led to the slow down of global trade and financial disinvestment. This was felt through the sharp depreciation of the rand. The real effective exchange rate depreciated by 8 per cent in 1996 and then recovered slightly in 1997. However between April and August 1998 the Rand depreciated sharply by 20 per cent. Although the currency has stabilised considerably, the Department of Finance fears that exchange rate volatility remains a risk in the current international financial environment.

… and the related decline in demand for South African exports

The growth of the economy was also affected by the impact of the Asian crisis on export growth. 65 per cent of South Africa's exports are commodity related. The decline in export demand therefore negatively affects national income and balance of payments. South African exports have had to face stiff competition from the Asian economies.

- Inflation

Inflation has been contained in recent years…

Reducing inflation has been a policy priority for the South African Reserve Bank. Considerable success has been achieved in containing inflation through tight monetary policy. The consumer price index fell from 16.6 per cent in 1992 to 7.4 per cent in 1996. However, it rose to 9.9 per cent in April 1997 due to the combined effect of the depreciation of the Rand and the increase in interest rates on mortgages. However the Rand depreciation only had a passing effect so that the consumer price index fell to 5 per cent in April 1998 and 5.2 per cent to in June 1998 (Graph II.6.1).

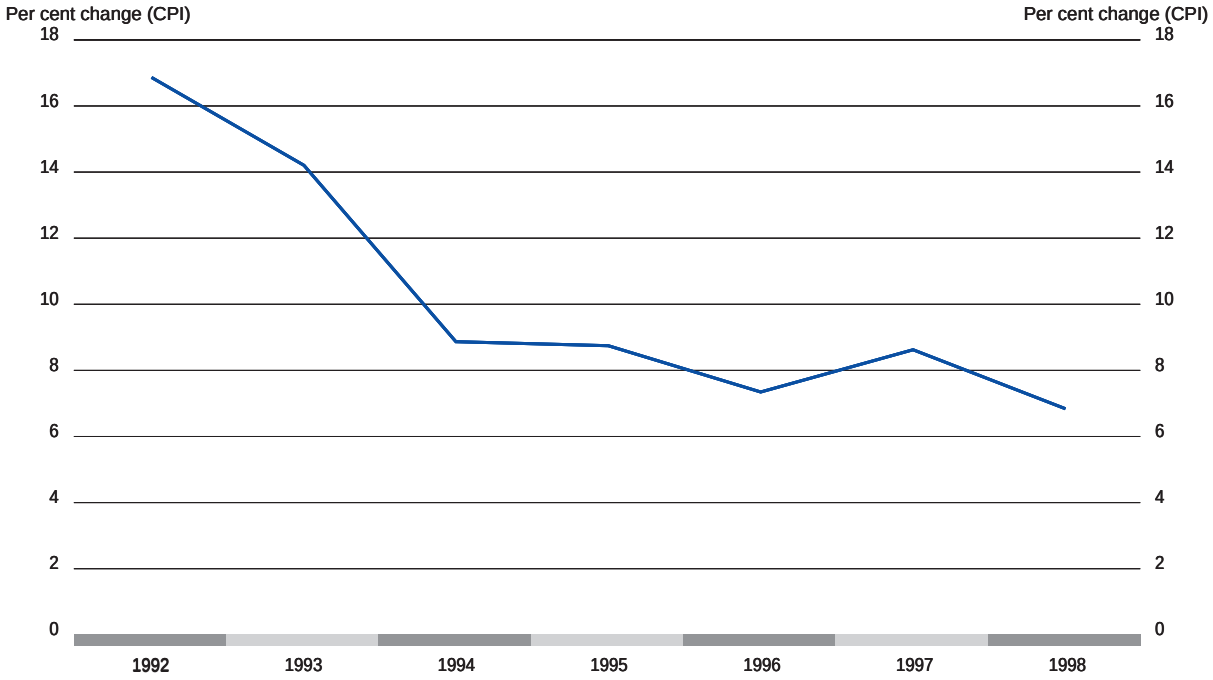
… partly due to the disinflationary impact of food prices on the CPI

A number of factors contributed to the reduction in inflation, one of which was the impact of food prices on the consumer price index (CPI). Real food prices rose slower than overall inflation. Between 1975 and 1992, food prices rose by approximately 25 per cent. However, real food prices in 1999 are at exactly the same level at which they were at seven years ago. Commodities have behaved in different ways. The real price of grain products is at approximately the same level as in 1993, whilst meat prices have fallen by around 10 per cent in real terms since their peak in 1994. The prices of other livestock products (milk, cheese, eggs) have also fallen in real terms since 1992. The other disinflationary forces include:

- the lowering of import tariffs over the past two years;
- the reduced ability of domestic producers to raise prices in a relatively weak economy;

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Graph II.6.1. **Inflation**



– the highly competitive price of products originating in a number of Southeast Asian economies which had experienced major currency depreciation in the second half of 1997; and

– in the later half of 1997 and early 1998, mortgage rates for home-owners were reduced following the lowering of official lending rates.

• Unemployment

With unemployment at 37.6 per cent, job creation is the major policy challenge

The inability of the economy to create jobs remains one of the biggest challenges for South African policy makers. In 1994, 31.5 per cent of the South African labour force was unemployed, but the figure is higher among Black workers. By 1997 the unemployment rate had increased to 37.6 per cent. The challenge for policy has been to design legislation that would protect the rights of workers without discouraging labour utilisation.

A new labour policy framework was created and the following measures were taken:

– A new Labour Relations Act was promulgated which established the Commission for Conciliation, Mediation and Arbitration and other structures designed to improve labour relations and settle disputes;

Despite specific legislation to protect workers' rights without discouraging labour utilisation…

– A Basic Conditions of Employment Act was enacted with the aim of providing minimum working conditions for South Africans, particularly non-unionised workers;

– The Employment Equity Bill was tabled in Parliament. It is directed at eliminating unfair discrimination in employment practices and requires employers to submit employment equity plans within a specified number of months after the legislation has come into effect; and

– The Skills Development Bill, which is intended to provide a strategy for skills development based on partnership between the public and private sectors.

… formal sector employment outside of agriculture has continued to decline

Despite great efforts by government to clarify labour policy, formal sector employment outside agriculture continued to decline at a year to year rate of 1.6 per cent between 1996 and 1997. The estimated number of job losses between 1989 and 1997 amounted to 572 000 with a sharp decline in private sector employment of over 4 per cent between 1992 and 1997. There are several causes of the poor employment performance, including the slow rate of economic growth, changes in technology leading to substitution of capital for labour, and the need for domestic producers to contain cost and remain competitive in a globalising economy (Reserve Bank of South Africa, 1998).

• Domestic savings

The low level of domestic savings is the second major policy concern

A second major concern for policy makers is the inability of the economy to generate domestic savings. In the 80s South Africa's gross domestic saving had an average annual rate of 24.5 per cent of the GDP. This ratio has decreased to 18 per cent in 1993, 17 per cent in 1996 and 15 per cent in 1998. From the middle of 1994, gross domestic saving fell short of total gross domestic investment. This has increased the economy's dependence on foreign savings.

In the early 1990s, current expenditure by general government had been exceeding current government revenue. By 1997, net government dissaving amounted to 3.5 per cent of the GDP. The increase in government dissaving was a result of sharp increases in consumption expenditure by government and higher interest payments of government debt. The prospects for reducing government dissaving are good as tax revenues have increased in the last three years after major efforts. Tax revenues increased from 27 per cent of GDP in 1996 to 27.5 per cent in 1997 to 29 per cent in 1998.

The contribution of agriculture to the macroeconomy

• Output contribution

Agriculture's contribution to the economy has declined to 4 per cent due to faster growth in other sectors…

The contribution of primary agriculture to the GDP declined from a level of 12 per cent in 1960 to approximately 5 per cent in 1990. Since 1994 this contribution has varied between 4 and 5 per cent of GDP. This relative decline in the nominal contribution to GDP does not imply that the agricultural GDP has declined in real terms, but that there was a faster growth in other sectors. This is borne out by the fact that the average growth in total GDP at current prices was on average 3.8 per cent between 1960 and 1995 as opposed to 2.4 per cent in the case of agriculture. In 1998 the contribution of primary agriculture to the GDP amounted to R23 762 million, which

OECD 1999

represented 4.1 per cent of GDP. It should be added that with strong backward and forward linkages into the rest of the economy, the "agro-industrial" complex is thought to contribute at least 15 per cent of GDP (some calculations go much higher).

… but the agro-industrial sector contributes 15 per cent or more

South Africa is one of the world's few net exporters of agricultural produce

South Africa has for some time been one of the few countries in the world that are net exporters of agricultural produce. In the period 1994 to 1998 the agricultural contribution to total export values was in the order of 8 to 10 per cent. The agricultural share in total imports varied between 6 and 7 per cent during the same period. Exports exceeded the value of imports during this period by percentages which varied between 19 per cent (1995) and more than 60 per cent (1998).

- Employment

Agriculture provides nearly 40 per cent of formal employment in rural areas…

Agriculture has long been the sector with the largest formal wage employment in the South African economy.[26] In 1970 agriculture employed 30.6 per cent of the economically active population.[27] Even though this percentage declined to 13.2 per cent in 1994, it still represented 1.28 million[28] jobs. With only 3.3 million workers in the rural areas of South Africa, this means that agriculture still provided for almost 40 per cent of formal employment in rural areas.

… and subsistence for some 1.3 million households

In terms of self-employment (commercial farmers and subsistence farmers) recent accurate figures are not available. According to 1991 census figures it is estimated that there were more or less 63 000 large-scale commercial farmers. In sharp contrast, the developing sector consisted of roughly 1.3 million small-scale farmers producing for household consumption and/or for sale.

- Aggregate production structure and growth

Agricultural production has shifted to 33 per cent field crops, 22-25 per cent horticulture and 40 per cent livestock…

The clearest indication of macro-level structural change in agricultural production is the varying contribution of field crops, horticultural crops and animal production to total production over time. The relative share of field crops in agricultural value has declined from close to 50 per cent in the early eighties to approximately 33 per cent during the nineties. The contribution of horticultural crops increased from less than 15 per cent to between 22 and 25 per cent over the same period. The contribution of livestock products also reflected an increase from 36 per cent to over 40 per cent. For 1997/98 the preliminary estimate of the gross value of agricultural production is R 42 351 million, with animal products contributing 46 per cent, field crops 30 per cent and horticultural crops 24 per cent.

The relative real growth in the three main agricultural sub-sectors is reflected by an analysis of the volume indices of agricultural production for the period 1980 to 1998.

… with climatic conditions but also market oriented policies influencing the shifts in production structure

According to the five-year averages between 1980 and 1995 field crop production showed a marked increase in production during the second half of the eighties compared to the first half (on average 39 per cent). During the first half of the nineties the general volume of production declined a little (with 7 per cent), but again picked up to average production levels that exceed the high

average levels during the late eighties. Typical rainfall cycles (historically determined as being between 7-9 years of relative high and low rainfall periods) have had an important influence on these trends. In later years (the nineties) open market conditions also started to play a more significant role. This was after the new government deregulated prices (maize and wheat); phased out all one-channel marketing schemes which had existed for most field crops; and phased out government support in the form of post-drought subsidies.

In the case of horticultural crops there has been a 20 per cent growth in production during the nineties in comparison with the eighties. Because most of the horticultural crops are produced under irrigation the year to year fluctuations in production are much smaller than in the case of field crops. The steady increase in production is therefore strongly linked to market conditions. The opening up of international markets for South African products during the nineties played a decisive role in the case of horticultural crops.

With the exception of pig and milk production, animal production in South Africa is for the most part produced on natural grazing, even in semi-desert areas, where small stock can be reared under very extensive conditions. The effect of climatic conditions on the carrying capacity of grazing are therefore an important determining factor in general fluctuations in livestock numbers and therefore production levels. After recovering from a prolonged drought period in the early and middle eighties the volume of animal production increased considerably until the middle nineties (by an average of 31 per cent).

Performance in the agricultural sector

Volume of agricultural production

With South Africa's highly variable climate, there is wide annual variation in field crops. However, there appears to be a secular trend away from maize and wheat production, due to changes in international prices. There is a general increase in livestock and horticultural production.

Overall production volume declined by almost 5 per cent in 1998…

During 1998 the estimated volume of agricultural production was 4.8 per cent less than in 1997. The volume of field crop production decreased by 13 per cent compared to the previous year. Horticultural production decreased by 3 per cent, while animal production increased by 5.7 per cent (Graph II.6.2).

Producer prices of agricultural products

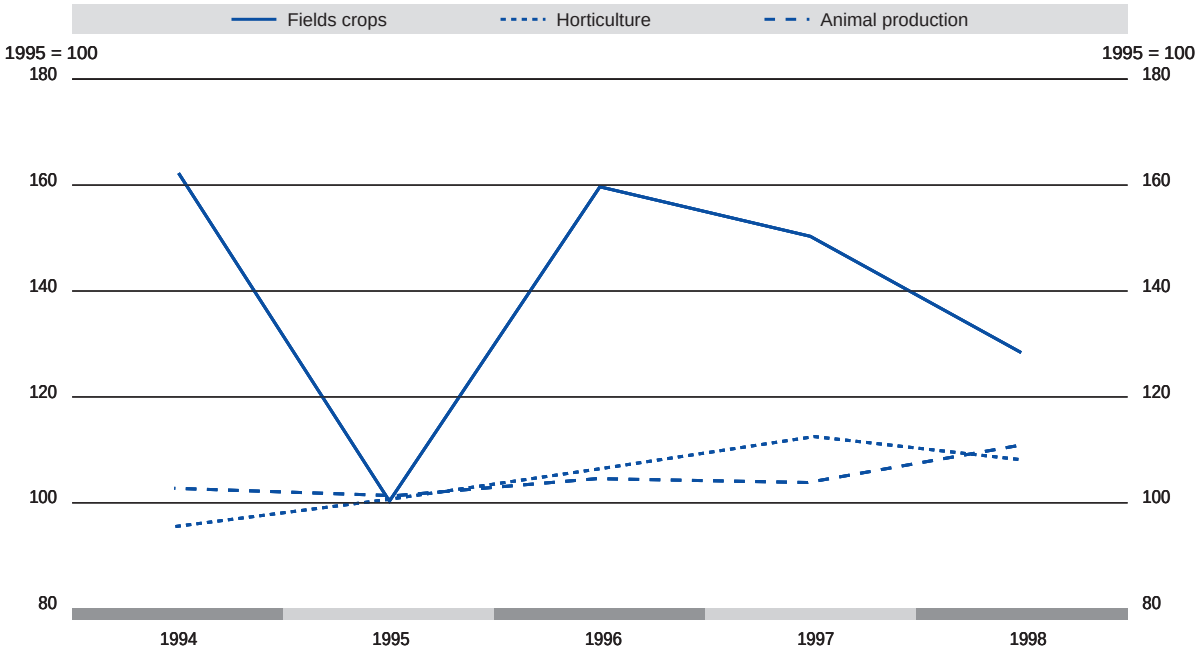
… and overall producer prices increased by about 2 per cent, with variations by product for both

For the year ended 31 December 1998 producer prices were on average 2.2 per cent higher than in 1997, compared with an increase of 6.6 per cent in the previous year (Graph II.6.3).

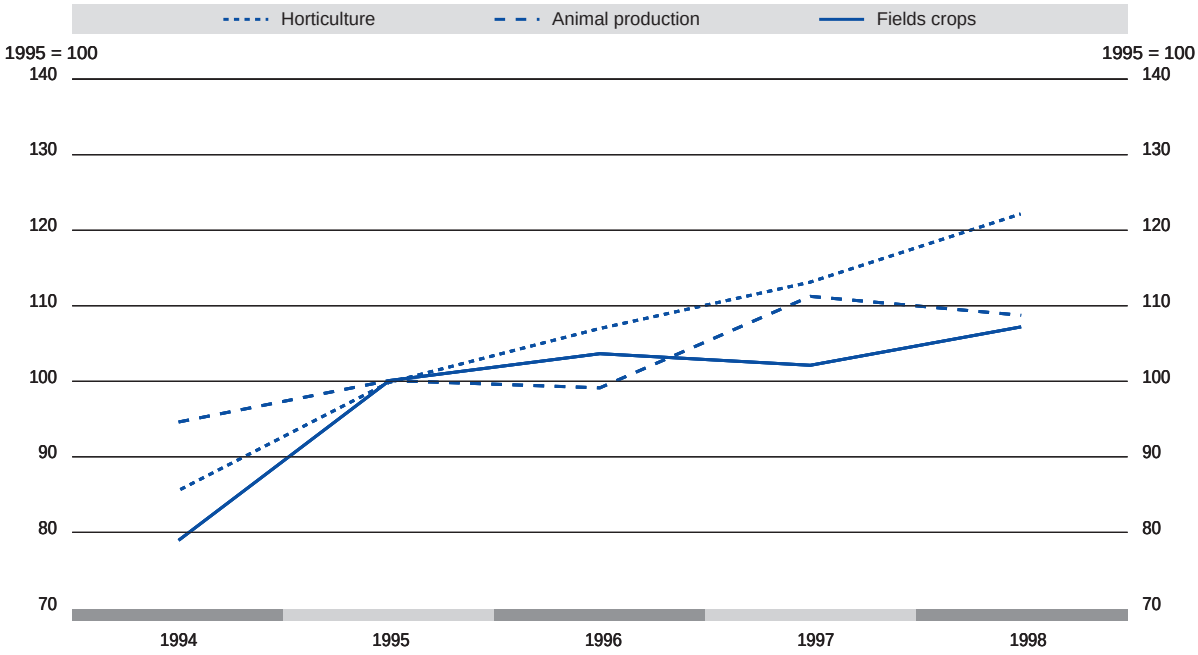
For the period under review producer prices of field crops were 4.7 per cent higher than during the same period the previous year. The prices of maize and wheat decreased by 3.7 per cent and 1.6 per cent respectively while the prices of sugar cane, groundnuts

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Graph II.6.2. **Volume index of agricultural production**



Graph II.6.3. **Producer price index**



and sunflower seed increased by 2.1 per cent, 97.0 per cent and 36.0 per cent respectively.

Producer prices of horticultural products were on average 8.7 per cent higher than in the previous year. Prices of viticulture, vegetables and fruit increased by 12.8 per cent, 12.5 per cent and 2.0 per cent respectively.

Producer prices of animal products were 2.3 per cent lower in 1998 than in 1997. Prices of pastoral products and dairy products decreased by 17.1 per cent and 6.2 per cent respectively. Prices of slaughtered stock as well as poultry and poultry products, however, increased by 4.3 and 3.1 per cent respectively.

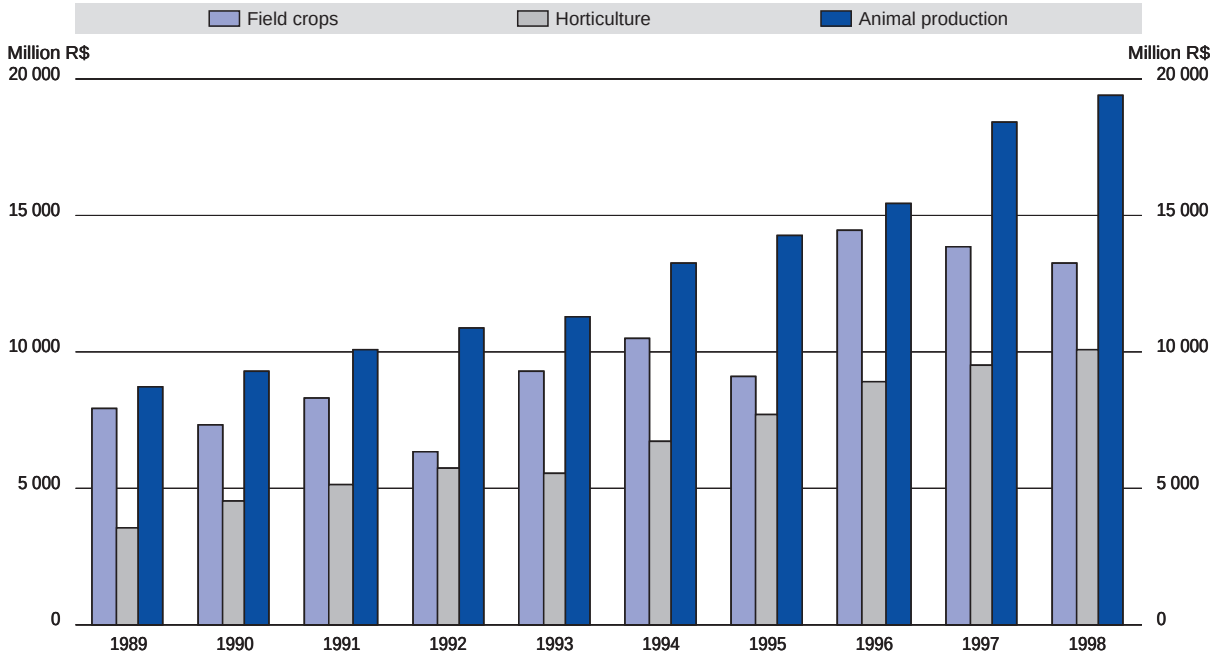
Gross value of agricultural production

Due to volume and price declines for certain products, the gross value of agricultural production rose by only 2.3 per cent…

The total gross value of agricultural production (total production at net producer prices) for 1998 is estimated at R42 708 million, an annual increase of 2.3 per cent. This relatively small increase can mainly be attributed to decreases in the producer prices of animal products as well as decreases in the volume of field crops and horticultural products (Graph II.6.4).

The gross value of animal products, field crops and horticultural products contributed 45.5, 31.0 and 23.5 per cent respectively to the total gross value of agricultural production. Broilers slaughtered made the largest contribution to the total gross value of agricultural production with 18.4 per cent, followed by maize with 10.2 per cent and cattle and calves slaughtered with 7.5 per cent.

Graph II.6.4. **Gross value of agricultural production**

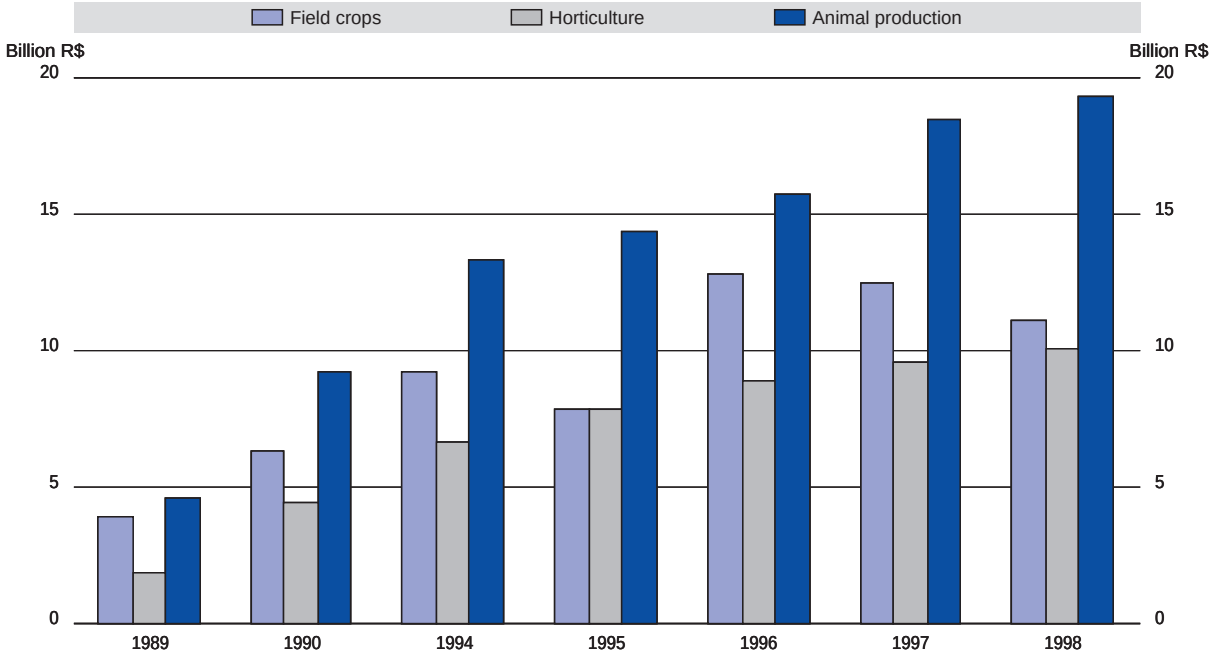


Farm income

… and gross producer incomes grew by only 0.9 per cent in 1998…

The gross income of producers (that part of the production which was marketed at net producer prices) for the year ended 31 December 1998 amounted to R40 657 million (R 40 305 million)[29] – an increase of 0.9 per cent. This small increase can be attributed to a decrease in the income from field crops as well as a relatively small increase in the income from horticultural products and animal products compared with the previous year (Graph II.6.5).

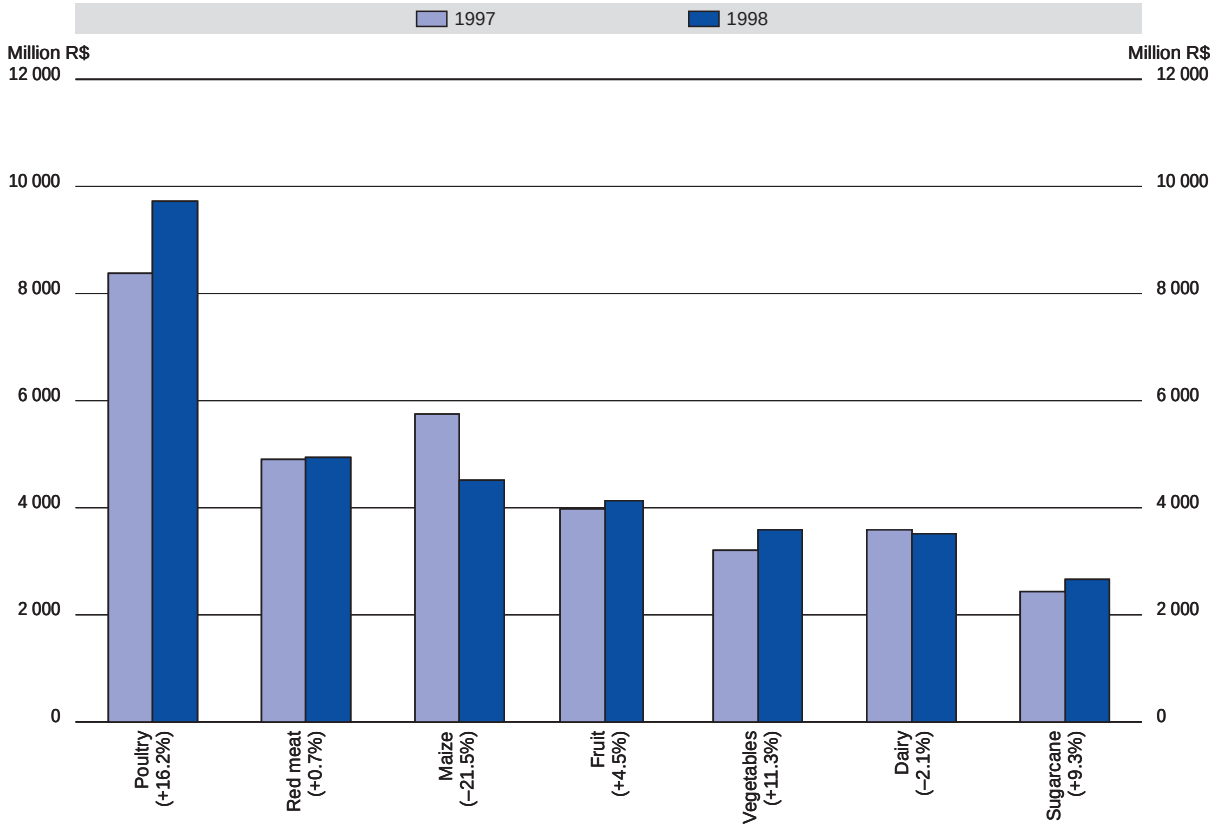
Graph II.6.5. **Gross income of agricultural producers**



The gross income from field crops decreased by 10.3 per cent from R 12 408 million to R 11 131 million for the year ended 31 December 1998. This was mainly the result of the decrease in the income from maize and wheat by 21.5 and 34.6 per cent, respectively. However, the income from sunflower seed and tobacco increased by 69.8 per cent to R 759 million (R 447 million) and 13.9 per cent to R 375 million (R 329 million), respectively (Graph II.6.6).

The gross income from horticultural products increased by 6.4 per cent to R 10 111 million (R 9 506 million). The income from citrus fruit increased by 7.4 per cent to R 1 265 million (R 1 178 million) and that of subtropical fruits by 25.6 per cent to R 618 million (R 492 million). The increase of subtropical fruit income mainly resulted from an increase in both the production and exports. The volume of exports of avocados increased by 96.8 per cent from 6.2 million cartons to 12.2 million cartons in 1998. The income from avocados increased by 86.4 per cent to R 192 million (R 103 million), bananas

Graph II.6.6. **Gross income from major products**



by 6.3 per cent to R 201 million (R 189 million) and pineapples by 20 per cent to R 96 million (R 80 million). The income from deciduous and other summer fruit was 1.6 per cent lower than during the previous season with the income from grapes and peaches 5.3 and 16.2 per cent lower respectively. The income from apples increased by 3.4 per cent.

The income from vegetables amounted to R 3 580 million (R3 218 million) – an increase of 11.2 per cent. The income from potatoes, which contributes approximately 41 per cent to the gross income from vegetables, increased by 14.5 per cent from R 1 279 million to R 1 464 million. The average increase in the income from pumpkins, sweet potatoes, green maize and hubbard squashes was 19 per cent.

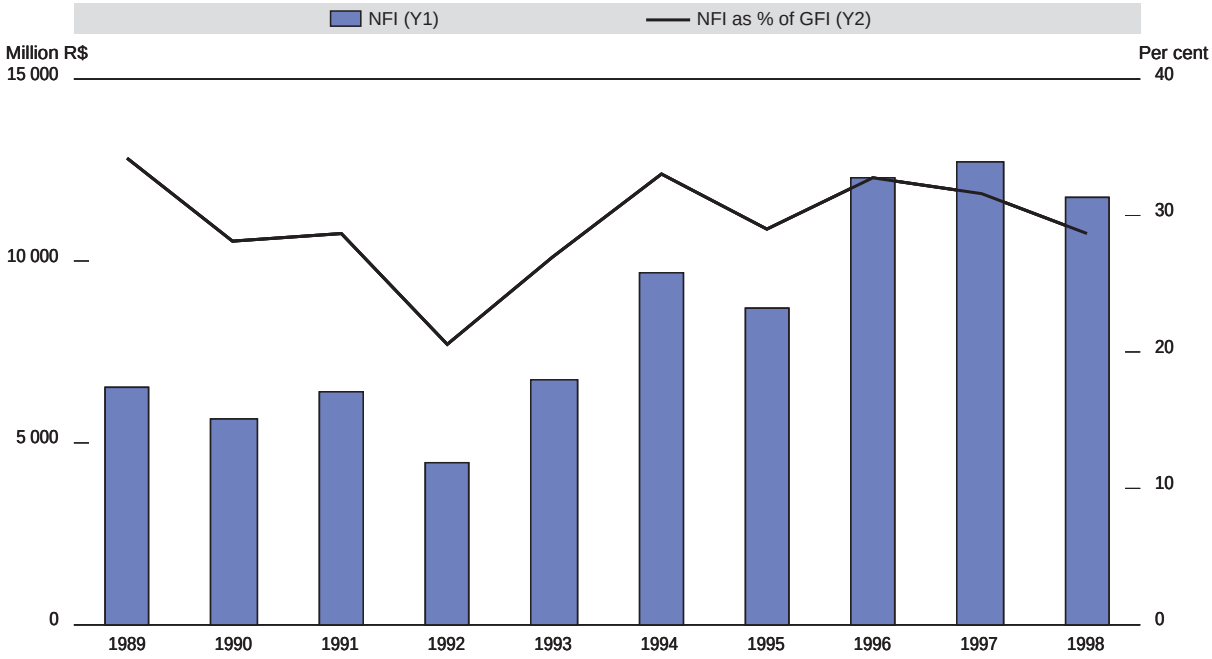
The gross income from animal products was 5.6 per cent higher and amounted to R 19 415million (R 18 391 million). Producers earned R3 223 million (R 3 153 million) from slaughtering of cattle and calves – an increase of 7.5 per cent. The producer price of beef increased by 5.3 per cent while cattle slaughtering increased by 125 776 carcasses. The income from slaughtering of sheep remained relatively the same, amounting to R 945 million. The price of mutton increased by 3.6 per

cent while 330 129 fewer sheep were slaughtered. Income from poultry and egg production amounted to R 9 709 million (R 8 354 million) – an increase of 16.2 per cent.

… with net farm income declining by 7.8 per cent

The net farm income (after the deduction of all production expenditures, excluding interest) decreased by 7.8 per cent during 1998 and amounted to R 11 719 million (R 12 707 million). Depreciation increased by 10.5 per cent during 1998 mainly as a result of relatively high levels of investment in machinery, implements and tractors in 1996 and 1997. Payments for salaries and wages as well as interest, which represent 19.2 and 13.8 per cent of the total farm expenditure, amounted to R 5 701 million and R 4 097 million respectively (Graph II.6.7).

Graph II.6.7. **Net farm income**



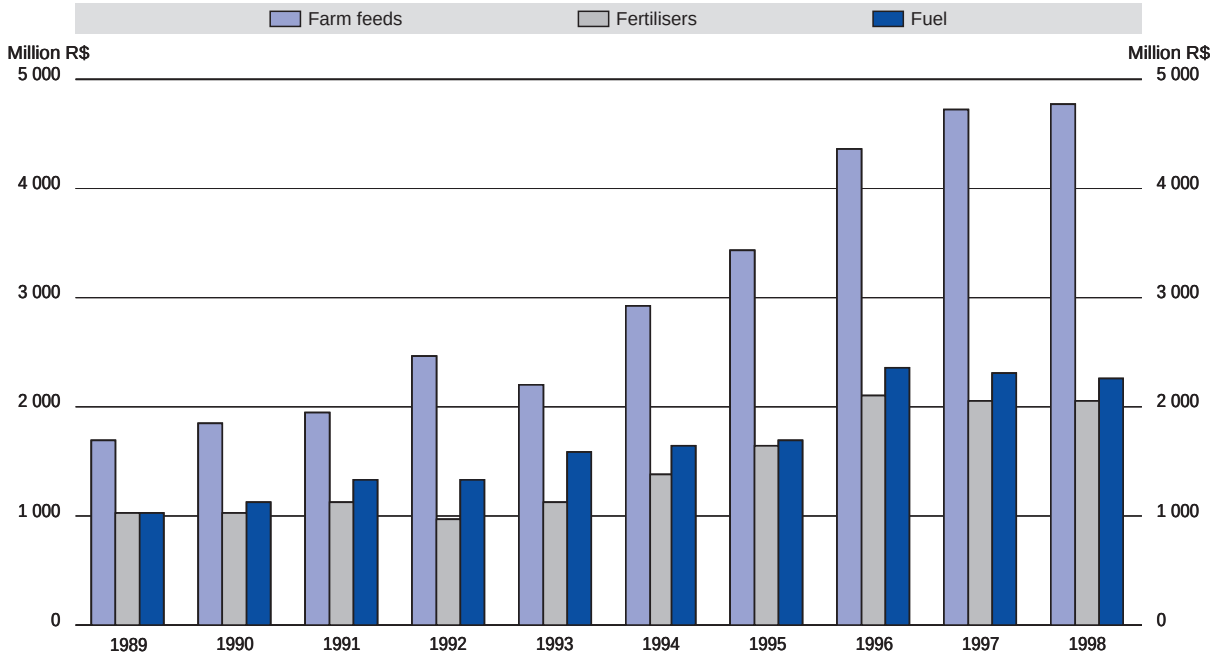
Expenditure on intermediate goods and services

Expenditures on intermediate goods and services…

Expenditure on intermediate goods and services (inputs that are used up in the production process) increased to an estimated R 17 708 million (R 17 248 million) – an increase of only 2.7 per cent (Graph II.6.8).

In the case of farm feeds and fertilisers, expenditure increased slightly and amounted to R 4 786 million and R 2 071 million respectively. Expenditure on maintenance and repairs of machinery and implements as well as packing material increased by 10.4 per cent to R 2 155 million and 2.6 per cent to R 968 million respectively. The expenditure on fuel, however, is estimated to be 2 per cent down on 1997.

Graph II.6.8. **Expenditure on intermediate goods and services**



Prices of farming requisites

… and on farming requisites increased by 2.7 and 3.4 per cent, respectively

Prices of farming requisites increased by 3.4 per cent compared to an increase of 11.4 per cent in the previous year. The price index of machinery and implements increased by 6.3 per cent, that of requisites for fixed improvements by 7.9 per cent and the prices of intermediate goods and services by 2.7 per cent.

Prices of trucks and implements showed increases of 5.9 and 7.1 per cent respectively as against increases of 3.2 and 15.9 per cent in the previous year. Prices of tractors increased by 6.2 per cent compared with an increase of 14.4 per cent in the previous year (Graph II.6.9).

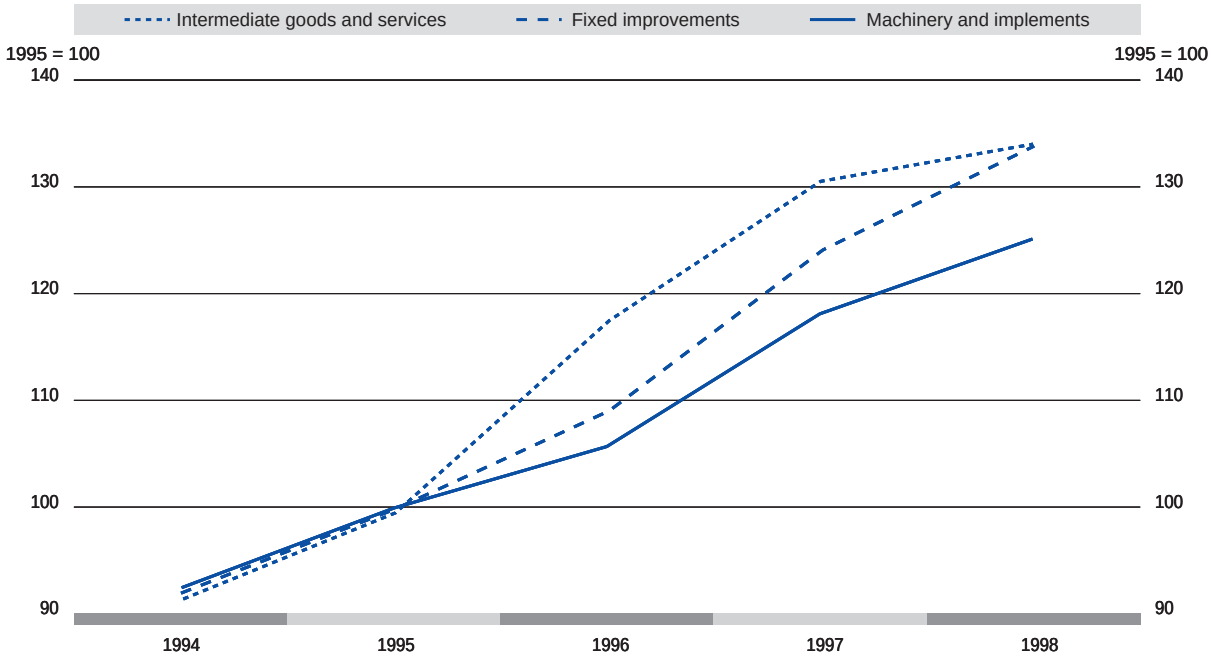
An increase of 11.1 per cent in the prices of maintenance and sprays made the most significant contribution to the increase in the prices of intermediate goods and services. Price increases of 5.5 per cent in the case of fertilisers, 5.2 per cent for dip and sprays and 1.8 per cent for packing material, occurred. Prices of fuel decreased by 6 per cent compared with an increase of 15.5 per cent in the previous year.

South Africa exports about 60 per cent of its gross agricultural product, with imports growing significantly over the past three years.

Agricultural trade performance

The South African agricultural sector can be described as open. Approximately 60 per cent of gross product of agriculture is traded. The sector is therefore sensitive to trends in the international agricultural market.

Graph II.6.9. **Price index of farming requisites**



South Africa is a net exporter of agricultural commodities. Due to the opening of the economy in the last three years, agricultural imports have grown considerably. This has not, to date, have a negative impact on the agricultural sector's position as a net contributor to export earnings (Graph II.6.10).

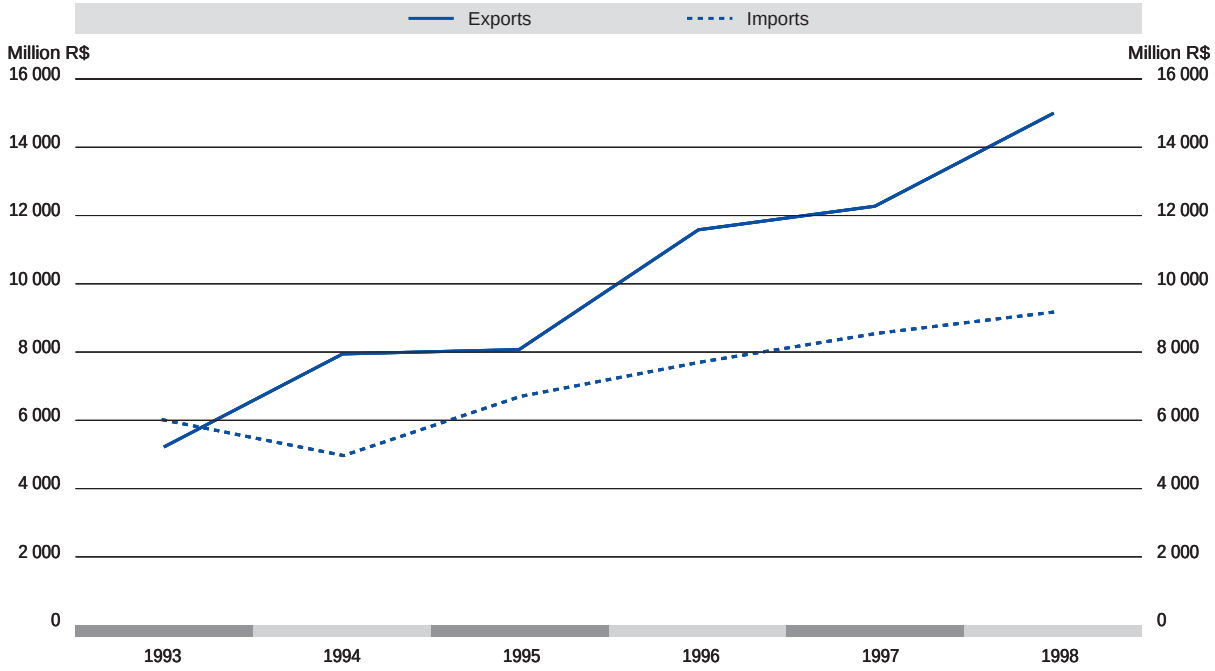
OECD countries remain South Africa's main suppliers but countries like Kenya are entering the market

The most important imports remained unchanged in the last three years although the importance of specific commodities within the group changed. For example, rice imports grew by 40 per cent between 1994 and 1998 while wheat imports showed negative growth. The fastest growing import is oilcake which increased by 158 per cent from R 55.53 million in 1994/96 to R 143.43 million by 1998.

The United Kingdom, Belgium, Italy, Germany and Japan have remained the main suppliers of imports in the last three years. However, these countries are gradually losing their share in South Africa's agricultural import bill to countries like Kenya, which increased its imports to South Africa by 181.8 per cent from an annual average of R 120 million in the 1994-1996 period to R 339.2 million per annum by 1998.

Policy changes occurring since 1994 have led to changes in the production structure of the agricultural sector and significant changes to the structure of exports. Although sugar and maize have remained the two most important commodities in the last five years, the fastest growing exports are, fruits (especially oranges and grapes) and wines. The growth of high value commodity exports indicates a supply response to relative prices. The figure below shows the shares of the ten most important exports (Graph II.6.11).

Graph II.6.10. **SACU agricultural imports and exports**



Export markets are also being diversified

The European Union remains the single most important destination for South African exports. However, exports to African countries, Middle East and Asia have become increasingly important markets for South Africa with faster growth rates than the European Union (Graph II.6.12).

The terms of trade in agriculture weakened from 0.847 to 0.837 during the year ended 31 December 1998. The terms of trade for field crops and horticultural production strengthened from 0.793 to 0.803 and 0.879 to 0.916 respectively. However, in the case of animal production, the terms of trade weakened from 0.864 to 0.816 (Graph II.6.13).

Capital assets and investment in agriculture

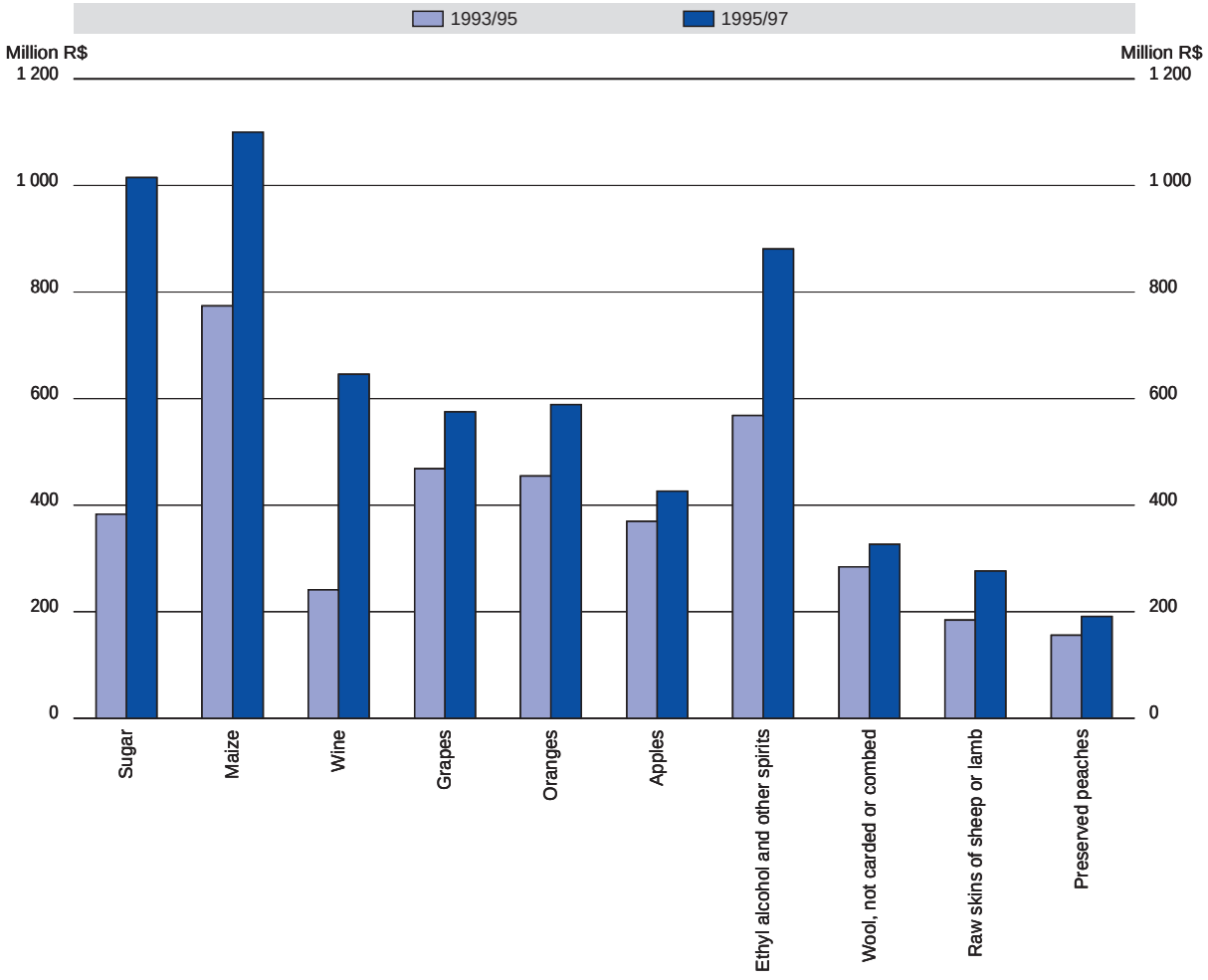
While the total value of capital assets in agriculture grew…

The total value of capital assets in agriculture as at 31 December 1998 was estimated at R 92 245 million (R 88 730 million) – an increase of 4 per cent. Land and fixed improvements constituted R 57 449 million (62 per cent), machinery and implements R 14 164 million (15 per cent) and livestock R 20 632 million (23 per cent) of the total value of capital assets (Graph II.6.14).

… gross investments in fixed improvements, machinery and implements declined

The gross investment in respect of fixed improvements for the year ended 31 December 1998 decreased by 3.6 per cent to R 1 323 million compared with an increase of 10.3 per cent during the preceding year. In the case of machinery, implements and vehicles, investment decreased by 17.2 per cent and amounted

Graph II.6.11. **Structure of agricultural exports**



to R 2 080 million. The change in livestock inventory for the period remained positive.

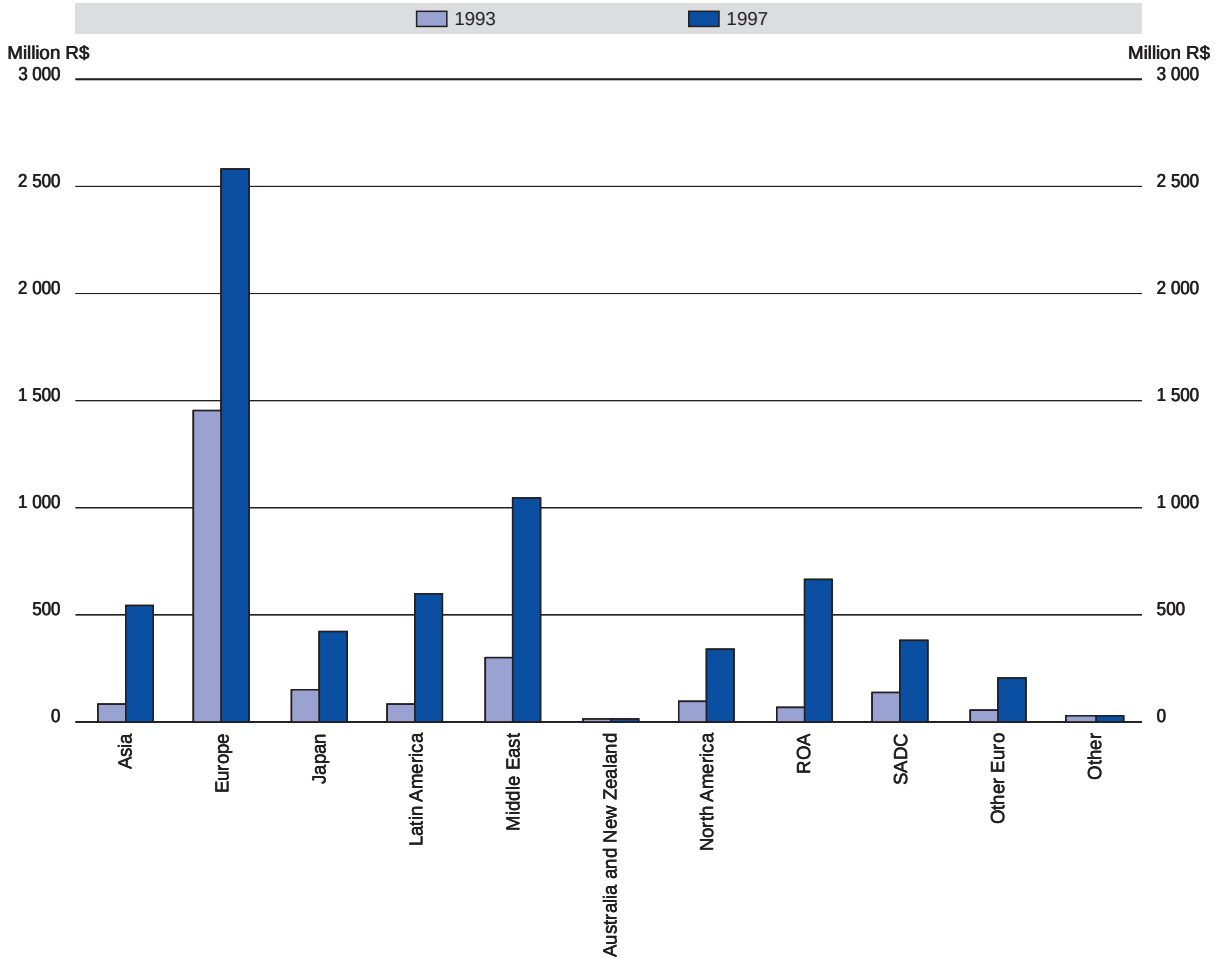
Farming debt position

Total agricultural debt increased in 1998 with the proportion of short-term debt decreasing to 52.5 per cent

The total farming debt at the end of December 1998 amounted to R24 018 million (R 22 550 million) – an increase of 6.5 per cent. There was a slight deterioration in the debt ratio (debt in relation to assets) from 25.5 per cent in 1997 to 26.1 per cent in 1998 (Graph II.6.15).

The short-term component of the debt (predominantly overdraft loans at commercial banks and production credit at agricultural co-operatives) decreased slightly from 54.6 per cent in 1997 to 52.5 per cent in 1998.

Graph II.6.12. **Agricultural exports by destination**



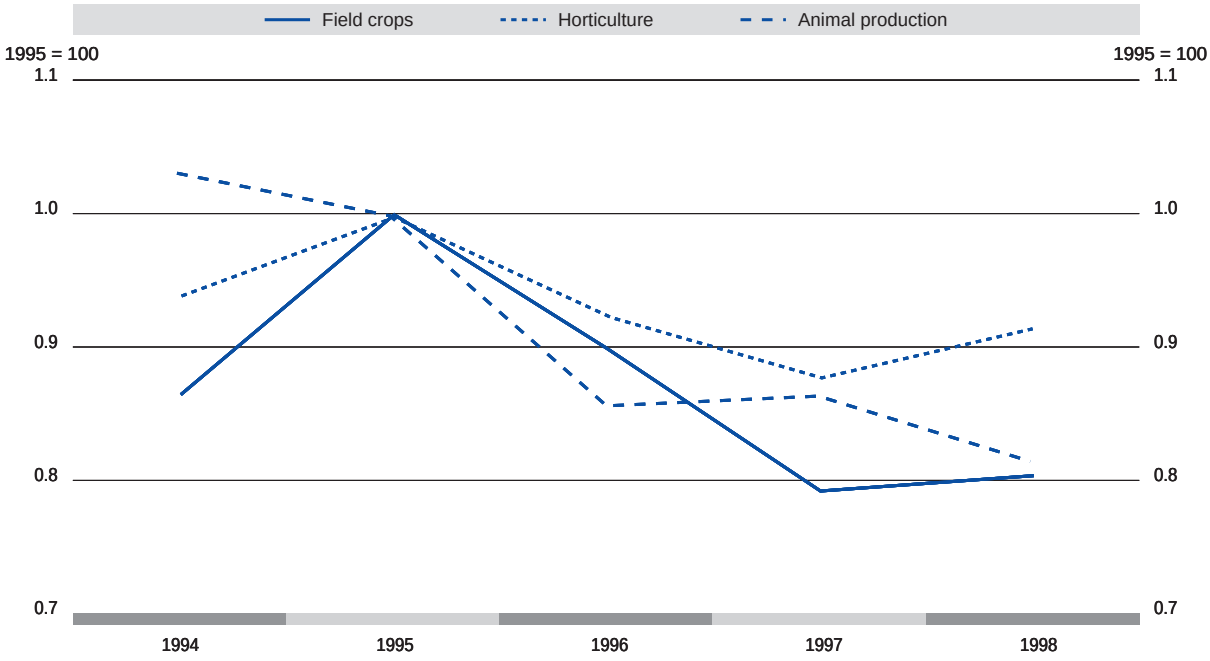
Rural livelihoods

Against the background of a commercial farm sector adjusting in a generally positive way to a more open economy and major deregulation in the agriculture sector, the position of the 1.3 million households in the small farm sector remains precarious whenever there is major dependence on agricultural incomes. Land holdings are generally very small, and with a long history of poor agricultural extension services and limited access to markets for production inputs and outputs, technology is generally poor.

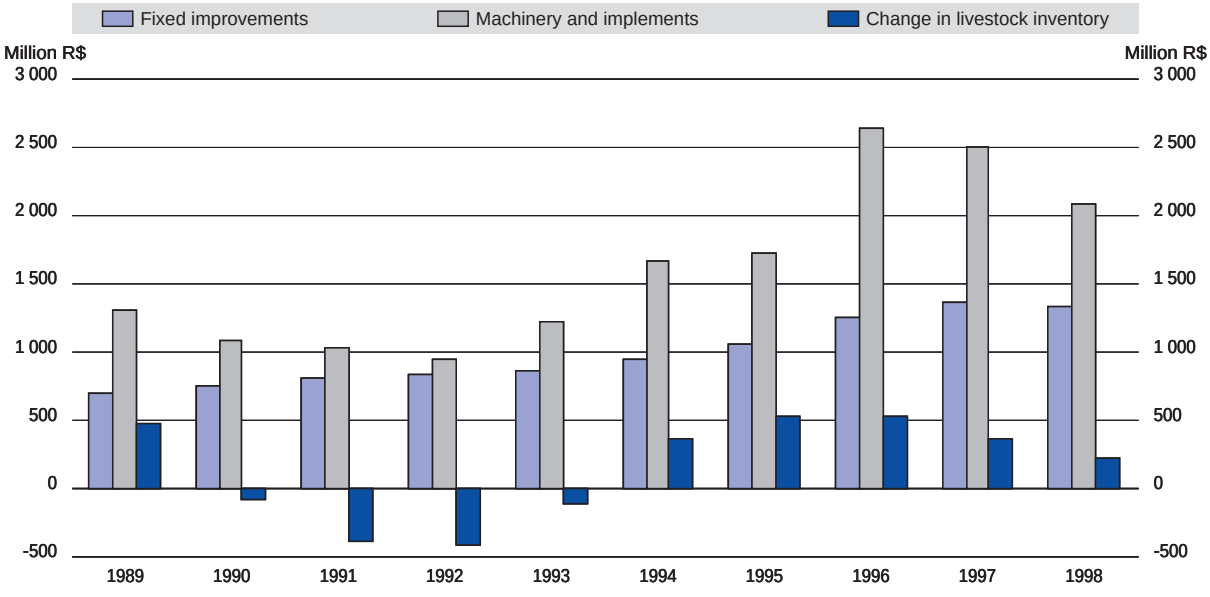
Small holdings and poor technology characterise the developing small farm sector

Under the apartheid system, most adult men left the homelands to seek employment in the cities or mines, or in the commercial farm sector. There are signs that this pattern is already changing since there are fewer jobs available in those sectors now. Nevertheless, households seek to diversify incomes, and only those with larger landholdings and the very poorest allow themselves to be dependent on incomes from agriculture. Pensions and remittances still each

Graph II.6.13. **Terms of trade of agriculture**

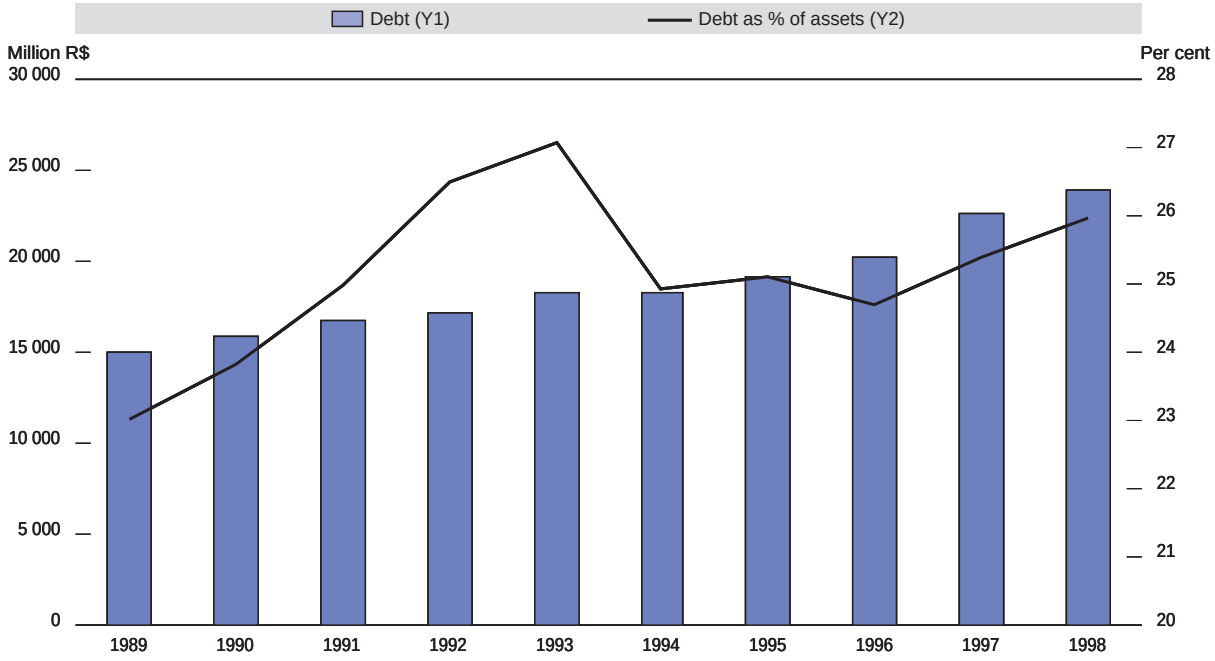


Graph II.6.14. **Investment in agriculture**



make up a larger proportion of average incomes in the homelands than income from agriculture. Some four fifths of rural homeland households are net consumers of staple foods, and poverty is widespread. The level and stability of food prices are therefore critical to the great majority of rural households.

Graph II.6.15. **Agricultural debt**



High unemployment, widespread poverty and dependence on staple foods make the level and stability of food prices critical to a majority of rural households

The challenge to government is to increase access to resources in rural areas, and to increase the productivity of agricultural production in the homelands. Throughout the economy there is a drive to increase employment, and agriculture has a major role to play. There is a land reform underway, and some 60 000 households have moved to new land, under an accelerating and very flexible programme that allows a government subsidy to beneficiaries in a wide variety of different schemes, including share-equity, group and individual schemes. New legislation to increase the security of tenure in the homelands is about to be released for public comment. This will affect many more households, and will allow local determination of tenure type. Many small farm households are expected to opt for individualised ownership which they can use for collateral.

Agriculture is expected to play a major role in the drive to increase employment

It is government's policy to support diversity of farm sizes and farm enterprises. The agricultural policies to support increases in farm productivity in the small and medium scale farm sectors are described below.

The share of household income spent on food in South Africa varies from 10.5 to 33.7 per cent depending on income levels, with the average at 16 per cent according to a 1995 household survey.

Land reform is underway to ecourage diversity of farm structure and size

Agricultural policy developments

There has been a process of re-evaluation of all aspects of agricultural policy since the new government came to power in 1994. However, this

follows a retreat since the late 1970s of the very high levels of subsidisation of the White farm sector, often at cost to low income consumers. Fixed prices for maize and wheat were withdrawn in the 1980s, and there was a major review of commodity marketing in the early 1990s.

Government interventions in agriculture have been re-evaluated since 1994

Following the first democratic elections in 1994, a new White Paper on Agriculture was approved by Parliament in 1995. This document had been developed and consulted in the sector during 1994-95. The document sets out the fundamental strategy for reforming policy as the removal of the distortions in agriculture to make the sector more market oriented. Farmers would be encouraged to exploit their comparative advantage, agricultural trade would be liberalised, exposing agricultural producers to international competition and thus encouraging efficiency. Policy would shift away from food self sufficiency to household food security.

The 1995 White Paper on Agriculture aims to increase efficiency and productivity…

The White Paper on Agriculture was complemented by the Broadening Access to Agriculture Thrust (BATAT) whose main objective was to effect re-orientation of agricultural services to ensure that resource poor and disadvantaged farmers would have adequate access to agricultural resources. The objective of government policy set out in the BATAT was to facilitate the participation of small-scale farmers in commercial agriculture.

… and opportunities for access to resources and markets by disadvantaged small farmers

The 1995 White Paper was a statement of broad policy principles. In order to effect transformation of the sector, there was need to develop more focused policy, guided by the national vision expressed in the RDP and GEAR, which is to create conditions to deal effectively with the legacy of South Africa's history. To translate these policy principles into implementable programmes, a policy reform process was initiated in 1997 to investigate agricultural policy options for government. Eleven working groups were established which dealt with specific identified areas of agricultural policies that were still presenting constraints and hindered agricultural transformation. Policy discussion covered the following areas:

- marketing of agricultural products;
- farmer support services (research, extension and training);
- agricultural employment;
- managing risk;
- agricultural credit and finance;
- agricultural trade;
- food security;
- irrigation policy;
- natural resource utilisation;
- livestock management;
- co-operatives and other farmer organisations.

Eleven policy groups were established…

The fundamental task for policy formulation was to define the role of government within the context of the objectives it set for itself. More specifically, the working groups considered the appropriateness of public policies, either directly through legislation or structural reform or indirectly as a response to defined problems. There was also examination of the requirements for institutional and legisla-

tive reforms that would help ease identified constraints, and assessment of the impact of proposed policy changes on objectives for the sector.

… to consider the necessary legislative, structural and institutional reforms…

The current process is nearing completion of a wide consultative process, which has seen discussion of a draft document in all provinces, and widely within the industry. The three major goals are:

- to build an efficient and internationally competitive agricultural sector;
- to support the emergence of a more diverse structure of production with a large increase in the numbers of successful smallholder farming enterprises;
- to conserve South Africa's agricultural natural resources and put in place policies and institutions for sustainable resource use.

The strategy focuses on promoting:

- agricultural productivity and hence output, so that the sector's contribution to national economic growth can be enhanced;
- production for own consumption and marketable surplus for small and medium scale farmers so that the sector impacts on the incomes of the poorest in society;
- employment and livelihoods to strengthen growth linkages in rural areas; and
- improvement in household food security through expanded production and more equitable distribution of resources.

… resulting in a wide consultative process to agree on objectives and strategy

While the new policy is ambitious and wide ranging, significant changes have already been achieved which will influence the performance of the sector in future. A few key areas will be highlighted below.

Marketing policy

Agricultural marketing is pivotal to creating jobs, generating incomes, earning foreign exchange, and if carried out under the right policy environment, providing affordable food at stable prices. In 1994, the government inherited a legal and institutional framework which was structured to provide a high level of control in agricultural marketing and this, inter alia, engendered institutionalised inequalities in access to markets and overall inefficiency in the sector. The main focus for policy therefore has been to deregulate agriculture markets.

In the area of marketing, all marketing boards have been abolished…

The process of deregulation started with the promulgation of the Marketing of Agricultural Products Act, No. 47 of 1996, which came into operation on 1 January 1997. The objectives of this Act are:

- to broaden market access to all market participants;
- to promote efficient marketing of agricultural products;
- to optimise export earnings from agricultural products; and
- to enhance the viability of the agricultural sector.

At the time the Act came into effect, 16 control boards existed. By the end of 1997 all boards had been abolished, thus reducing the level of state intervention in agriculture to minimal levels.

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In the first instance, the Act established a more representative National Agricultural Marketing Council (NAMC), whose function is to advise and report to the Minister on matters of marketing policy. The NAMC was charged with the responsibility of abrogating the boards and revoking the schemes. This process involved disposing of assets held by boards, which amounted to approximately Rand 525 million.

Given the extent of these assets, policy was needed to determine the utilisation of these assets in future. There was concern that these assets should not be used to perform functions that would be contradictory to broad policy intentions. For example, maize farmers lobbied strongly for the maize board assets to be used for price stabilisation but this was not approved, as it would have interfered with the market mechanisms in the maize sector.

However, government agreed that these assets should be utilised in the agricultural sector. The process of closing down the marketing boards therefore involved setting up industry trusts that would manage the assets. In turn, through Section 21 Companies, Forums and other producers' associations, application could be made to utilise the funds, taking into consideration the needs of resource-poor and disadvantaged farmers.

… and their assets placed in trusts to be used for the development of agriculture, especially small farm development

Functions which could be met by the use of trust funds had to be non-price distorting and consistent with the objectives of the Act. These generally fell into the following categories:

- keeping records and returns;
- compulsory registration;
- research;
- market information collection and dissemination.

In addition, in exceptional cases, levies could be established to ensure that these functions are carried out.

Agricultural trade policy

The deregulation of domestic marketing was complemented by reforms in agricultural trade policy, which are in line with overall national macroeconomic and trade policy. South Africa is committed to the WTO agreements of the Uruguay round. Hence agricultural trade policy is influenced by the implementation of commitments made in terms of those agreements.

The objective of agricultural trade policy is to enhance market access for agricultural products in markets abroad. The main elements of trade policy are export orientation and trade liberalisation, with protection accorded only through tariffs and only when proven necessary

Trade policy reforms are in full compliance with WTO agreements…

South Africa completed the process of tariffying agricultural commodities in 1996 in line with its WTO commitments. The simple average tariff level is now 5.6 per cent. A process of rationalising the tariff schedule was implemented in 1997 and this led to a 38 per cent decline in tariff lines. In 1997 all export subsidies for agricultural commodities were eliminated, except for sugar. Licenses and quotas are now restricted to quota administration in respect of trade

agreements, and non-tariff import controls remain only for sanitary and phytosanitary measures accepted by the WTO.

… including a simple average tariff of 5.6 per cent…

With these reforms in domestic marketing and agricultural trade, the agricultural sector is now devoid of subsidies and unnecessary protection. Deregulating domestic marketing has led to the integration of South African agriculture not only into the wider macroeconomic policy but also into the global village. Input and output prices are now, and will continue to be, market determined. The subsidies that farmers previously received indirectly through the huge transfers made to control boards are no longer possible. With the elimination of all other price distorting subsidies in agriculture, domestic agriculture is now deregulated.

… and elimination of all export subsidies, except for sugar,…

… resulting in a deregulated domestic agriculture

One aspect of the deregulation is the loss of drought subsidies which White farmers used to lobby very successfully for, but which had the effect of encouraging the cultivation of vulnerable crops and greater density of livestock holdings than was warranted for the variable and dry climate. Now the farmers have moved swiftly to manage risk. A futures market for crops has rapidly emerged in the private sector, and many more farmers are using insurance. However, these measures do not help small-scale farmers, for whom other measures are being examined.

Regional trade agreements and the agricultural sector

Having lost drought subsidies, large-scale farmers have turned to risk management techniques

South Africa is part of the Southern African Customs Union (SACU)[30] with its partners of Botswana, Lesotho, Namibia and Swaziland. In addition, South Africa is now a member of the Southern Africa Development Community (SADC) which up to now has been a structure for co-operation in political and development matters. The government believes that balanced development in the region and a collective approach for seeking market access outside the region will benefit both her neighbours and herself. Since 1994, the country has been involved in trade negotiations within the region. The most significant is the SADC Trade Protocol. Recognising its dominant position in the region, South Africa, together with the partners in SACU, has offered an asymmetric agreement in which it will open its markets faster than its counterparts. This will give the other SADC countries time to re-adjust their economies and attract investment to take advantage of the new opportunities from increased regional trade, and to reduce the trade imbalance currently prevailing.

South Africa is engaged in negotiations to increase regional trade, offering to open its markets faster than its partners

The SACU offer has been completed. The offer proposes an elimination of all import duties that are between 1 to 17 per cent and phasing out of all duties between 18 and 26 per cent over five years. Provisions will be made for special treatment of those commodities that are considered sensitive to trade liberalisation from the viewpoint of the four partner countries within the South African Customs Union (sugar, wheat and flour, dairy and livestock). Other SADC countries are still considering their offers.

The government has also been involved in a long series of negotiations with the European Union in order to set up freer trade between SACU

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and the EU. These have culminated in an agreement which will have its strongest impact in the agriculture sector. However, although many South African agricultural commodities will be able to enter the European market without tariffs, they will still need to compete with subsidised European farm production. Abroad, South African exports will still have to compete with subsidised exports from Europe. In common with its Cairns Group partners, South Africa will therefore continue to argue in the next round of WTO negotiations that in the interests of fair trade, all countries should reduce the level of support to agriculture, and especially that export subsidies should be eliminated.

Resource utilisation and environmental policies

The free trade agreement with the European Union will have its strongest impact in the agricultural sector

The policy for resource conservation has been transformed from the policing of resource use towards creating awareness through participatory methodologies, education and training, that will allow greater access to resources, and greater sustainability of use. A special programme was launched in 1997/98 called Land Care South Africa. The programme promotes the efforts of local communities to escape from poverty through community initiatives to protect and sustainably exploit the lands on which they grow crops, raise animals, plant useful trees, harvest and process natural products, or even create amenities for visitors, bringing income to previously unattractive places.

South Africa is a member of the Cairns Group

The Land Care South Africa programme promotes local community efforts for production and sustainable development of land…

Among other activities, Land Care projects include erosion control by labour intensive methods; rehabilitation of land cleared of invasive alien plants under the Working for Water Programme; amelioration of acidified soil; clearing of encroaching woody species, and management of livestock in communal areas.

The Land Care projects have three main outputs:

… through rehabilitation, invasive species clearing, and stock management…

- mobilisation of people in the short term through job creation and provision of skills and training;
- longer term enhancement of livelihood options through improved and sustainable resource use, which together ensure the third leg;
- Wise use or conservation of the natural resource base.

… to create jobs, tackle poverty and conserve resources

The successful development of Land Care requires public investment on an increased scale. The government has allocated special funds to start the programme. Additional public, private and donor funds will be sought for the programme, until it can become self-financing in each locality.

The reform of agricultural support services

Essential for the development of the small farm sector is the reform of extension services…

Perhaps the most difficult of the reform processes is the improvement of support to farmers, especially small-scale Black farmers. It is recognised that most extension officers serving small-scale farmers have been poorly trained, and that the service has to be made accountable to the farmers themselves, requiring a radical re-orientation of the way in which services are provided.

… but these depend on overstretched provincial budgets subject to cuts

Pilot studies to improve support services are underway…

However, farmer support is the main function of the provincial departments of agriculture. The service is provided out of the provincial budgets. Provincial government is a new level of government in the previous homeland areas, and the budgets have been overstretched already in the provision of health, education and welfare services. Provincial agricultural budgets have been cut in all provinces, and the country's aggregate agricultural budget has declined rapidly since 1994. In addition, most provincial agricultural departments (and many others of the provincial departments) have large numbers of underskilled workers, a legacy of the apartheid years. It is difficult to move towards a more specialised service, and to outsource service provision. Nevertheless, pilot studies are under way in each province to allow some experimentation in service provision in targeted areas, and to targeted groups.

… to be complemented by strenghthening of farmers' associations

A complementary development is the strengthening of farmers' associations, and a clearer understanding by farmers and government alike of the services farmers need. It is believed that with a firm demand from farmers for competent services, improvements in training, greater flexibility in service provision and slowly improving provincial control over personnel and budgets, the basis for major improvements is being laid, albeit slowly.

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NOTES

1. *i.e.* 22 per cent.
2. Immediately after the devaluation, the Monetary Policy Committee (Copom) decided to raise the Financial Assistance Basic Rate (TBAN) from 36 per cent to 41 per cent. Futures market rates signal that high rates are likely to prevail for much of the first half of 1999, with annualised DI interest rates for February, March and April at 63, 59 and 56 per cent, respectively.
3. The IPC-FIPE forecasts inflation to reach an average of 8.6 per cent for 1999; IGP-M forecasts are somewhat higher suggesting a rate of 9.3 per cent for 1999.
4. According to Circular number 2864 from the Central Bank of Brazil, published on 2/26/99 in the Diario Oficial (Brazil's Federal Register).
5. FAO estimate, including rice in milled equivalent.
6. 60 kg bags.
7. For a detailed discussion see *e.g.* Josef Schmidhuber, *The Impacts of FMD eradication in Argentina and Brazil on the Pacific beef market*, UNCTAD/SELA, Geneva, June, 1998.
8. *Source:* USDA, PSD data base.
9. Also maize and rice qualify for PEP interventions. The quantities in 1998 were, however, negligible.
10. Agricultural products as well as industrial products.
11. Over the last decade, the percentage of the VTN to the real price of the land varied from 20% for farms of less than 10 hectares, to 1.2% for farms of more than 10 000 hectares.
12. Official estimate.
13. OECD Aglink data base, March 1999.
14. For the purpose of this report, the term Central and Eastern European Countries (CEECs) is taken to include Albania, Bulgaria, Croatia, Estonia, Latvia, Lithuania, Romania, Slovakia and Slovenia. It should be noted that the Czech Republic, Hungary and Poland are OECD Members. The assessment of agricultural policies in these countries is contained in *Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999*. Nonetheless, analysis of certain agricultural policy issues in central and eastern Europe includes information on these three OECD Member countries in order to provide comprehensive coverage of developments in the region.
15. A special supplement, *Agriculture at a Glance in Emerging and Transition Economies*, accompanies this report and presents a profile of the major policy developments and trends in the individual CEECs, as well as other countries.
16. For further reference see *Agricultural Finance and Credit Infrastructure in Transition Economies: Proceedings of an OECD Expert Meeting*, Moscow, February 1999.
17. The 1996 fiscal year covers the period April 1996 to March 1997.
18. The methodology for calculating national income was modified in 1998, and this has resulted in a revision of previous estimates of both national and sector output. More specifically, the base year for calculating the value of production has changed from 1980-81 to 1993-94. In addition, the scope of activities included in the calculations has widened to incorporate several fruits, vegetables and flowers, output of coal mines and the income of quasi-government agencies. Services such as private communications, television and radio have been added. The new series estimate of GDP for the period is about 9 per cent higher that it would have been with the old series.
19. Estimates of crop and livestock production can vary substantially between different sources depending on whether the calendar year, marketing year or fiscal year are used.
20. See *e.g.* Sutherland, 1999.
21. The reasons for such a drastic decline in meat and milk production are explained in numerous sources, including OECD, 1998*a* and OECD, 1998*b*.
22. This introductory chapter on agriculture in South Africa has been specially prepared for inclusion in this report by the South African National Department of Agriculture. The views expressed are those of the authors and do not necessarily reflect those of the Organisation or its Member countries.

23. However, it is notoriously difficult to define “urban” and “rural” when such large numbers of people were moved to dense settlements over the last thirty years, where there are the most minimal or no services, no urban employment, and no possibility of producing more than household food supplementation from agriculture.
24. Only one other country has a worse gini coefficient.
25. Growth, Employment and Redistribution: A Macroeconomic Strategy. Department of Finance, Government of South Africa;1996. This strategy is popularly known as GEAR.
26. These data would exclude employment in the small scale farm sector.
27. This figure excluded data from the “independent homelands”.
28. Includes permanent and casual labourers
29. Rand figures in parentheses represent amounts for the previous year.
30. It should be noted that all trade statistics in this paper refer to SACU trade with other countries. However, in the case of exports, nearly all (probably more than 99%) originate in South Africa. The great majority of imports are also destined for South African consumers.

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STATISTICAL ANNEX

Part I

MACROECONOMIC INDICATORS

Annex Table I.1 **Population[1], mid-year estimates**

million

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	32.55	32.97	33.42	33.87	34.32	34.77	35.22	35.67	36.12
Brazil	144.72	147.07	149.36	151.57	153.73	155.82	157.87	159.88	n.a.
China	1 155.30	1 170.10	1 183.60	1 196.40	1 208.80	1 221.50	1 232.10	1 243.70	1 255.09
India	834.70	851.66	867.82	883.91	899.95	915.97	939.42	955.22	970.00
South Africa	37.07	38.01	38.82	39.63	40.44	41.24	42.39	43.34	44.30
Albania	3.26	3.26	3.36	3.48	3.55	3.61	3.67	3.73	n.a.
Bulgaria	n.a.	8.98	8.54	8.47	8.44	8.41	8.36	8.31	n.a.
Croatia	n.a.	4.79	4.47	4.64	4.65	4.67	4.49	4.50	4.49
Estonia	1.58	1.57	1.54	1.52	1.50	1.48	1.47	1.46	1.45
Latvia	2.67	2.66	2.63	2.59	2.55	2.51	2.49	2.47	2.45
Lithuania	3.71	3.74	3.74	3.73	3.72	3.71	3.71	3.71	3.70
Romania	23.21	23.19	22.79	22.76	22.74	22.68	22.61	22.57	22.50
Slovak Republic	5.30	5.28	5.31	5.32	5.35	5.36	5.37	5.38	n.a.
Slovenia	2.00	2.00	2.00	1.99	1.99	1.99	1.99	1.99	1.98
OECD member countries									
Czech Republic	10.31	10.31	10.32	10.33	10.34	10.33	10.32	10.30	n.a.
Hungary	10.36	10.35	10.32	10.29	10.26	10.22	10.19	10.15	n.a.
Poland	38.12	38.24	38.36	38.46	38.54	38.59	38.62	38.65	n.a.
CEECs region	***n.a.***	***114.37***	***113.39***	***113.58***	***113.62***	***113.56***	***113.28***	***113.22***	***n.a.***
Belarus	10.21	10.23	10.31	10.36	10.31	10.28	10.25	10.22	n.a.
Kazakhstan	n.a.	n.a.	16.52	16.48	16.30	16.07	15.92	16.83	n.a.
Russian Federation	148.16	148.33	148.31	148.15	147.97	148.14	147.74	147.10	146.70
Ukraine	n.a.	n.a.	52.06	52.24	52.11	51.73	51.33	50.64	n.a.
NIS region	***n.a.***	***n.a.***	***227.20***	***227.23***	***226.69***	***226.22***	***225.24***	***224.79***	***n.a.***

p: preliminary ; n.a.: not available.

1. IMF statistics from the UN.

Source: IMF statistics. OECD Secretariat.

Annex Table I.2 **GDP**

annual per cent change

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	0.2	8.9	8.6	6.0	7.4	-4.6	4.4	8.6	4.2
Brazil	-4.6	0.5	-1.2	4.5	5.8	3.0	2.9	3.7	0.2
China	3.7	9.5	14.6	13.9	13.0	10.7	9.9	8.8	7.8
India	5.6	0.5	5.4	4.9	7.5	7.3	7.5	5.0	5.8
South Africa	-0.5	-1.0	-2.6	1.5	2.8	3.1	3.3	1.7	0.5
Albania	-10.0	-27.7	-7.2	9.6	8.3	13.3	9.1	-7.0	8.0
Bulgaria	-9.1	-8.4	-7.3	-1.5	1.8	2.1	-10.9	-6.9	4.3
Croatia	-6.9	-19.8	-11.1	-0.9	0.6	1.7	4.3	4.5	3.0
Estonia	-6.5	-14.0	-14.3	-8.6	-1.8	4.3	4.0	11.4	6.0
Latvia	2.9	-10.5	-34.9	-14.8	0.6	-0.8	2.8	6.5	3.6
Lithuania	-3.3	-13.1	-34.0	-27.1	1.0	3.0	4.2	5.7	4.4
Romania	-5.6	-12.9	-8.8	1.5	3.9	7.1	4.1	-6.5	-5.5
Slovak Republic	-2.5	-14.5	-6.5	-3.7	4.9	6.8	6.9	6.5	4.5
Slovenia	-4.7	-8.9	-5.5	2.8	5.3	4.1	3.3	3.8	4.0
OECD member countries									
Czech Republic	-1.2	-14.2	-7.1	-0.9	2.6	6.4	3.9	1.0	-0.7
Hungary	-3.5	-11.9	-4.3	-2.3	2.9	1.5	1.3	4.4	5.1
Poland	-11.6	-7.0	2.6	3.8	5.2	7.0	6.1	6.9	5.7
Belarus	-1.7	-1.2	-9.6	-7.6	-12.6	-10.4	2.6	10.4	8.0
Kazakhstan	-4.6	-11.0	-5.3	-9.0	-12.6	-8.2	0.5	2.0	-2.5
Russian Federation	-3.0	-5.0	-14.5	-8.7	-12.7	-4.1	-4.9	0.8	-4.6
Ukraine	-6.4	-8.7	-9.9	-14.2	-22.9	-12.2	-10.0	-3.2	-1.7

p: preliminary ; n.a.: not available.

Source: OECD Secretariat.

Annex Table I.3 **Unemployment rate, end of year**

per cent

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina[1]	n.a.	6.3	7.2	9.1	12.1	18.8	18.4	15.7	n.a.
Brazil[1]	n.a.	n.a.	6.5	5.3	5.1	4.6	n.a.	5.7	7.6
China[1]	2.5	2.3	2.3	2.6	2.8	2.9	3.0	3.1	3.1
India	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
South Africa[1,2]	n.a.	n.a.	n.a.	n.a.	20.0	16.9	21.0	22.9	n.a.
Albania	9.8	9.1	26.5	22.3	18.3	12.9	12.4	13.6	16.9
Bulgaria	1.7	11.1	15.3	16.4	12.4	11.1	12.5	13.7	13.0
Croatia	n.a.	na	15.3	14.8	14.5	14.5	16.4	17.5	17.4
Estonia	n.a.	0.1	1.7	1.9	5.1	5.0	5.5	4.6	5.0
Latvia	n.a.	n.a.	2.3	5.8	6.5	6.6	7.2	7.0	7.0
Lithuania	n.a.	0.3	1.1	1.6	4.5	7.3	6.2	6.7	7.0
Romania	n.a.	3.0	8.2	10.4	10.9	9.5	6.6	8.9	10.3
Slovak Republic	1.6	11.8	10.4	14.4	14.6	13.1	12.8	12.5	15.6
Slovenia	4.7	8.2	11.4	14.4	14.4	14.5	14.4	14.8	14.5
OECD member countries									
Czech Republic	0.3	2.8	3.1	3.0	3.3	3.0	3.1	4.4	6.1
Hungary	1.0	4.7	10.3	12.9	11.4	10.6	11.0	10.5	9.5
Poland	3.5	9.2	12.9	14.9	16.5	15.2	14.3	11.5	10.0
Belarus[1]	n.a.	0.1	0.5	1.4	2.1	2.7	3.9	2.8	2.3
Kazakhstan[1]	0.0	0.0	0.4	0.6	1.1	2.1	4.1	3.8	3.7
Russian Federation[1, 3]	n.a.	n.a.	0.8	5.3	7.0	8.3	9.3	10.8	11.8
Ukraine[1]	n.a.	0.0	0.3	0.3	0.4	0.5	1.3	2.3	3.7

p: preliminary ; n.a.: not available.

1. Annual average.
2. Official unemployment rate reflects people officially looking for work.
3. Russia figures are estimated real unemployment rate, whereas for the other NIS, the unemployment rate is the official registered rate.

Source: ILO publication, OECD Secretariat.

Annex Table I.4 **Inflation, end year changes in consumer prices**

per cent

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	2 314.0	171.7	24.9	10.6	4.2	3.4	0.2	0.3	0.7
Brazil	2 947.7	432.8	951.6	1 928.0	2 037.8	66.0	15.8	6.1	1.7
China	3.1	3.5	6.3	14.6	24.2	16.9	8.3	0.8	-2.6
India	9.0	13.9	11.8	6.4	10.2	10.2	9.0	7.2	7.3
South Africa	14.4	15.3	13.9	9.7	9.0	8.6	7.4	8.5	6.9
Albania	4.7	104.5	236.6	30.9	15.8	6.0	17.4	42.0	8.9 [1]
Bulgaria	50.6	473.7	79.5	63.9	121.9	32.9	310.8	579.0	1.5
Croatia	609.5	123.0	665.5	1 517.5	97.6	3.7	3.5	4.0	5.2
Estonia	32.8	232.0	1 075.9	89.8	41.7	28.9	14.8	12.5	6.5
Latvia	11.0	125.0	951.0	35.4	26.3	23.1	13.1	7.0	2.8
Lithuania	9.0	383.0	1 163.0	188.7	45.1	35.7	13.1	8.4	2.5
Romania	105.1	222.8	199.2	295.5	61.7	27.8	56.9	151.0	41.0
Slovak Republic	10.6	61.2	10.0	23.2	11.7	7.2	5.4	6.4	5.6
Slovenia	104.6	247.1	92.9	22.9	18.3	8.6	8.8	9.4	6.5
OECD member countries									
Czech Republic	9.7	56.6	11.1	20.8	10.0	9.1	8.8	8.5	10.7
Hungary	28.9	35.0	23.0	22.5	18.8	28.3	23.5	18.3	14.2
Poland	585.8	70.3	43.0	35.3	32.2	27.8	19.9	14.9	11.6
Belarus	n.a.	147.5	1 559.1	1 996.5	1 959.9	244.0	39.3	63.4	181.7
Kazakhstan	n.a.	147.1	2 960.8	2 165.0	1 158.3	60.3	28.8	11.3	1.9
Russian Federation	n.a.	160.0	2 510.0	840.0	215.0	131.0	22.0	11.0	84.4
Ukraine	n.a.	290.0	2 000.0	10 156.0	401.0	182.0	39.7	10.0	20.0

p: preliminary ; n.a.: not available.

1. End November.

Source: OECD Secretariat.

Annex Table I.5 **Exchange rate, annual average**

LC/US$

	LC	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	Arg. Peso	0.49	0.95	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Brazil	Real	0.00	0.00	0.00	0.03	0.64	0.92	1.01	1.08	1.16
China	Yuan	4.78	5.32	5.51	5.76	8.62	8.35	8.31	8.29	8.28
India	Rupee	17.50	22.74	25.92	30.49	31.37	32.43	35.43	36.31	41.26
South Africa	Rand	2.59	2.76	2.85	3.27	3.55	3.63	4.30	4.61	5.53
Albania	Lek	8.90	24.20	75.03	102.06	94.62	92.70	104.50	148.93	150.64
Bulgaria	Leva	0.79	17.79	23.34	27.59	54.13	67.17	177.89	1 681.88	1 760.36
Croatia	HR Kuna	0.01	0.02	0.27	3.58	6.00	5.23	5.43	6.10	6.36
Estonia	EE kroon	n.a.	n.a.	12.10	13.22	12.99	11.47	12.034	13.882	14.07
Latvia	Lat	n.a.	n.a.	0.74	0.68	0.56	0.53	0.55	0.58	0.59
Lithuania	Lita	n.a.	n.a.	1.77	4.33	3.98	4.00	4.00	4.00	4.00
Romania	Lei	n.a.	76.40	308.00	760.10	1 655.10	2 033.30	3 084.20	7 167.90	8 875.58
Slovak Republic [1]	SK Koruna	n.a.	29.49	28.29	30.77	32.05	29.71	30.65	33.62	35.23
Slovenia	Tolar	n.a.	27.57	81.29	113.24	128.81	118.52	135.37	159.69	166.13
OECD member countries										
Czech Republic [2]	CZ Koruna	17.95	29.49	28.29	29.15	28.79	26.54	27.15	31.70	32.29
Hungary	Forint	63.21	74.74	78.99	91.93	105.16	125.68	152.65	186.79	214.40
Poland	Zloty	0.95	1.06	1.36	1.81	2.27	2.43	2.70	3.28	3.48
Belarus	Belarusian ruble	n.a.	n.a.	n.a.	3 160.00	4 652.00	11 525.00	13 608.00	24 995.00	48 651.00
Kazakhstan	Tenge	n.a.	n.a.	n.a.	2.58	35.54	60.95	67.30	75.44	78.30
Russian Federation	Russian ruble	n.a.	n.a.	192.50	932.15	2 204.00	4 554.00	5 124.00	5 785.00	9.71
Ukraine	Hryvnia	n.a.	n.a.	n.a.	4 884.00	31 700.00	147 307.00	1.83	1.86	2.45

p: preliminary ; n.a.: not available.

1. Up to 8 February 1993 (split of the currency) Czechoslovak koruna per US dollar, after this date Slovak koruna per US dollar.
2. Up to 8 February 1993 (split of the currency) Czechoslovak koruna per US dollar, after this date Czech koruna per US dollar.

Source: IMF statistics, OECD Secretariat.

Annex Table I.6 **Current account balance**[1]

US$ mn

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	4 552	-647	-5 462	-7 672	-10 118	-2 768	-3 787	-12 000	-14 700
Brazil	-3 823	-1 450	6 089	20	-1 153	-18 136	-23 602	-33 840	-35 000
China	11 997	13 272	6 401	-11 609	6 908	1 618	7 243	29 718	30 100
India	-10 185	-1 719	-4 166	-1 876	-4 060	-6 534	-5 165	-5 811	n.a.
South Africa	2 065	2 243	1 741	1 873	-319	-2 756	-1 715	-1 931	n.a.
Albania	-150	-308	-471	-490	-460	-475	-677	-535	n.a.
Bulgaria	-757	-32	-212	-885	-17	432	102	500	-400
Croatia	n.a.	-590	823	104	103	-1 284	-858	-2 435	-1 800
Estonia	36	21	-164	-185	-399	-563	-533	-600	-600
Latvia	n.a.	n.a.	191	417	201	-16	-415	-300	-300
Lithuania	n.a.	n.a.	n.a.	-86	-94	-614	-723	-1 000	-1 000
Romania	-3 254	-1 012	-1 506	-1 174	-428	-1 774	-2 571	-2 500	-2 000
Slovak Republic	n.a.	n.a.	-698	-580	719	390	-2 090	-1 900	-2 000
Slovenia	n.a.	n.a.	978	191	600	-23	39	37	-6
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	700	-100	-1 400	-4 300	-3 200	-1 000
Hungary	n.a.	n.a.	n.a.	-4 300	-4 100	-2 500	-1 700	-1 000	-1 800
Poland	n.a.	n.a.	n.a.	-4 600	1 000	900	-3 300	-5 700	-7 600
Belarus	n.a.	n.a.	n.a.	-435	-444	-458	-516	-788	-976
Kazakhstan	n.a.	n.a.	n.a.	n.a.	n.a.	-518	-750	-908	n.a.
Russian Federation	n.a.	n.a.	468	2 675	9 302	7 955	12 057	2 900	2 400
Ukraine	n.a.	n.a.	n.a.	n.a.	-1 163	-1 152	-1 184	-1 335	-1 296

p: preliminary ; n.a.: not available.

1. Current account balance is the credit line minus the debit lines of goods, services, income, and current transfers (IMF definition).

Source: OECD Secretariat.

Annex Table I.7 **Current account balance**

% GDP

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	3.2	-0.3	-2.4	-2.9	-3.5	-0.9	-1.4	-3.8	-4.2
Brazil	-0.8	-0.4	1.6	0.0	-0.2	-2.6	-3.2	-4.2	-4.5
China	3.4	3.5	1.5	-2.7	1.3	0.2	0.9	3.3	3.1
India	-3.5	-0.7	-1.7	-0.7	-1.3	-2.0	-1.4	-1.5	-2.5
South Africa	1.9	2.0	1.5	1.6	-0.3	-2.1	-1.4	-1.5	n.a.
Albania	-7.9	-45.3	-69.2	-39.8	-23.6	-19.2	-25.2	-23.7	n.a.
Bulgaria	n.a.	n.a.	n.a.	n.a.	-3.1	-0.8	0.9	4.3	-3.5
Croatia	n.a.	-3.2	8.1	1.0	0.7	-9.5	-7.6	-12.6	-7.7
Estonia	n.a.	n.a.	n.a.	n.a.	-7.0	-5.0	-9.0	-12.0	-8.6
Latvia	n.a.	n.a.	n.a.	n.a.	5.5	-0.4	-5.4	-6.1	-11.0
Lithuania	n.a.	n.a.	n.a.	n.a.	-1.3	-10.2	-9.2	-10.3	-12.1
Romania	n.a.	n.a.	n.a.	n.a.	-1.4	-5.0	-7.4	-7.0	-7.0
Slovak Republic	n.a.	n.a.	n.a.	n.a.	4.8	2.3	-11.0	-9.7	-10.0
Slovenia	n.a.	n.a.	n.a.	n.a.	3.8	-0.2	0.2	0.0	0.0
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	1.9	-0.2	-2.7	-7.6	-6.0	-1.8
Hungary	n.a.	n.a.	n.a.	-11.1	-9.8	-5.5	-3.8	-2.1	-3.7
Poland	n.a.	n.a.	n.a.	-5.2	1.1	0.7	-2.4	-4.2	-5.1
Belarus	n.a.	n.a.	1.4	-18.2	-14.5	-7.3	-9.5	-10.7	-6.6
Kazakhstan	n.a.	n.a.	-0.4	-1.8	-5.9	-3.6	-3.6	-4.1	n.a.
Russian Federation	n.a.	n.a.	0.1	0.7	3.3	2.8	2.6	0.6	0.5
Ukraine	n.a.	-0.6	-3.0	-6.1	-4.8	-3.1	-2.7	-2.7	-3.0

p: preliminary ; n.a.: not available.

Source: OECD Secretariat.

Annex Table I.8 **Budget balance**

% GDP

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	-0.36	0.02	0.58	0.62	-0.15	-1.06	-2.02	-1.30	-1.10
Brazil	-5.64	-0.45	-3.94	-9.36	-6.09	n.a.	n.a.	-6.10	-8.00
China	-1.94	-2.27	-2.21	-2.04	-1.86	-1.75	-1.50	-0.80	-1.70
India	-8.11	-5.81	-5.65	-7.47	-5.89	-5.35	-5.19	-4.86	n.a.
South Africa	-4.27	-4.35	-9.52	-10.14	-6.24	-6.01	-5.76	-3.81	n.a.
Albania	-15.40	-20.70	-17.00	-9.30	-11.30	-8.50	-11.10	-11.40	-6.50
Bulgaria	-7.00	-4.30	-6.50	-11.40	-6.00	-6.00	-10.40	-2.80	1.00
Croatia	n.a.	-4.80	-3.80	-0.80	0.60	-0.80	-0.20	-1.40	1.00
Estonia	n.a.	0.42	1.25	-2.08	1.30	-1.30	-1.50	2.00	-0.50
Latvia	n.a.	n.a.	n.a.	n.a.	-1.70	-2.70	-1.20	1.20	0.00
Lithuania	-0.60	-2.80	-1.50	-1.10	-1.80	-1.80	-2.50	-1.80	-1.60
Romania	0.94	1.94	-4.68	-0.47	-5.50	-2.90	-4.90	-3.50	-5.00
Slovak Republic	n.a.	n.a.	n.a.	n.a.	-0.40	0.10	-1.30	-4.40	-5.30
Slovenia	n.a.	n.a.	0.20	0.30	-0.2	-0.2	0.30	-1.10	-1.00
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	0.00	-0.80	-2.20	-1.10	-2.20	-1.60
Hungary	n.a.	n.a.	n.a.	-7.80	-7.50	-6.40	-3.00	-4.90	-4.50
Poland	n.a.	n.a.	n.a.	-4.50	-3.70	-3.00	-4.40	-3.30	-3.10
Belarus[1]	n.a.	n.a.	-2.00	-5.60	-3.60	-2.80	-2.00	-2.10	-2.00
Kazakhstan[1]	n.a.	n.a.	-2.40	-4.00	-2.60	-3.70	-2.60	-3.80	-3.60
Russian Federation[1]	n.a.	n.a.	-16.70	-7.20	-10.60	-5.40	-7.90	-8.40	-4.90
Ukraine[1]	-0.80	-7.10	-24.20	-28.10	-8.70	-4.90	-3.20	-5.60	-2.70

p: preliminary ; n.a.: not available.

1. Definitions can vary across countries and within the same country, across the years.

Source: OECD Secretariat.

Annex Table I.9 **Merchandise trade balance**

mn US$

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	8 628	4 419	-1 396	-2 363	-4 139	2 358	1 761	-2 287	-5 581
Brazil	10 747	10 578	15 239	14 329	10 861	-3 157	-5 554	-8 364	-6 438
China	9 165	8 743	5 183	-10 654	7 290	18 050	19 535	46 222	43 600
India	-5 151	-2 992	-2 911	-2 093	-4 150	-6 719	-10 052	-10 349	n.a.
South Africa	6 782	6 134	5 794	5 850	3 494	1 715	2 330	1 992	1 067
Albania	n.a.	n.a.	-471	-487	-460	-475	-677	-535	-625
Bulgaria	281	734	-546	-1 337	-199	746	-184	27	191
Croatia	-1 168	-536	136	-762	-969	-3 238	-3 651	-5 224	-3 842
Estonia	-455	368	35	-90	-352	-706	-1 147	-1 507	-1 545
Latvia	n.a.	n.a.	46	54	-252	-508	-877	-1 051	-1 377
Lithuania	n.a.	n.a.	250	-250	-325	-943	-1 202	-1 781	-2 085
Romania	-3 427	-1 106	-1 421	-1 128	-411	-1 577	-2 471	-1 980	-2 693
Slovak Republic	n.a.	-415	-143	-811	80	-192	-2 289	-1 472	-2 299
Slovenia	n.a.	n.a.	789	-154	-338	-954	-882	-772	-772
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	173	-895	-3 929	-5 753	-4 442	-2 468
Hungary	n.a.	n.a.	-383	-3 597	-4 169	-2 599	-3 064	-2 134	-1 600
Poland	n.a.	n.a.	-2 727	-4 703	-4 372	-6 059	-12 682	-16 530	-12 300
Belarus	n.a.	n.a.	85	-528	-490	-666	-1 149	-1 335	n.a.
Kazakhstan	n.a.	n.a.	n.a.	n.a.	-331	-222	-335	-385	n.a.
Russian Federation[1]	n.a.	n.a.	5 392	17 490	28 201	33 160	41 391	33 159	27 677
Ukraine	n.a.	1 994	-622	-2 519	-2 575	-2 702	-4 296	-4 205	-2 584

p: preliminary ; n.a.: not available.

1. Custom statistics, excluding non-organized trade.

Source: IMF statistics, OECD Secretariat.

Annex Table I.10 **Foreign Direct Investment**

mn US$

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	1 836	2 439	4 013	2 515	3 117	4 783	5 090	6 645	n.a.
Brazil	989	1 103	2 061	1 292	3 072	4 859	11 200	19 652	n.a.
China	3 487	4 366	11 156	27 515	33 787	35 849	40 180	44 236	n.a.
India	162	74	277	550	973	2 144	2 426	3 351	n.a.
South Africa	-5	219	-41	-17	334	993	758	1 725	n.a.
Albania	0	0	20	58	53	70	90	48	n.a.
Bulgaria	4	56	42	40	105	90	109	498	n.a.
Croatia	n.a.	n.a.	n.a.	96	113	101	533	388	463
Estonia	n.a.	n.a.	82	162	214	202	150	266	548
Latvia	n.a.	n.a.	29	45	214	180	382	521	n.a.
Lithuania	n.a.	n.a.	0	30	31	73	152	355	n.a.
Romania	0	40	77	94	341	419	263	1 215	n.a.
Slovak Republic	0	0	0	199	203	183	281	165	n.a.
Slovenia	n.a.	n.a.	111	113	128	176	185	321	n.a.
OECD member countries									
Czech Republic	207	600	1 103	654	878	2 568	1 435	1 302	2 543
Hungary	0	1 462	1 479	2 350	1 144	4 519	1 982	2 079	n.a.
Poland	89	291	678	1 715	1 875	3 659	4 498	4 908	n.a.
Belarus	n.a.	n.a.	n.a.	18	11	15	73	200	n.a.
Kazakhstan	n.a.	n.a.	n.a.	n.a.	n.a.	964	1 137	1 321	n.a.
Russian Federation	0	0	0	0	638	2 016	2 478	6 241	n.a.
Ukraine	n.a.	n.a.	0	0	159	267	521	623	n.a.

p: preliminary ; n.a.: not available.

Source: IMF statistics, OECD Secretariat.

Part II

BASIC AGRICULTURAL INDICATORS

Annex Table II.1 **Share of agriculture in GDP**

per cent

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	8.12	6.72	5.99	6.69	6.44	7.04	6.92	6.58	7.90
Brazil	8.10	7.79	7.72	7.56	9.85	9.01	7.98	8.09	9.00
China	27.05	24.46	21.77	19.87	20.23	20.51	20.39	18.68	18.00
India	30.97	31.26	30.60	30.52	29.85	27.52	26.98	28.00	27.00
South Africa	5.28	5.10	4.16	4.51	5.14	4.36	4.85	4.50	4.10
Albania	37.00	42.50	54.20	54.60	55.10	55.90	55.40	62.60	59.70
Bulgaria	18.00	15.30	11.30	9.60	11.20	12.50	11.10	18.80	n.a.
Croatia	10.05	11.40	14.50	9.96	9.58	9.48	9.23	9.30	n.a.
Estonia	13.90	15.00	11.90	9.30	8.50	5.50	5.20	4.40	4.00
Latvia	21.10	21.91	17.20	10.30	8.40	8.90	7.60	6.90	5.70
Lithuania	27.60	19.20	11.50	10.50	7.50	8.50	11.80	12.00	10.00
Romania	21.20	18.30	18.60	20.60	19.30	19.40	18.70	18.50	19.00
Slovak Republic	7.40	5.70	5.30	5.90	6.64	5.10	4.70	4.40	3.99
Slovenia	4.20	4.49	4.42	4.12	4.08	3.97	3.92	3.70	3.59
OECD member countries									
Czech Republic	6.30	n.a.	n.a.	n.a.	3.10	3.10	3.00	3.00	-2.00
Hungary	14.54	8.91	7.52	6.83	7.05	7.06	6.89	6.04	n.a.
Poland	8.26	6.65	6.60	6.60	6.11	6.10	6.00	n.a.	n.a.
Belarus	23.00	20.10	22.40	16.80	13.10	15.20	13.40	11.50	10.80
Kazakhstan	33.90	29.30	23.10	16.40	15.00	12.30	12.20	11.50	9.00 [1]
Russian Federation	16.50	14.20	7.30	8.10	6.30	7.60	7.30	7.20	6.50
Ukraine	25.40	22.20	20.80	21.50	15.30	14.60	13.10	13.70	13.5

p: preliminary ; n.a.: not available.

1. Estimate.

Source : OECD Secretariat.

Annex Table II.2 **Share of agriculture in total employment**

per cent

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	n.a.	n.a.	n.a.	6.00	n.a.	n.a.	n.a.	n.a.	n.a.
Brazil	n.a.	n.a.	28.30	27.40	n.a.	26.10	24.50	25.00 [p]	25.00
China [2]	53.50	53.90	53.10	51.20	49.70	48.60	47.80	47.40	n.a.
India	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
South Africa	n.a.	n.a.	n.a.	n.a.	13.20	n.a.	n.a.	n.a.	n.a.
Albania	n.a.	n.a.	68.00	71.00	64.50	64.60	64.50	64.50	64.00
Bulgaria	17.90	19.10	20.70	21.70	22.80	23.80	24.20	23.30	n.a.
Croatia [4]	15.18	15.97	14.91	14.50	14.18	13.02	12.40	11.30	10.00
Estonia	12.00	13.20	14.20	15.30	12.90	8.50	8.10	8.00	7.00
Latvia [1]	15.50	15.70	19.50	18.90	18.60	18.00	17.80	16.60	16.83
Lithuania	17.80	18.80	19.50	21.60	22.40	22.80	22.50	21.50	21.40
Romania	28.20	28.90	32.10	35.20	35.60	33.60	37.30	39.70	35.60
Slovak Republic [1]	12.00	12.60	11.80	12.00	10.20	9.40	9.00	8.90	n.a.
Slovenia [1]	n.a.	8.40	7.74	7.51	6.91	6.36	5.84	5.63	5.60
OECD member countries									
Czech Republic	9.60	n.a.	7.68	7.80	5.10	4.40	4.30	4.30	4.20
Hungary [1]	17.90	n.a.	11.27	9.12	8.80	8.5	7.9	8.10	n.a.
Poland [3]	26.40	n.a.	25.03	24.85	25.90	25.00	25.70	n.a.	n.a.
Belarus [2]	19.10	18.70	20.00	19.60	19.00	19.10	17.40	17.00	17.00
Kazakhstan [2]	22.60	23.20	24.20	19.70	22.10	21.30	20.10	23.60	24.20
Russian Federation [2]	12.90	13.10	14.00	14.30	15.00	14.70	14.00	13.30	12.70
Ukraine [2]	19.50	19.10	20.10	20.40	20.60	22.20	21.40	21.80	22.10

p: preliminary ; n.a.: not available.

1. Includes Agriculture, forestry, hunting and fishing.
2. Includes Agriculture, forestry and fishing.
3. Includes Agriculture, forestry and hunting.
4. Includes Agriculture, hunting and fishing.

Annex Table II.3 **Share of agriculture and food exports in total exports**

per cent

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	56.5	59.0	57.2	50.5	48.9	47.9	40.6	48.8	51.6
Brazil	27.9	25.2	25.4	24.5	28.5	28.7	30.0	31.0	n.a.
China	19.8	19.7	17.3	16.1	14.2	11.2	9.5	7.3	n.a.
India	16.8	15.5	14.7	15.2	12.7	17.6	17.3	14.5	n.a.
South Africa	8.1	7.9	7.5	6.5	8.5	7.9	8.4	8.1	9.6
Albania	n.a.	n.a.	n.a.	n.a.	24.1	19.3	16.5	13.1	14.7
Bulgaria	15.1	21.9	25.8	20.5	23.0	17.5	18.2	10.0	8.4
Croatia	7.7	9.1	13.1	12.7	11.7	11.4	12.0	13.1	11.8
Estonia	n.a.	n.a.	15.7	23.5	22.0	16.4	15.8	16.5	15.9
Latvia	n.a.	n.a.	10.6	16.9	12.8	16.6	16.9	14.5	10.8
Lithuania	n.a.	n.a.	n.a.	n.a.	24.1	18.3	17.1	16.0	14.1
Romania	1.4	6.1	6.6	6.7	6.5	6.7	8.4	7.1	5.3
Slovak Republic	n.a.	8.0	8.0	6.3	6.0	6.3	4.8	5.0	4.3
Slovenia	n.a.	n.a.	8.1	6.2	6.3	5.1	5.3	5.2	4.7
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	8.6	7.5	7.6	5.7	5.5	4.9
Hungary	n.a.	n.a.	24.9	22.4	21.6	22.5	20.9	15.0	n.a.
Poland	n.a.	n.a.	14.7	11.6	12.1	10.9	11.3	12.9	n.a.
Belarus	n.a.	n.a.	4.9	5.4	9.5	7.8	9.7	9.3	9.4
Kazakhstan	n.a.	n.a.	n.a.	4.0	6.2	10.3	12.1	12.6	n.a.
Russian Federation [1,2]	2.1	2.6	3.9	3.8	4.2	3.3	3.7	2.9	n.a.
Ukraine	n.a.	n.a.	n.a.	n.a.	10.5	20.7	21.2	12.7	10.9

p: preliminary ; n.a.: not available.

1. State Statistics Comitee of the Russian Federation (Goskomstat) estimations, including non-organized trade.

2. Between 1990 and 1993, the shares relate to trade with the non-NIS ("far abroad") only.

Source : OECD Secretariat.

Annex Table II.4 **Share of agriculture and food imports in total imports**

per cent

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	6.1	6.1	6.9	6.3	6.0	6.4	5.9	5.8	5.4
Brazil	11.0	13.1	11.7	13.1	13.3	12.6	11.8	10.7	n.a.
China	23.1	18.8	15.2	9.9	13.0	16.6	13.3	11.7	n.a.
India	4.6	3.5	5.9	4.3	7.4	5.9	5.0	6.6	n.a.
South Africa	5.9	5.9	9.5	7.4	7.2	7.5	7.2	7.0	6.3
Albania	n.a.	n.a.	n.a.	n.a.	27.2	36.4	48.0	20.6	25.4
Bulgaria	4.3	7.2	8.4	8.2	11.0	7.1	7.3	5.6	5.3
Croatia	17.0	11.7	13.8	9.9	12.2	12.1	11.5	10.9	10.3
Estonia	n.a.	n.a.	9.0	14.7	15.9	14.2	15.5	16.4	16.9
Latvia	n.a.	n.a.	7.5	7.3	10.7	10.4	13.4	13.9	13.3
Lithuania	n.a.	n.a.	n.a.	n.a.	10.0	13.4	13.1	11.1	11.2
Romania	13.2	14.6	17.2	16.1	10.1	9.4	7.2	6.7	8.4
Slovak Republic	n.a.	4.8	5.2	9.5	9.4	8.5	7.4	8.1	6.9
Slovenia	n.a.	n.a.	11.7	10.9	11.3	10.2	10.0	9.7	9.6
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	8.3	9.2	8.4	7.4	7.0	6.6
Hungary	n.a.	n.a.	6.2	6.4	7.6	6.3	5.8	5.2	n.a.
Poland	n.a.	n.a.	12.4	11.9	11.2	10.3	10.8	8.9	n.a.
Belarus	n.a.	n.a.	11.0	13.6	16.5	12.0	13.6	13.4	13.2
Kazakhstan	n.a.	n.a.	n.a.	7.0	10.1	10.5	13.2	14.1	n.a.
Russian Federation [1,2]	20.3	27.9	26.0	22.2	27.7	28.2	25.0	26.3	26.2
Ukraine	n.a.	n.a.	n.a.	n.a.	3.4	7.6	7.8	5.2	7.2

p: preliminary ; n.a.: not available.

1. State Statistics Comitee of the Russian Federation (Goskomstat) estimations, including non-organized trade.

2. Between 1990 and 1993, the shares relate to trade with the non-NIS ("far abroad") only.

Source : OECD Secretariat.

Annex Table II.5 **Average share of household income spent on food**

per cent

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	56	49	55	53	44	45	45	45	45
Brazil	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
India	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
South Africa	n.a.	n.a.	n.a.	n.a.	n.a.	16	n.a.	n.a.	n.a.
Albania	63	63	n.a	72	n.a.	72	70-75	70-75	70-75
Bulgaria	36	47	43	43	45	46	48	54	50
Croatia	40	40	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	28	36	35	32	30	33	33	39	39
Latvia	29	38	48	44	43	44	51	47	44
Lithuania	34	38	60	62	57	57	55	52	48
Romania	53	55	60	62	64	57	58	59	59
Slovak Republic	34	37	36	36	38	37	37	37	37
Slovenia	25	26	26	23	26	23	23	23	22
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	n.a.	n.a.	26	25	24	n.a.
Hungary	25	22	n.a.	n.a.	22	20	n.a.	n.a.	n.a.
Poland	37	32	n.a.	n.a.	30	28	n.a.	n.a.	n.a.
Belarus	44	42	39	49	61	67	68	61	64
Kazakhstan	n.a.	n.a.	n.a.	n.a.	47	47	49	45	n.a.
Russian Federation	36	38	47	46	47	49	50	46	n.a.
Ukraine	36	41	42	60	66	58	62	62	63

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table II.6 **Gross Agricultural Output, total**

per cent change from previous year

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	9.41	3.09	0.00	-2.95	7.49	6.08	2.27	1.17	4.68
Brazil	-4.42	3.92	4.09	0.86	4.37	3.20	3.95	4.24	1.16
China	7.72	3.83	4.97	9.07	6.23	6.77	5.28	6.40	-0.39
India	0.32	1.65	4.07	3.09	3.50	3.62	2.71	-1.50	5.00
South Africa	-4.16	1.78	-14.72	11.73	4.21	-13.90	19.58	-2.70	2.30
Albania	-2.00	-17.40	17.10	18.60	8.30	13.20	3.30	1.00	6.00
Bulgaria	-6.60	4.50	-12.90	-18.30	6.80	15.40	-13.10	30.20	-6.20
Croatia	-3.00	-5.00	-5.00	-5.00	-3.00	0.70	1.20	2.10	-1.40
Estonia	-13.10	-5.80	-19.50	-12.20	-12.90	-0.90	-6.30	-1.50	-0.50
Latvia	-10.20	-3.90	-15.60	-22.20	-20.60	-6.00	-7.40	-2.40	-4.00
Lithuania	-4.42	-5.76	-23.45	-5.41	-20.18	6.04	10.32	6.45	-3.33
Romania	-2.90	0.80	-13.30	10.20	0.20	4.50	1.80	1.60	-7.60
Slovak Republic	-7.10	-7.00	-12.80	-7.20	9.30	2.10	4.10	-0.80	-0.80
Slovenia	3.50	0.40	-5.50	-1.00	9.10	1.30	1.10	-2.60	-1.50 [1]
OECD member countries									
Czech Republic	-2.30	-8.90	-12.10	-2.30	-6.00	5.30	-0.90	-5.90	-1.30
Hungary	-4.70	-6.20	-20.00	-9.70	3.20	2.60	4.90	-0.60	-0.26
Poland	-5.50	-1.60	-10.70	8.00	-10.80	16.30	-8.90	-0.70	3.80
Belarus	n.a.	-5.00	-9.00	4.00	-14.00	-5.00	2.00	-5.00	-0.40
Kazakhstan	n.a.	-10.00	1.00	-5.00	-20.00	-23.00	-10.00	-0.80	-19.00
Russian Federation	-3.60	-5.00	-9.00	-4.00	-12.00	-8.00	-7.00	2.00	-12.30
Ukraine	n.a.	-13.20	-8.30	1.50	-16.50	-5.60	-9.50	-1.90	-8.30

p: preliminary ; n.a.: not available.

1. Estimate.

Source : OECD Secretariat.

Annex Table II.7 **Gross Agricultural Output, crops**

per cent change from previous year

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	18.85	5.27	2.41	-5.41	10.02	8.14	6.43	3.03	9.50
Brazil	-8.90	1.02	7.45	-1.13	8.15	2.20	-0.37	4.08	-0.19
China	7.47	1.41	3.05	7.56	2.57	6.94	8.37	1.77	-2.57
India	-1.40	1.61	3.87	2.82	3.68	3.56	2.14	-6.00	4.00
South Africa	-11.27	1.92	-29.64	38.59	13.58	-23.20	34.69	-4.13	-12.02
Albania	-6.60	-29.20	35.90	11.90	-2.10	13.30	4.40	2.00	5.80
Bulgaria	-7.40	18.60	-12.80	-27.40	21.00	20.30	-29.60	38.30	-5.00
Croatia	-2.00	-4.30	-4.30	-4.30	0.00	5.80	1.30	5.50	4.50
Estonia	-24.80	-2.00	-11.90	-3.80	-15.20	7.80	-4.30	-2.00	-1.50
Latvia	-19.30	5.00	-10.50	-1.10	-23.70	-7.00	-6.10	-3.30	-8.00
Lithuania	-7.11	2.59	-33.47	26.97	-28.04	16.25	21.68	6.80	-5.30
Romania	-7.20	4.20	-14.80	14.60	0.30	5.40	1.90	*16.80*	*-18.30*
Slovak Republic	-11.60	5.30	-13.40	-5.10	19.10	1.90	5.70	0.40	13.42
Slovenia	10.00	-0.70	-21.00	2.70	26.00	-2.10	3.40	-1.00	2.00 [1]
OECD member countries									
Czech Republic	-0.70	-3.00	-17.00	4.60	-7.20	4.20	-4.20	-2.90	-0.10
Hungary	-9.30	4.00	-25.70	-9.20	9.70	1.90	9.50	26.46	-1.20
Poland	-4.90	-4.60	-24.80	47.70	-23.80	27.60	-1.70	0.33	11.30
Belarus	n.a.	6.00	0.00	13.00	-23.00	2.00	7.00	-12.00	-8.90
Kazakhstan	n.a.	-20.00	19.00	-12.00	-22.50	-24.90	2.20	5.60	-29.50
Russian Federation	-7.50	0.40	-5.00	-3.00	-10.00	-5.00	0.30	7.30	-23.50
Ukraine	n.a.	-16.80	0.60	10.80	-22.70	2.80	-8.70	6.00	-14.90

p: preliminary ; n.a.: not available.

1. Estimate.

Source : OECD Secretariat.

Annex Table II.8 **Gross Agricultural Output, Livestock**

per cent change from previous year

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	-0.47	-0.29	-1.08	2.33	3.77	1.71	-4.35	0.15	4.40
Brazil	1.59	8.30	2.25	3.05	0.73	5.75	6.57	4.70	2.55
China	8.61	10.77	9.10	11.94	12.70	9.71	3.43	10.58	3.56
India	6.04	2.02	3.81	4.15	3.07	3.83	4.07	3.14	0.08
South Africa	4.92	1.89	2.71	-7.35	-7.03	0.45	-1.06	0.97	18.04
Albania	10.90	-0.80	7.40	27.60	19.60	11.70	3.00	-2.00	6.00
Bulgaria	-4.60	-18.60	-10.70	-7.80	-7.50	11.80	-2.60	0.70	-0.10
Croatia	-5.00	-10.30	-10.30	-10.30	-2.10	-7.20	1.00	-11.90	-14.10
Estonia	-8.00	-10.60	-19.60	-18.10	-11.00	-5.90	-8.20	-1.00	1.00
Latvia	-5.50	-8.00	-17.40	-34.20	-18.00	-4.90	-12.80	-5.70	-2.00
Lithuania	-3.28	-10.99	-15.11	-26.90	-11.15	-2.72	-2.80	5.97	-3.13
Romania	2.20	-3.80	-10.50	4.20	0.00	3.00	1.70	-4.80	-0.40
Slovak Republic	-3.80	-16.00	-12.20	-9.20	0.00	2.20	2.20	-1.80	-15.83
Slovenia	-1.60	1.50	-7.20	-3.00	2.60	2.80	0.20	-3.40	-2.50 [1]
OECD member countries									
Czech Republic	-3.50	-13.20	-8.10	-7.30	-4.90	6.10	1.40	-8.40	-2.30
Hungary	-0.20	-15.60	-12.60	-10.40	-4.2	3.40	-1.00	-5.26	1.40
Poland	-5.80	-0.10	-4.00	-11.50	-0.40	8.00	3.39	0.73	-2.10
Belarus	n.a.	-11.00	-14.00	-4.00	-6.00	-10.00	-1.00	5.80	5.90
Kazakhstan	n.a.	-4.00	-9.00	-0.50	-14.00	-24.30	-18.70	-9.90	-4.80
Russian Federation	-0.90	-7.00	-12.00	-5.00	-13.00	-10.00	-11.00	-5.30	-0.90
Ukraine	n.a.	-9.60	-16.50	-8.90	-8.50	-10.90	-10.40	-12.30	2.30

p: preliminary ; n.a.: not available.

1. Estimate.

Source : OECD Secretariat.

Annex Table II.9 **Agricultural input price index**

Previous year=100

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Brazil	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
China	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
India	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
South Africa	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Albania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	n.a.	602	153	137	172	n.a.	n.a.	n.a.	n.a.
Croatia	785	216	816	2 375	184	93	100	103	n.a.
Estonia	n.a.	228	881	145	137	140	128	115	113
Latvia	n.a.	n.a.	n.a.	n.a.	140	115	113	113	102
Lithuania	n.a.	240	1 779	511	136	119	124	102	94
Romania	n.a.	1 702	162	239	204	138	168	238	149
Slovak Republic	104	170	105	118	110	109	104	110	104
Slovenia	n.a.	n.a.	n.a.	n.a.	121	103	128	108	108
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	100	108	113	124	138	136
Hungary	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Belarus	n.a.	1 367	1 033	1 591	102	102	219	156	159
Kazakhstan	n.a.	n.a.	1 292	1 828	2 936	292	166	n.a.	n.a.
Russian Federation	n.a.	190	1 620	1 070	420	320	164	112	118
Ukraine	n.a.	160	3 869	5 623	829	569	171	112	111

p: preliminary ; n.a.: not available.
Source : OECD Secretariat.

Annex Table II.10 **Agricultural output price index**

Previous year=100

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	1 655	208	123	124	101	104	102	100	n.a.
Brazil	2 294	508	1 012	2 131	2 968	163	103	112	n.a.
China	111	103	105	113	132	121	110	97	n.a.
India	112	120	105	112	110	110	104	107	n.a.
South Africa	106	104	125	98	143	114	102	107	102
Albania	100	136	348	215	137	110	115	130	n.a.
Bulgaria	193	273	137	158	153	143	246	1 246	107
Croatia	628	182	914	1 377	198	102	103	104	n.a.
Estonia	n.a.	n.a.	880	145	137	107	131	99	90
Latvia	127	250	726	118	138	115	113	89	96
Lithuania	n.a.	229	670	465	119	150	124	95	93
Romania	n.a.	642	218	315	223	128	155	190	121
Slovak Republic	100	104	106	115	111	103	105	106	100
Slovenia	559	208	314	119	125	113	111	107	106
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	n.a.	106	108	108	103	102
Hungary	116	81	117	118	128	124	116	111	n.a.
Poland	315	114	156	128	147	129	n.a.	n.a.	n.a.
Belarus	n.a.	1 600	834	1 228	104	104	225	147	161
Kazakhstan	n.a.	200	1 000	785	1 888	257	161	110	92
Russian Federation	n.a.	160	940	810	300	330	144	109	141
Ukraine	n.a.	190	1 874	3 955	665	441	164	110	110

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table II.11 **Retail food price index**

Previous year=100

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	2 229	261	130	110	101	103	100	99	n.a.
Brazil	2 728	495	1 075	2 049	2 380	158	106	n.a.	n.a.
China	101	102	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
India	109	116	113	106	112	112	108	106	n.a.
South Africa	116	120	125	107	114	109	106	109	n.a.
Albania	n.a.	211	221	187	115	107	115	136	n.a.
Bulgaria	n.a.	476	171	156	191	159	221	711	95
Croatia	608	228	841	1 542	193	100	105	104	n.a.
Estonia	n.a.	n.a.	153	134	136	116	118	106	105
Latvia	n.a.	n.a.	n.a.	n.a.	134	116	113	102	101
Lithuania	n.a.	375	1 187	521	160	140	128	106	100
Romania	n.a.	286	337	349	236	132	136	246	126
Slovak Republic	111	148	107	121	116	112	104	103	106
Slovenia	617	213	306	126	123	116	109	109	107
OECD member countries									
Czech Republic	n.a.	n.a.	109	171	100	110	108	105	105
Hungary	135	122	119	129	123	131	117	118	n.a.
Poland	633	151	137	132	133	127	119	113	n.a.
Belarus	n.a.	285	1 180	1 521	2 470	760	150	170	180
Kazakhstan	n.a.	200	2 150	2 307	1 157	159	116	106	104
Russian Federation	n.a.	110	2 630	900	310	220	118	109	n.a.
Ukraine	n.a.	431	1 792	12 177	473	250	n.a.	n.a.	n.a.

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Part III

PRODUCTION AND CONSUMPTION

Annex Table III.1 **Total grain production**

thousand tonnes

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	20 079	21 591	25 444	25 097	25 649	24 209	30 507	35 552	34 754
Brazil	32 469	36 803	44 068	42 981	45 777	49 615	46 374	47 316	41 670
China	404 388	398 426	404 234	407 972	396 497	418 701	453 812	445 765	447 135
India	193 919	193 101	201 672	208 097	212 954	214 359	217 487	225 274	219 444
South Africa	11 082	11 290	4 880	12 793	15 967	7 492	13 650	13 076	9 586
Albania	860	431	415	648	626	631	497	602	618
Bulgaria	8 216	9 072	6 644	5 717	6 462	6 572	3 581	6 218	5 388
Croatia	3 827	4 138	2 174	2 732	2 594	2 758	2 756	3 175	3 258
Estonia	958	939	599	811	512	520	643	668	538
Latvia	1 622	1 336	1 152	1 235	901	694	969	1 043	970
Lithuania	3 265	3 348	2 225	2 708	2 136	1 954	2 703	3 052	2 821
Romania	17 174	19 307	12 289	15 493	18 184	19 883	14 200	20 037	14 981
Slovak Republic	3 617	4 004	3 552	3 152	3 701	3 490	3 322	3 741	3 553
Slovenia	577	558	365	419	526	508	487	542	556
OECD member countries									
Czech Republic	8 947	7 845	6 565	6 600	7 210	6 602	6 644	6 983	6 669
Hungary	12 462	15 666	9 864	8 412	11 517	10 626	11 066	13 723	12 677
Poland	28 014	27 811	19 962	23 417	21 800	25 905	25 298	25 400	26 955
CEECs region	***89 538***	***94 454***	***65 805***	***71 344***	***76 167***	***80 143***	***72 165***	***85 185***	***78 984***
Belarus	7 035	6 296	7 230	7 508	6 095	5 502	5 792	6 420	4 830
Kazakhstan	28 488	11 992	29 772	21 631	16 454	9 506	11 237	12 378	6 416
Russian Federation	116 676	89 094	106 855	99 094	81 297	63 406	69 341	88 553	47 770
Ukraine	51 009	38 674	38 537	45 623	35 497	33 930	24 536	35 472	26 471
NIS region	***203 208***	***146 056***	***182 394***	***173 856***	***139 343***	***112 344***	***110 906***	***142 823***	***85 487***

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.2 **Wheat production**

thousand tonnes

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	10 992	9 884	9 874	9 659	11 306	9 445	15 914	14 733	10 000
Brazil	3 093	2 921	2 796	2 153	2 092	1 534	3 359	2 441	2 493
China	98 232	95 954	101 591	106 395	99 301	102 211	110 569	123 290	110 000
India	49 850	55 134	55 690	57 210	59 840	65 767	62 097	69 275	70 000
South Africa	1 709	2 142	1 324	1 984	1 840	1 977	2 712	2 294	1 500
Albania	613	298	252	465	420	405	271	388	403
Bulgaria	5 292	4 497	3 443	3 618	3 754	3 438	1 788	3 556	3 203
Croatia	1 602	1 496	658	887	750	877	741	833	1 020
Estonia	65	62	89	106	57	77	101	111	111
Latvia	372	190	332	338	199	244	357	395	386
Lithuania	1 184	855	834	891	549	637	936	1 127	1 031
Romania	7 289	5 473	3 206	5 314	6 135	7 667	3 144	6 643	4 804
Slovak Republic	2 083	2 124	1 697	1 529	2 145	1 938	1 713	1 886	1 841
Slovenia	200	181	153	143	155	156	137	139	169
OECD member countries									
Czech Republic	4 624	4 081	3 413	3 370	3 898	3 823	3 727	3 640	3 845
Hungary	6 198	6 008	3 453	3 021	4 874	4 614	3 910	5 258	4 974
Poland	9 026	9 270	7 368	8 243	7 658	8 668	8 576	8 193	9 536
CEECs region	***38 548***	***34 535***	***24 899***	***27 924***	***30 595***	***32 543***	***25 401***	***32 169***	***31 323***
Belarus	381	242	330	354	230	439	600	744	917
Kazakhstan	16 197	6 889	18 285	11 585	9 052	6 490	7 673	8 955	4 733
Russian Federation	49 596	38 899	46 166	43 547	32 129	30 119	34 883	44 258	26 908
Ukraine	30 374	21 155	19 507	21 831	13 857	16 273	13 535	18 404	14 937
NIS region	***96 548***	***67 185***	***84 288***	***77 317***	***55 268***	***53 321***	***56 691***	***72 361***	***47 495***

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.3 **Coarse grain production**

thousand tonnes

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	8 659	11 360	14 869	14 830	13 357	13 838	13 607	19 614	23 774
Brazil	21 957	24 386	31 310	30 685	33 185	36 855	33 025	35 581	31 403
China	114 567	116 818	114 385	121 789	119 164	129 155	146 168	119 773	144 163
India	32 552	25 924	36 981	30 287	31 554	29 150	33 410	30 736	30 370
South Africa	9 370	9 145	3 553	10 807	14 123	5 512	10 936	10 779	8 083
Albania	247	133	163	183	206	226	226	214	215
Bulgaria	2 817	4 464	3 114	2 160	3 018	3 200	1 746	2 592	1 926
Croatia	2 225	2 642	1 516	1 845	1 844	1 881	2 015	2 342	2 238
Estonia	892	878	509	706	454	443	542	556	428
Latvia	1 250	1 145	820	897	701	450	586	610	582
Lithuania	2 081	2 493	1 391	1 817	1 588	1 317	1 767	1 924	1 790
Romania	9 818	13 802	9 043	10 143	12 033	12 192	11 033	13 385	10 172
Slovak Republic	1 535	1 880	1 855	1 623	1 556	1 552	1 609	1 855	1 711
Slovenia	378	377	212	276	370	353	349	403	387
OECD member countries									
Czech Republic	4 323	3 764	3 152	3 230	3 312	2 779	2 917	3 343	2 824
Hungary	6 264	9 658	6 411	5 391	6 643	6 026	7 156	8 465	7 703
Poland	18 990	18 541	12 595	15 180	14 114	17 249	16 717	17 208	16 961
CEECs region	***50 819***	***59 777***	***40 781***	***43 451***	***45 841***	***47 668***	***46 662***	***52 898***	***46 936***
Belarus	6 366	5 754	6 719	6 861	5 637	4 746	4 695	4 969	3 616
Kazakhstan	10 392	4 126	10 131	9 141	6 817	2 659	3 206	3 031	1 710
Russian Federation	58 443	45 154	54 271	50 006	44 692	30 184	31 301	40 304	18 608
Ukraine	16 469	14 721	15 361	19 995	18 375	15 349	9 388	15 157	10 052
NIS region	***91 670***	***69 755***	***86 482***	***86 003***	***75 521***	***52 938***	***48 590***	***63 461***	***33 986***

p: preliminary ; n.a.: not available.
Source : OECD Secretariat.

Annex Table III.4 **Total meat production**

thousand tonnes, carcass weight

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	3 290	3 346	3 317	3 409	3 426	3 415	3 265	3 234	3 142
Brazil	7 709	8 460	8 712	9 184	9 420	10 082	10 777	11 403	11 700
China	30 073	33 055	35 970	40 133	44 315	47 853	47 901	53 229	55 141
India	3 830	3 921	4 072	4 243	4 330	4 391	4 451	4 553	4 569
South Africa	1 344	1 381	1 416	1 331	1 227	1 214	1 222	1 212	1 404
Albania	50	45	48	50	59	62	57	58	63
Bulgaria	791	659	650	565	447	481	505	450	450
Croatia	214	148	157	148	146	131	128	125	108
Estonia	182	152	108	84	69	68	59	53	58
Latvia	309	296	246	192	136	123	76	71	71
Lithuania	530	450	415	276	224	208	199	201	187
Romania	1 572	1 544	1 402	1 333	1 297	1 188	1 211	1 167	1 034
Slovak Republic	502	447	409	382	347	344	364	397	360
Slovenia	188	183	156	164	158	161	171	167	164
OECD member countries									
Czech Republic	975	947	879	831	754	766	804	779	783
Hungary	1 625	1 448	1 246	1 096	995	1 039	1 138	1 014	988
Poland	3 113	3 150	3 037	2 799	2 522	2 847	2 957	2 834	2 928
CEECs region	***10 050***	***9 470***	***8 754***	***7 920***	***7 153***	***7 416***	***7 669***	***7 316***	***7 193***
Belarus	1 181	1 065	950	820	743	657	623	625	663
Kazakhstan	1 560	1 524	1 258	1 312	1 207	985	855	718	646
Russian Federation	10 112	9 375	8 260	7 513	6 803	5 796	5 336	4 854	4 611
Ukraine	4 358	4 029	3 401	2 815	2 677	2 294	2 113	1 875	1 706
NIS region	***17 211***	***15 993***	***13 869***	***12 459***	***11 430***	***9 732***	***8 927***	***8 072***	***7 626***

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.5 **Beef and veal production**

thousand tonnes, carcass weight

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	2 595	2 607	2 491	2 508	2 484	2 453	2 374	2 336	2 250
Brazil	4 115	4 480	4 420	4 565	4 475	4 750	4 960	5 150	5 230
China	1 104	1 358	1 617	2 106	2 504	3 269	3 311	3 929	4 084
India	1 325	1 228	1 279	1 356	1 361	1 365	1 370	1 378	1 378
South Africa	661	700	745	651	554	521	480	490	676
Albania	22	21	24	25	29	31	33	33	38
Bulgaria	126	115	154	122	99	71	80	67	67
Croatia	76	49	58	52	48	42	40	35	26
Estonia	63	52	45	43	31	26	22	19	19
Latvia	125	132	120	107	68	48	27	26	26
Lithuania	231	209	226	162	116	87	83	90	90
Romania	310	311	245	238	239	192	178	186	168
Slovak Republic	111	108	90	92	66	58	60	63	56
Slovenia	55	51	54	54	49	46	52	54	50
OECD member countries									
Czech Republic	266	299	218	203	163	169	163	154	128
Hungary	141	149	147	107	83	72	78	64	62
Poland	856	710	546	458	422	419	435	482	508
CEECs region	***2 382***	***2 206***	***1 927***	***1 662***	***1 413***	***1 261***	***1 250***	***1 272***	***1 237***
Belarus	586	530	495	411	384	316	277	275	283
Kazakhstan	710	724	596	662	642	548	463	397	349
Russian Federation	4 329	3 989	3 632	3 359	3 240	2 733	2 630	2 338	2 213
Ukraine	1 985	1 878	1 656	1 379	1 427	1 186	1 048	930	793
NIS region	***7 611***	***7 120***	***6 379***	***5 811***	***5 693***	***4 783***	***4 418***	***3 940***	***3 638***

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.6 **Pigmeat production**

thousand tonnes, carcass weight

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	141	142	157	177	181	163	129	119	119
Brazil	1 050	1 150	1 200	1 250	1 300	1 430	1 516	1 540	1 603
China	23 820	25 649	27 479	29 679	32 439	33 233	32 849	35 673	36 930
India	353	368	382	396	411	420	435	452	469
South Africa	130	123	114	126	113	121	129	119	122
Albania	9	6	8	9	9	9	4	5	5
Bulgaria	408	362	319	277	214	258	267	225	225
Croatia	132	96	96	93	94	86	85	86	82
Estonia	95	75	50	35	30	35	32	30	30
Latvia	138	126	101	68	54	63	40	37	36
Lithuania	241	194	155	90	82	93	89	87	74
Romania	758	802	758	732	746	662	683	668	643
Slovak Republic	304	266	254	238	235	233	239	236	221
Slovenia	57	56	55	60	61	59	60	53	53
OECD member countries									
Czech Republic	548	490	525	504	465	462	507	483	475
Hungary	1 032	946	758	666	599	569	668	578	560
Poland	1 841	2 011	2 069	1 975	1 736	2 008	2 072	1 895	2 067
CEECs region	***5 562***	***5 431***	***5 147***	***4 747***	***4 326***	***4 536***	***4 744***	***4 381***	***4 472***
Belarus	438	382	323	284	252	263	273	272	279
Kazakhstan	275	274	217	194	158	113	110	68	54
Russian Federation	3 480	3 190	2 784	2 432	2 103	1 865	1 705	1 565	1 491
Ukraine	1 576	1 421	1 180	1 013	916	807	789	710	668
NIS region	***5 770***	***5 267***	***4 504***	***3 923***	***3 429***	***3 048***	***2 877***	***2 615***	***2 492***

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.7 **Milk production**

mn tonnes

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	6.28	6.12	6.80	7.22	8.02	8.79	8.95	9.40	9.75
Brazil	15.08	15.69	16.42	16.22	16.42	17.13	18.44	19.24	20.35
China	7.03	7.60	8.07	8.15	8.68	9.46	10.19	10.59	11.06
India	54.75	56.40	58.65	61.00	63.00	66.00	69.50	72.00	74.00
South Africa	2.48	2.30	2.39	2.36	2.45	2.79	2.59	2.72	2.80
Albania	0.53	0.54	0.63	0.69	0.83	1.00	1.08	0.88	0.90
Bulgaria	2.46	2.07	1.86	1.58	1.47	1.45	1.43	1.48	1.71
Croatia	0.94	0.79	0.73	0.64	0.62	0.61	0.61	0.64	0.45
Estonia	1.25	1.13	0.95	0.83	0.80	0.73	0.70	0.74	0.76
Latvia	1.89	1.74	1.48	1.16	1.00	0.95	0.92	0.99	0.95
Lithuania	3.16	2.92	2.42	2.07	1.90	1.82	1.83	1.90	2.04
Romania	4.56	4.76	4.64	4.89	5.53	5.86	5.99	5.90	5.74
Slovak Republic	1.98	1.57	1.37	1.25	1.19	1.19	1.16	1.15	1.18
Slovenia	0.60	0.64	0.58	0.55	0.58	0.61	0.59	0.57	0.57
OECD member countries									
Czech Republic	4.80	4.20	3.80	3.50	3.20	3.03	3.04	2.70	2.72
Hungary	2.85	2.49	2.30	2.08	1.93	1.98	1.89	1.91	1.96
Poland	15.85	14.46	13.17	12.65	12.23	11.65	11.71	12.13	12.58
CEECs region	***41***	***37***	***34***	***32***	***31***	***31***	***31***	***31***	***32***
Belarus	7.46	6.81	5.88	5.58	5.51	5.07	4.91	5.09	5.28
Kazakhstan	5.64	5.56	5.27	5.58	5.30	4.41	3.63	3.59	3.35
Russian Federation	55.72	51.89	47.24	46.52	42.18	39.24	35.82	34.14	33.20
Ukraine	24.51	22.41	19.11	18.38	18.14	17.27	15.82	13.70	13.53
NIS region	***93***	***87***	***77***	***76***	***71***	***66***	***60***	***57***	***55***

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.8 **Annual consumption of meat and meat products**

kg per capita

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	83.84	87.32	90.66	92.51	89.25	82.16	81.24	n.a.	n.a.
Brazil	50.99	53.78	53.05	53.87	53.87	58.34	60.90	n.a.	n.a.
China	25.93	28.01	30.45	33.53	36.62	39.03	41.79	n.a.	n.a.
India	4.42	4.42	4.51	4.60	4.60	4.54	4.53	n.a.	n.a.
South Africa	40.75	41.10	42.39	39.01	38.75	37.88	35.38	n.a.	n.a.
Albania	13.00	23.00	20.00	28.20	n.a.	n.a.	27.27	n.a.	n.a.
Bulgaria	36.50	26.20	31.40	30.20	25.80	25.30	24.90	17.30	15.90
Croatia	50.10	n.a.	n.a.	n.a.	55.40	n.a.	52.90	n.a.	n.a.
Estonia	78.00	60.00	59.00	51.00	50.00	50.00	54.00	53.00	54.00
Latvia	82.00	72.80	61.60	56.90	51.20	55.90	58.90	57.80	61.00
Lithuania	89.00	66.00	65.00	56.00	50.00	52.00	51.00	51.00	49.00
Romania	61.00	54.40	45.70	47.70	45.50	47.80	43.20	40.60	38.80
Slovak Republic	88.10	80.60	73.20	68.00	67.50	67.40	68.80	69.80	71.20
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OECD member countries									
Czech Republic	96.50	88.40	86.60	84.30	81.20	82.00	85.30	81.50	n.a.
Hungary	73.10	n.a.	n.a.	n.a.	66.40	63.10	n.a.	n.a.	n.a.
Poland	63.60	n.a.	n.a.	n.a.	58.50	n.a.	59.40	n.a.	n.a.
Belarus	75.00	73.00	72.00	70.00	63.00	58.00	59.00	60.00	59.00
Kazakhstan	71.00	71.00	61.00	59.00	56.00	51.00	50.00	50.00	43.00
Russian Federation	75.00	69.00	60.00	59.00	57.00	55.00	51.00	50.00	48.00
Ukraine	68.20	65.50	53.40	46.40	43.50	38.90	37.10	34.70	32.00

p: preliminary ; n.a.: not available.
Source : OECD Secretariat.

Annex Table III.9 **Annual consumption of milk and dairy products**

kg per capita

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	167.05	173.84	200.99	200.34	214.08	214.29	223.68	n.a.	n.a.
Brazil	95.51	100.33	98.35	96.91	97.29	114.74	112.31	n.a.	n.a.
China	5.89	6.32	6.51	6.48	7.08	7.49	7.88	n.a.	n.a.
India	54.99	55.54	57.03	58.13	58.58	60.02	61.91	n.a.	n.a.
South Africa	67.60	57.22	64.41	60.11	61.42	72.37	66.08	n.a.	n.a.
Albania	123.00	n.a.	n.a.	85.00	n.a.	n.a.	112.16	n.a.	n.a.
Bulgaria	134.18	117.78	94.24	84.89	83.94	74.83	73.21	50.80	42.49
Croatia	116.73	n.a.	n.a.	n.a.	178.84	n.a.	187.72	n.a.	n.a.
Estonia	502.00	409.00	351.00	272.00	274.00	295.00	269.00	280.00	286.00
Latvia	454.00	420.00	370.00	355.00	345.00	327.00	311.00	291.00	272.29
Lithuania	480.00	315.00	334.00	319.00	291.00	238.00	213.00	222.00	227.00
Romania	144.58	168.53	168.94	182.56	185.24	194.64	192.70	157.80	157.94
Slovak Republic	123.95	113.86	101.58	98.09	88.70	84.77	84.26	86.83	87.03
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OECD member countries									
Czech Republic	256.20	242.70	214.40	190.10	191.90	187.80	199.20	195.20	n.a.
Hungary	166.90	n.a.	n.a.	n.a.	141.10	133.40	n.a.	n.a.	n.a.
Poland	254.90	n.a.	n.a.	n.a.	211.16	n.a.	196.00	n.a.	n.a.
Belarus	425.00	415.00	396.00	384.00	378.00	363.00	364.00	370.00	342.00
Kazakhstan	304.00	303.00	269.00	260.00	245.00	222.00	205.00	188.00	209.00
Russian Federation	386.00	347.00	281.00	294.00	278.00	253.00	235.00	229.00	226.00
Ukraine	373.20	345.50	284.50	264.20	256.20	243.50	230.20	210.40	213.00

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.10 **Annual consumption of grain and grain products**

kg per capita

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	134.41	136.91	126.48	127.41	125.13	126.99	126.30	126.30	125.30
Brazil	111.41	110.63	111.27	112.34	107.84	105.49	108.39	n.a.	n.a.
China	211.87	206.14	202.84	199.75	192.22	189.19	195.35	n.a.	n.a.
India	156.12	164.46	170.16	150.89	160.81	163.91	165.92	172.00	168.00
South Africa	208.44	203.09	192.12	205.99	202.88	202.22	215.08	n.a.	n.a.
Albania	228.00	n.a.	n.a.	204.00	n.a.	n.a.	179.90	n.a.	n.a.
Bulgaria	184.20	179.30	160.40	157.20	156.10	155.50	145.80	141.70	109.00
Croatia	n.a.	n.a.	112.00	93.00	78.00	91.00	102.00	n.a.	n.a.
Estonia	69.00	82.00	83.00	78.00	74.00	76.00	78.00	80.00	80.00
Latvia	107.00	105.00	110.00	111.00	112.00	89.90	86.10	82.40	79.20
Lithuania	108.00	138.00	142.00	122.00	135.00	136.00	142.00	145.00	145.00
Romania	158.50	145.30	146.50	159.60	158.60	162.40	160.60	164.64	165.23
Slovak Republic	116.50	113.90	108.50	103.00	103.00	106.50	105.70	104.80	106.20
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OECD member countries									
Czech Republic	114.90	116.2	117.2	118.20	116.90	115.70	113.80	107.90	n.a.
Hungary	106.20	n.a.	n.a.	n.a.	87.20	84.10	n.a.	n.a.	n.a.
Poland	115.00	n.a.	n.a.	n.a.	120.00	n.a.	120.00	n.a.	n.a.
Belarus	126.00	126.00	119.00	122.00	120.00	120.00	120.00	121.00	122.00
Kazakhstan	102.00	103.00	153.00	180.00	191.00	180.00	185.00	200.00	190.00
Russian Federation	119.00	120.00	125.00	124.00	124.00	121.00	121.00	128.00	n.a.
Ukraine	141.00	142.50	142.50	144.50	134.80	128.40	123.50	127.00	126.00

p: preliminary ; n.a.: not available.
Source : OECD Secretariat.

Annex Table III.11 **Annual consumption of potatoes**

kg per capita

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	41.85	45.43	41.17	53.52	54.81	45.94	55.57	n.a.	n.a.
Brazil	12.19	12.11	13.04	12.34	13.52	14.05	13.78	n.a.	n.a.
China	11.20	10.97	13.37	13.89	13.12	14.33	15.41	n.a.	n.a.
India	12.66	12.65	13.50	12.20	13.89	13.53	14.88	n.a.	n.a.
South Africa	27.75	28.11	25.33	26.86	26.68	29.05	31.31	32.22	n.a.
Albania	15.00	15.00	16.00	16.00	19.00	23.00	24.00	n.a.	n.a.
Bulgaria	28.80	28.20	28.60	26.00	25.60	25.90	26.40	24.40	19.80
Croatia	45.70	n.a.	n.a.	n.a.	71.82	n.a.	88.00	n.a.	n.a.
Estonia	98.00	104.00	99.00	128.00	125.00	120.00	115.00	113.00	101.00
Latvia	91.60	97.80	101.00	110.90	108.20	126.70	151.10	143.50	134.92
Lithuania	146.00	128.00	95.00	122.00	99.00	127.00	133.00	120.00	125.00
Romania	59.40	48.00	60.00	73.90	66.70	71.00	73.40	n.a.	n.a.
Slovak Republic	85.80	90.80	77.70	89.00	74.20	74.30	78.40	78.60	78.60
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OECD member countries									
Czech Republic	77.90	84.2	84.1	84.00	78.00	76.50	77.20	76.00	n.a.
Hungary	61.00	56.00	58.00	61.00	58.70	62.00	62.00	n.a.	n.a.
Poland	144.00	140.00	144.00	147.00	136.00	136.00	135.00	n.a.	n.a.
Belarus	170.00	165.00	169.00	178.00	175.00	180.00	185.00	180.00	181.00
Kazakhstan	85.00	75.00	86.00	80.00	75.00	68.00	65.00	68.00	60.00
Russian Federation	106.00	112.00	118.00	127.00	122.00	124.00	125.00	130.00	125.00
Ukraine	131.00	115.50	132.90	150.00	135.80	123.70	127.90	134.40	126.00

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.12 **Area sown, crops**

thousand hectares

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	20 867	20 646	19 716	20 305	22 188	23 141	26 170	26 121	25 252
Brazil [1]	50 765	50 917	50 954	46 813	51 530	50 955	50 101	50 457	47 014
China [1]	150 634	151 499	151 827	151 856	153 638	156 283	159 442	161 579	160 434
India [1]	183 769	185 972	182 935	184 069	183 723	187 930	190 446	191 820	191 412
South Africa [1]	10 023	9 474	9 014	9 295	9 271	8 404	8 684	9 380	7 815
Albania	430	435	439	495	527	490	465	427	442
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Croatia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	1 116	1 114	1 107	1 057	935	851	859	864	860
Latvia	1 627	1 621	1 572	1 426	1 195	930	986	1 003	996
Lithuania	2 214	2 800	2 689	2 682	25 557	2 359	2 455	2 562	2 563
Romania	9 402	9 197	8 909	9 166	9 220	9 225	8 879	9 060	n.a.
Slovak Republic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Slovenia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
OECD member countries									
Czech Republic	3 270	3 252	3 210	3 179	3 118	3 104	3 068	3 049	3 042
Hungary	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Belarus	6 126	6 038	6 005	5 979	5 992	6 150	6 180	6 207	6 156
Kazakhstan	35 182	34 936	34 839	34 060	31 672	28 679	25 644	21 726	18 493
Russian Federation	117 705	115 508	114 591	111 827	105 340	102 636	99 626	96 311	91 623
Ukraine	32 406	32 021	31 542	31 264	31 008	30 963	30 061	30 304	28 790

p: preliminary ; n.a.: not available.

1. Harvested area.

Source : OECD Secretariat.

Annex Table III.13 **Grain sown areas**

thousand hectares

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	11 912	11 484	11 306	11 276	11 817	11 994	15 255	16 455	11 839
Brazil[1]	18 498	19 815	20 587	18 264	20 048	19 752	19 648	19 276	16 041
China[1]	93 556	94 139	92 595	89 305	87 904	89 764	92 723	92 779	92 932
India[1]	102 536	100 242	99 432	99 128	100 082	100 180	100 429	99 744	99 450
South Africa[1]	6 148	6 474	6 106	6 698	6 849	5 962	6 103	6 464	5 177
Albania	297	195	171	233	251	216	204	212	213
Bulgaria	2 156	2 337	2 291	2 315	2 341	2 186	1 846	2 104	2 055
Croatia	905	893	593	641	626	632	615	639	693
Estonia	397	418	424	376	320	308	295	335	353
Latvia	686	657	703	696	489	411	450	488	491
Lithuania	1 084	1 087	1 165	1 289	1 218	1 053	1 157	1 214	1 174
Romania	5 704	6 049	5 774	6 395	6 558	6 445	5 843	6 320	5 756
Slovak Republic	776	809	801	835	860	848	828	853	868
Slovenia	122	120	111	111	103	101	99	95	95
OECD member countries									
Czech Republic	1 652	1 621	1 586	1 607	1 660	1 581	1 586	1 686	1 681
Hungary[1]	2 779	2 859	2 714	2 742	2 932	2 756	2 813	2 953	2 911
Poland[1]	8 531	8 716	8 321	8 506	8 481	8 571	8 720	8 899	8 844
Belarus[2]	2 645	2 606	2 698	2 714	2 720	2 692	2 671	2 718	2 772
Kazakhstan[2]	23 356	22 753	22 596	22 250	20 708	18 877	17 188	15 681	13 319
Russian Federation[2]	63 068	61 783	61 939	60 939	56 280	54 705	53 388	53 634	50 695
Ukraine[2]	14 583	14 671	13 903	14 305	13 527	14 152	13 248	15 051	13 718

p: preliminary ; n.a.: not available.

1. Harvested area.
2. Grain and pulses.

Source : OECD Secretariat.

Annex Table III.14 **All cattle inventories**

thousand heads, 1 January

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Argentina	52 845	52 452	53 011	52 665	53 157	52 649	50 861	50 059	50 277	48 100
Brazil	147 102	152 136	154 229	155 134	158 243	161 228	165 000	163 000	161 000	n.a.
China	79 495	81 326	82 721	85 781	90 906	100 554	99 455	90 831	96 193	n.a.
India	202 600	203 590	204 533	205 720	206 420	207 110	207 790	209 084	209 084	n.a.
South Africa	13 398	13 512	13 074	12 503	12 584	13 015	13 389	13 667	14 273	n.a.
Albania	633	640	615	655	820	840	806	771	770	n.a.
Bulgaria	1 575	1 457	1 311	974	750	638	632	582	612	n.a.
Croatia	823	830	757	590	589	519	494	451	443	n.a.
Estonia	806	758	708	615	463	420	370	343	326	312
Latvia	1472	1 439	1 383	1 144	678	551	537	509	478	434
Lithuania	2 422	2 322	2 197	1 701	1 384	1 152	1 065	1 054	1 016	928
Romania	6 291	5 381	4 355	3 683	3 597	3 481	3 496	3 235	3 235	3 142
Slovak Republic	1 623	1 563	1 397	1 203	993	916	929	892	803	750
Slovenia	546	533	484	504	478	477	496	486	446	453
OECD member countries										
Czech Republic	n.a.	n.a.	n.a.	2 512	2 161	2 030	1 989	1 866	1 657	1 600
Hungary	1 598	1 571	1 420	1 159	999	910	928	909	871	917
Poland	10 049	8 844	8 221	7 643	7 696	7 306	7 136	7 307	6 955	7 029
Belarus	7 166	6 975	6 577	6 221	5 851	5 403	5 054	4 855	4 802	4 767
Kazakhstan	9 818	9 757	9 592	9 576	9 347	8 073	6 860	5 425	4 307	4 000
Russian Federation	58 841	57 043	54 677	52 226	48 914	43 297	39 696	35 103	31 719	28 634
Ukraine	25 195	24 623	23 728	22 457	21 607	19 624	17 557	15 313	12 759	11 722

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.15 **Pig inventories**

thousand heads, 1 January

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999p
Argentina	2 400	2 400	2 600	2 850	3 300	3 100	3 100	3 200	3 200	n.a.
Brazil	33 623	34 290	34 532	34 184	35 142	36 062	36 600	35 800	35 900	n.a.
China	360 594	370 975	379 735	393 965	402 846	424 681	452 201	468 055	485 698	n.a.
India	12 000	12 500	12 795	13 500	14 000	14 311	14 855	15 419	16 005	n.a.
South Africa	1 480	1 490	1 529	1 493	1 511	1 628	1 603	1 617	1 641	n.a.
Albania	220	147	90	93	98	100	95	97	97	n.a.
Bulgaria	4 332	4 187	3 141	2 680	2 071	1 986	2 141	1 500	1 480	n.a.
Croatia	1 655	1 573	1 621	1 182	1 262	1 347	1 175	1 176	1 166	n.a.
Estonia	1 080	960	799	541	424	460	449	298	306	329
Latvia	1 555	1 401	1 247	867	482	501	553	460	429	421
Lithuania	2 730	2 436	2 180	1 360	1 196	1 260	1 270	1 128	1 200	1 168
Romania	11 671	12 003	10 954	9 852	9 262	7 758	7 960	8 235	7 096	7 189
Slovak Republic	2 709	2 521	2 428	2 281	2 179	2 037	2 076	1 985	1 810	1 600
Slovenia	558	588	529	602	592	571	592	552	578	592
OECD member countries										
Czech Republic	n.a.	n.a.	n.a.	4 599	4 071	3 867	4 016	4 080	4 001	n.a.
Hungary	7 660	8 000	5 993	5 364	5 002	4 356	5 032	5 289	4 931	n.a.
Poland	19 464	21 868	22 086	18 860	19 467	20 418	17 964	18 135	19 168	n.a.
Belarus	5 204	5 051	4 703	4 308	4 181	4 005	3 895	3 715	3 686	3 619
Kazakhstan	3 262	3 224	2 976	2 591	2 445	1 983	1 623	1 036	879	860
Russian Federation	39 982	38 314	35 384	31 520	28 557	24 859	22 631	19 115	17 292	16 734
Ukraine	19 947	19 427	17 839	16 175	15 298	13 946	13 144	11 236	9 479	10 083

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.16 **Production of specific commodities**

thousand tonnes

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Maize									
Argentina	5 400	7 685	10 701	10 901	10 360	11 404	10 518	15 536	19 100
Brazil	21 341	23 739	30 557	30 004	32 487	36 275	32 185	34 602	30 073
China	97 214	99 148	95 773	103 110	99 674	112 362	127 866	104 705	125 395
India	8 962	8 064	10 044	9 578	9 600	8 900	9 400	9 800	10 000
South Africa	8 709	8 614	3 277	9 997	13 275	4 866	10 171	10 106	7 544
Rice, paddy									
Argentina	428	348	701	608	986	926	986	1 205	980
Brazil	7 419	9 496	9 962	10 143	10 500	11 226	9 990	9 293	7 775
China	191 589	185 654	188 257	179 789	178 031	187 334	197 074	202 701	192 971
India	111 517	112 042	109 001	120 600	121 559	119 442	121 980	125 263	127 000
Cotton seed									
Argentina	923	789	652	431	706	1 125	1 347	1 030	821
Brazil	1 813	2 076	1 885	1 135	1 367	1 451	1 011	836	1 197
China	13 523	17 025	13 524	11 217	13 023	14 304	12 609	13 809	12 000
India	5 029	4 981	5 849	6 274	7 064	8 535	8 904	7 448	7 720
South Africa	144	111	51	30	69	61	117	84	103
Potatoes									
Argentina	1 598	1 750	1 629	2 115	2 423	2 428	2 275	2 376	3 100
Brazil	2 219	2 265	2 421	2 360	2 480	2 677	2 703	2 757	2 639
China	32 031	30 441	37 826	45 942	43 836	45 984	53 079	47 639	47 789
India	14 771	15 206	16 388	15 230	17 392	17 401	19 240	19 240	19 240
South Africa	1 270	1 311	1 215	1 130	1 312	1 426	1 593	1 581	1 550
Sugar Cane									
Argentina	15 700	18 200	16 800	14 250	15 200	17 700	17 600	19 450	19 400
Brazil	262 605	260 839	271 432	244 303	292 070	303 557	325 929	337 255	339 117
China	63 451	72 695	78 869	68 997	66 430	70 279	71 260	82 566	85 666
India	225 569	241 046	254 000	228 030	229 670	275 540	282 900	277 250	265 000
South Africa	18 083	20 078	12 955	11 244	15 683	16 714	20 951	22 155	24 640

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Annex Table III.17 **Production of specific commodities (cont.)**

thousand tonnes

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Soybeans									
Argentina	10 700	10 874	11 315	11 045	11 715	12 133	12 448	11 000	17 200
Brazil	19 888	14 938	19 185	22 558	24 912	25 651	23 562	26 431	31 272
China	11 008	9 721	10 313	15 323	16 011	13 511	13 234	14 738	13 758
India	2 602	2 492	3 390	4 745	3 932	4 993	5 209	5 350	6 100
South Africa	118	135	63	69	68	59	80	120	201
Fruits									
Argentina	5 917	6 170	6 207	5 767	6 824	7 313	6 095	7 263	6 833
Brazil	30 458	32 122	33 506	33 188	32 255	34 606	36 946	38 877	38 351
China	34 639	38 619	44 908	54 373	59 177	68 128	76 380	82 312	83 636
India	28 175	28 878	30 557	33 263	36 101	36 981	38 054	38 054	38 054
South Africa	3 691	3 738	3 812	3 804	3 824	3 850	4 169	4 243	3 919
Oranges									
Argentina	648	774	739	709	803	760	504	700	700
Brazil	17 506	18 902	19 657	18 771	17 418	19 613	21 865	22 978	23 021
China	1 374	1 713	1 413	1 779	1 836	2 167	2 234	2 684	2 804
India	2 010	1 890	1 330	1 895	2 005	2 080	2 080	2 080	2 080
South Africa	712	628	665	780	877	748	890	978	900
Coffee									
Brazil	1 463	1 525	1 294	1 278	1 306	929	1 343	1 171	1 653
China	33	35	38	40	44	45	48	48	48
India	118	162	180	169	208	180	223	205	228
Tobacco leaves									
Argentina	68	95	109	112	82	79	98	123	117
Brazil	444	413	577	657	519	455	471	620	506
China	2 646	3 052	3 515	3 468	2 257	2 327	3 245	3 931	2 536
India	552	556	584	597	563	587	563	624	635
South Africa	29	30	36	30	21	21	22	26	25
Tea									
China	562	563	580	621	613	609	617	636	648
India	688	720	754	704	758	754	780	810	810

p: preliminary ; n.a.: not available.

Source : OECD Secretariat.

Part IV

AGRICULTURAL AND FOOD TRADE

Annex Table IV.1 **Agricultural and food exports**

US$ million

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	6 977	7 061	7 093	6 697	7 828	10 131	9 760	12 902	13 349
Brazil	8 764	7 962	9 096	9 697	12 555	13 354	14 308	16 427	n.a.
China	10 208	11 624	12 045	12 197	14 580	14 363	14 343	13 418	n.a.
India	3 075	2 796	2 947	3 357	3 239	5 494	5 850	5 144	n.a.
South Africa	1 918	1 838	1 792	1 580	2 118	2 284	2 489	2 464	n.a.
Albania	86	n.a.	n.a.	24	28	27	34	32	33
Bulgaria	2 026	752	1 011	764	915	1 119	891	489	312 [1]
Croatia	308	301	603	497	498	529	547	552	536
Estonia	n.a.	n.a.	72	189	289	301	327	482	513
Latvia	n.a.	n.a.	89	170	127	216	245	243	195
Lithuania	n.a.	n.a.	n.a.	n.a.	489	496	574	618	522
Romania	82	260	290	329	398	532	677	595	434
Slovak Republic	210	267	298	318	399	539	423	443	459
Slovenia	n.a.	290	542	375	424	430	445	436	463
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	1 102	1 046	1 274	1 231	1 245	1 284
Hungary	2 318	2 636	2 653	1 974	2 307	2 901	2 746	2 857	2 772
Poland	n.a.	n.a.	1 935	1 638	2 075	2 511	2 757	3 297	3 123
Belarus	n.a.	n.a.	177	105	239	373	548	668	660
Kazakhstan	n.a.	n.a.	n.a.	131	200	539	718	800	n.a.
Russian Federation [2]	n.a.	n.a.	1 653	1 666	2 784	2 673	3 202	2 475	n.a.
Ukraine	n.a.	n.a.	n.a.	n.a.	1 038	2 719	3 066	1 801	1 379

p: preliminary ; n.a.: not available.

1. First 6 months.

2. Goskomstat estimations, including non-organized trade.

Source: OECD Secretariat.

Annex Table IV.2 **Agricultural and food imports**

US$ million

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	227	458	949	991	1 214	1 197	1 305	1 774	1 708
Brazil	2 269	2 764	2 405	3 326	4 433	6 237	6 280	6 590	n.a.
China	9 791	9 429	9 800	8 569	12 419	18 272	17 513	15 973	n.a.
India	1 085	742	1 354	1 044	2 205	2 225	2 205	2 998	n.a.
South Africa	989	1 009	1 727	1 355	1 541	2 026	1 961	1 984	n.a.
Albania	122	n.a.	n.a.	158	164	219	326	190	227
Bulgaria	571	196	377	414	462	400	373	276	185 [1]
Croatia	883	447	616	464	636	952	946	1 030	864
Estonia	n.a.	n.a.	38	132	264	361	500	727	806
Latvia	n.a.	n.a.	60	69	133	189	311	378	423
Lithuania	n.a.	n.a.	n.a.	n.a.	236	488	598	625	651
Romania	1 211	785	997	967	664	896	758	694	916
Slovak Republic	208	181	204	558	623	747	819	836	892
Slovenia	n.a.	375	690	680	808	953	924	888	877
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	1 053	1 369	1 745	2 033	1 890	1 869
Hungary	692	627	660	789	1 060	978	940	1 088	1 199
Poland	n.a.	n.a.	1 969	2 247	2 423	2 987	3 989	3 767	3 866
Belarus	n.a.	n.a.	388	345	506	667	941	1 162	1 123
Kazakhstan	n.a.	n.a.	n.a.	272	359	400	562	601	n.a.
Russian Federation [2]	n.a.	n.a.	9 620	5 951	10 701	13 182	11 558	13 363	n.a.
Ukraine	n.a.	n.a.	n.a.	n.a.	336	1 220	1 448	898	1 051

p: preliminary ; n.a.: not available.

1. First 6 months.

2. Goskomstat estimations, including non-organized trade.

Source: OECD Secretariat.

Annex Table IV.3 **Agricultural and food trade balance**

US$ million

	1990	1991	1992	1993	1994	1995	1996	1997	1998p
Argentina	6 750	6 603	6 145	5 706	6 614	8 934	8 455	11 128	11 641
Brazil	6 495	5 198	6 691	6 371	8 121	7 117	8 027	9 837	n.a.
China	417	2 195	2 244	3 628	2 160	-3 908	-3 170	-2 555	n.a.
India	1 990	2 054	1 593	2 314	1 035	3 269	3 644	2 146	n.a.
South Africa	929	829	64	225	577	259	528	480	n.a.
Albania	-36	n.a.	n.a.	-134	-136	-191	-293	-158	-194
Bulgaria	1 455	556	634	350	453	720	518	213	127 [1]
Croatia	-575	-146	-13	33	-139	-423	-399	-477	-328
Estonia	n.a.	n.a.	34	57	25	-60	-173	-246	-293
Latvia	n.a.	n.a.	29	101	-6	28	-67	-135	-228
Lithuania	n.a.	n.a.	n.a.	n.a.	253	8	-24	-7	-129
Romania	-1 129	-525	-707	-638	-266	-364	-81	-100	-482
Slovak Republic	2	87	95	-240	-225	-209	-396	-393	-434
Slovenia	n.a.	-85	-148	-305	-384	-523	-479	-452	-414
OECD member countries									
Czech Republic	n.a.	n.a.	n.a.	49	-323	-471	-801	-645	-585
Hungary	1 626	2 009	1 993	1 185	1 247	1 923	1 806	1 769	1 573
Poland	n.a.	n.a.	-34	-609	-348	-476	-1 232	-470	-743
Belarus	n.a.	n.a.	-211	-239	-267	-294	-393	-494	-463
Kazakhstan	n.a.	n.a.	n.a.	-141	-159	138	156	198	n.a.
Russian Federation [2]	n.a.	n.a.	-7 967	-4 285	-7 917	-10 509	-8 356	-10 888	n.a.
Ukraine	n.a.	n.a.	n.a.	n.a.	702	1 499	1 618	903	328

p: preliminary ; n.a.: not available.

1. First 6 months.

2. Goskomstat estimations, excluding non-organized trade.

Source: OECD Secretariat.

Annex Table IV.4 **Agricultural and food exports by destination 1993 and 1996**

per cent

1993	**EU**	**Other OECD**	**CEECs**	**NIS**	**Other**	**Total**
Albania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	22	12	11	28	27	100
Croatia	25	8	39	24	5	100
Estonia	18	0	21	45	17	100
Latvia	10	5	20	66	1	100
Lithuania	16	4	12	66	2	100
Romania	34	16	8	19	23	100
Slovak Republic	16	7	57	13	7	100
Slovenia	36	12	2	5	45	100
OECD member countries						
Czech Republic	33	9	40	11	7	100
Hungary	45	16	10	20	9	100
Poland	57	14	3	19	7	100
1996	**EU**	**Other OECD [1]**	**CEECs [2]**	**NIS**	**Other**	**Total**
Albania	84	10	4	0	2	100
Bulgaria	23	9	6	45	17	100
Croatia	21	5	28	4	42	100
Estonia	20	3	15	59	2	100
Latvia	15	1	11	72	2	100
Lithuania	17	5	12	63	3	100
Romania	22	13	10	18	37	100
Slovak Republic	17	1	56	19	7	100
Slovenia	32	4	3	4	57	100
OECD member countries						
Czech Republic	36	4	35	15	10	100
Hungary	47	6	17	20	10	100
Poland	47	4	6	36	6	100

p: preliminary ; n.a.: not available.

1. Excludes in 1996 Poland, Hungary and Czech Republic which became Members of OECD.

2. Includes in 1996 Poland, Hungary and Czech Republic which became Members of OECD.

Source: OECD Secretariat.

Annex Table IV.5 **Agricultural and food exports by destination, 1997 and 1998**

per cent

1997	**EU**	**Other OECD [1]**	**CEECs [2]**	**NIS**	**Other**	**Total**
Albania	85	5	3	0	6	100
Bulgaria	25	12	7	46	9	100
Croatia	19	5	34	3	40	100
Estonia	16	3	16	64	2	100
Latvia	11	0	16	66	6	100
Lithuania	20	7	12	59	3	100
Romania	27	17	9	21	26	100
Slovak Republic	22	0	51	20	7	100
Slovenia	35	4	3	4	53	100
OECD member countries						
Czech Republic	34	3	33	19	11	100
Hungary	40	8	17	23	12	100
Poland	39	4	9	41	7	100
1998	**EU**	**Other OECD [1]**	**CEECs [2]**	**NIS**	**Other**	**Total**
Albania	86	4	2	0	8	100
Bulgaria [3]	27	12	10	34	17	100
Croatia	14	5	22	2	56	100
Estonia	16	4	19	61	1	100
Latvia	20	1	22	47	9	100
Lithuania	23	11	17	47	2	100
Romania	61	14	7	5	14	100
Slovak Republic	20	0	61	11	7	100
Slovenia	40	6	3	3	48	100
OECD member countries						
Czech Republic	31	4	38	17	10	100
Hungary	44	n.a.	13	18	n.a.	100
Poland	43	6	14	32	6	100

p: preliminary ; n.a.: not available.

1. Excludes in 1997 and 1998 Poland, Hungary and Czech Republic which became Members of OECD.
2. Includes in 1997 and 1998 Poland, Hungary and Czech Republic which became Members of OECD.
3. First 6 months.

Source: OECD Secretariat.

Annex Table IV.6 **Agricultural and food imports by source, 1993 and 1996**

per cent

1993	**EU**	**Other OECD**	**CEECs**	**NIS**	**Other**	**Total**
Albania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	44	18	7	4	28	100
Croatia	36	8	34	2	20	100
Estonia	50	0	5	9	36	100
Latvia	36	11	17	25	10	100
Lithuania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	47	21	8	1	22	100
Slovak Republic	24	10	51	1	14	100
Slovenia	32	19	11	2	36	100
OECD member countries						
Czech Republic	37	11	26	0	26	100
Hungary	42	16	7	3	32	100
Poland	57	22	3	4	14	100
1996	**EU**	**Other OECD 1**	**CEECs 2**	**NIS**	**Other**	**Total**
Albania	66	9	15	1	10	100
Bulgaria	21	15	8	9	47	100
Croatia	48	6	24	0	22	100
Estonia	64	8	12	10	6	100
Latvia	51	6	18	12	12	100
Lithuania	45	13	17	21	3	100
Romania	40	15	6	5	35	100
Slovak Republic	36	4	43	1	17	100
Slovenia	46	9	14	2	29	100
OECD member countries						
Czech Republic	54	6	15	0	25	100
Hungary	43	8	5	1	43	100
Poland	47	13	8	4	28	100

p: preliminary ; n.a.: not available.

1. Excludes in 1996 Poland, Hungary and Czech Republic which became Members of OECD.
2. Includes in 1996 Poland, Hungary and Czech Republic which became Members of OECD.

Source: OECD Secretariat.

Annex Table IV.7 **Agricultural and food imports by source, 1997 and 1998**

per cent

1997	**EU**	**Other OECD [1]**	**CEECs [2]**	**NIS**	**Other**	**Total**
Albania	79	7	7	0	6	100
Bulgaria	30	26	17	6	20	100
Croatia	44	6	24	0	26	100
Estonia	47	20	8	4	21	100
Latvia	52	11	25	3	8	100
Lithuania	51	14	22	10	3	100
Romania	38	14	14	7	27	100
Slovak Republic	37	3	40	4	16	100
Slovenia	46	8	16	2	28	100
OECD member countries						
Czech Republic	50	9	18	0	23	100
Hungary	42	7	10	1	40	100
Poland	46	12	9	2	31	100
1998	**EU**	**Other OECD [1]**	**CEECs [2]**	**NIS**	**Other**	**Total**
Albania	75	5	11	4	5	100
Bulgaria [3]	37	14	10	2	38	100
Croatia	43	6	22	0	28	100
Estonia	49	23	10	5	13	100
Latvia	51	8	29	4	8	100
Lithuania	53	12	25	8	2	100
Romania	41	16	23	4	16	100
Slovak Republic	39	3	43	0	15	100
Slovenia	50	7	13	2	28	100
OECD member countries						
Czech Republic	50	8	20	0	22	100
Hungary	42	n.a.	8	1	n.a.	100
Poland	48	11	9	3	29	100

p: preliminary ; n.a.: not available.

1. Excludes in 1997 and 1998 Poland, Hungary and Czech Republic which became Members of OECD.
2. Includes in 1997 and 1998 Poland, Hungary and Czech Republic which became Members of OECD.
3. First 6 months.

Source: OECD Secretariat.

Part V

MEASUREMENT OF SUPPORT TO AGRICULTURE

MEASUREMENT OF SUPPORT TO AGRICULTURE

Definitions and methods

The OECD has since 1987 been measuring support to agriculture using the Producer and Consumer Subsidy Equivalent (PSE/CSE) method defined in 1982.[1] The method incorporated the monetary value of transfers associated with all policy measures affecting agriculture grouped into four main categories: *i)* Market Price Support; *ii)* Direct Payments; *iii)* Reduction of Input Costs; and *iv)* General Services. There was, at that time, a relatively small number of policy measures within each of these categories, which were appropriate for a detailed analysis of their economic and trade effects. Other transfers associated with measures affecting agriculture but not included in these categories, were added to calculate Total Transfers associated with agricultural policies.[2]

The "subsidy equivalent" was initially defined as "the monetary value that would be required to compensate farmers or consumers for the loss of income resulting from the removal of a given policy measure".[3] However, the OECD indicators measure transfers from taxpayers and consumers to producers arising from policies, and corresponds to a broader definition. While the initial definition is an estimate of support in terms of farm income loss or subsidy equivalent to producers, the OECD indicator has always been an estimate of support in terms of transfers to producers (PSE) and overall transfers associated with policies which support agriculture (Total transfers). Although both OECD definitions of PSE and Total transfers include the "subsidy element", they do not separately identify it.

Therefore, in order to make the names of the indicators reflect as closely as possible the underlining definitions and to make them consistent with one another, OECD countries agreed to replace "subsidy equivalent" by "support estimate" and use the following nomenclature: Producer Support Estimate (PSE), Consumer Support Estimate (CSE), General Services Support Estimate (GSSE) and Total Support Estimate (TSE). The objective being to make the indicators more consistent (across countries, policy measures, and over time), transparent (providing as much information as possible), useful and timely (for policy purposes), and more pragmatic (simple to understand and calculate).

With the reform of agricultural policies in OECD countries, the number and complexity of policy measures has increased significantly, limiting the appropriateness of the original PSE categories for the analysis of policies. This was particularly the case of the Direct Payments category, which have increasingly embraced a wider range of measures providing direct transfers to farmers for achieving different objectives and with different eligibility conditions. A given objective may be achieved through different measures, whose economic impacts depend very much on the way they are implemented. Therefore, a comprehensive policy evaluation of recent policy measures needs grouping them according to their implementation criteria, independently of their objectives and effects. This is the basis of the new OECD classification.

Although the Secretariat has made an effort to ensure consistency on the treatment and completeness of coverage of policies, this exercise should be seen as a dynamic process and the results included in this report have to be seen as preliminary. As in the past, future annual exercises will offer the opportunity to revise the calculations for the entire period in the light of more updated information on policy measures.

The new OECD classification of total transfers associated with agricultural policies (TSE), groups the policy measures into three main categories: transfers to producers individually (PSE), transfers to consumers individually (CSE), and transfers to general services to agriculture collectively (GSSE) as in Box 1.

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Box 1. Classification of policy measures included in the OECD indicators of support

I. Producer Support Estimate (PSE) [Sum of A to H]

A. Market Price Support
1. Based on unlimited output
2. Based on limited output

B. Payments based on output
1. Based on unlimited output
2. Based on limited output

C. Payments based on area planted/animal numbers
1. Based on unlimited area or animal numbers
2. Based on limited area or animal numbers

D. Payments based on historical entitlements
1. Based on historical plantings/animal numbers or production
2. Based on historical support programmes

E. Payments based on input use
1. Based on use of variable inputs
2. Based on use of on-farm services
3. Based on use of fixed inputs

F. Payments based on input constraints
1. Based on constraints on variable inputs
2. Based on constraints on fixed inputs
3. Based on constraints on a set of inputs

G. Payments based on overall farming income
1. Based on farm income level
2. Based on established minimum income

H. Miscellaneous payments
1. National payments
2. Sub-national payments

II. General Services Support Estimate (GSSE) [Sum of I to O]

A. Research and development

B. Agricultural schools

C. Inspection services

D. Infrastructure

E. Marketing and promotion

F. Public stockholding

G. Miscellaneous

III. Consumer Support Estimate (CSE) [Sum of P to S]

A. Transfers to producers from consumers

B. Other transfers from consumers

C. Transfers to consumers from taxpayers

D. Excess Feed Cost

IV. Total Support Estimate (TSE) [I + II + R]

A. Transfers from consumers

B. Transfers from taxpayers

Budget revenues

I. Producer Support Estimate (PSE): *an indicator of the annual monetary value of gross transfers from consumers and taxpayers to support agricultural producers, measured at farm gate level, arising from policy measures which support agriculture, regardless of their nature, objectives or impacts on farm production or income.*

The PSE measures support arising from policies targeted to agriculture relative to a situation without such policies, *i.e.* when producers are subject only to general policies (including economic, social, environmental and tax policies) of the country. The PSE is a **gross** notion implying that any costs associated with those policies and incurred by individual producers are not deducted.[5] It is also a ***nominal assistance*** notion meaning that increased costs associated with import duties on inputs are not deducted. But it is an indicator **net** of producer contributions to help finance the policy measure (*e.g.* producer levies) providing a given transfer to producers. The PSE includes implicit and explicit payments such as price wedges on output or inputs, tax exemptions, and budgetary payments, including those for remunerating non-market goods and services. Therefore, the indicator measures more than the "subsidy element". Although **farm receipts** (revenue)[5] are increased (or farm expenditure reduced) by the amount of support, the PSE is not in itself an estimate of the impacts on farm production or income.

A. *Market Price Support (MPS):* *an indicator of the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers arising from policy measures creating a gap between domestic market prices and border prices of a specific agricultural commodity, measured at the farmgate level.*

Conditional on the production of a specific commodity, MPS includes the transfer to producers associated with both production for domestic use and exports, and is measured by the price gap applied to current unlimited production (1. *Based on unlimited output*); or to current limited production (2. *Based on limited output).* The MPS is **net** of financial contributions from individual producers through producer levies on sales of the specific commodity or penalities for not respecting regulations such as production quotas (3. *Price levies);* and in the case of livestock production is net of the market price support on domestically produced coarse grains and oilseeds used as animal feed (4. *Excess feed cost*).

B. *Payments based on output:* *an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on current output of a specific agricultural commodity or a specific group of agricultural commodities.*

Conditional on producing a specific commodity or a specific group of commodities, it includes payments per tonne, per hectare or per head of animals to current unlimited (1. *Based on unlimited output*), or limited (2. *Based on limited output*) production.

C. *Payments based on area planted/animal numbers:* *an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on current plantings, or number of animals of a specific agricultural commodity or a specific group of agricultural commodities.*

Conditional on planting, or animal numbers of a specific commodity or a specific group of commodities, it includes payments per hectare or per head to current unlimited (1. *Based on unlimited area or animal numbers),* or limited (2. *Based on limited area or animal numbers)* area planted or animal numbers.

D. *Payments based on historical entitlements:* *an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on historical support, area, animal numbers, or production of a specific agricultural commodity or a specific group of agricultural commodities without obligation to continue planting or producing such commodities.*

Conditional on being a producer of a specific commodity or a specific group of commodities at the time of introduction of the payment, it includes payments based on historical plantings/animal numbers or production of such commodities (1. *Based on plantings/animal numbers or production*); and payments based on historical support programmes for such commodities (2. *Based on historical support programmes*).[6]

E. Payments based on input use: *an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on the use of a specific fixed or variable input or a specific group of inputs or factors of production.*

Conditional on the on-farm use of specific fixed or variable inputs, it includes explicit and implicit payments affecting specific variable input costs (1. *Based on use of variable inputs*); the cost of on-farm technical, sanitary and phytosanitary services (2. *Based on use of on-farm services*); or affecting specific fixed input costs, including investment costs (3. *Based on use of fixed inputs).*

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F. Payments based on input constraints: *an indicator of the annual monetary value of gross transfers from taxpayers to agricultural producers arising from policy measures based on constraints on the use of a specific fixed or variable input or a specific group of inputs through constraining the choice of production techniques.*

Conditional on the application of certain constraints (reduction, replacement, or withdrawal) on the on-farm use of specific variable inputs (1. *Based on constraints on variable inputs*); or fixed inputs (2. *Based on constraints on fixed inputs*); or based on constraints on the use of a set of farm inputs through constraining the choice of production techniques of marketed commodities for reducing negative externalities or remunerating farm inputs producing non-market goods and services (3. *Based on constraints on a set of inputs*).[7]

G. Payments based on overall farming income: *an indicator of the annual monetary value of transfers from taxpayers to agricultural producers arising from policy measures based on overall farming income (or revenue), without constraints or conditions to produce specific commodities, or to use specific fixed or variable inputs.*

Conditional on being an eligible farm(er), it includes payments to compensate for farm income fluctuations or losses (1. *Based on farm income level)*; or for ensuring a minimum income guarantee (2. *Based on established minimum income)*.[8]

H. Miscellaneous payments: *an indicator of the annual monetary value of all transfers from taxpayers to agricultural producers that cannot be disaggregated and allocated to the other categories of transfers to producers.*

Conditional on being an aggregate of payments to producers which cannot be disaggregated due, for example, to a lack of information, it includes payments funded by national governments (1. National payments), or state, regional, prefectural, or provincial governments (2. Sub-national payments).

II. General Services Support Estimate (GSSE): *an indicator of the annual monetary value of gross transfers to general services provided to agriculture collectively, arising from policy measures which support agriculture, regardless of their nature, objectives and impacts on farm production, income, or consumption of farm products.*

Conditional on being an eligible private or public general service provided to agriculture collectively, including collective actions for agri-environmental purposes, it includes taxpayers transfers to: improve agricultural production ***(I. Research and development);*** agricultural training and education ***(J. Agricultural schools);*** control of quality and safety of food, agricultural inputs, and the environment ***(K. Inspection services);*** improve of off-farm collective infrastructures, including downstream and upstream industry ***(L. Infrastructures);*** assist marketing and promotion ***(M. Marketing and promotion);*** meet the costs of depreciation and disposal of public storage of agricultural products ***(N. Public stockholding);*** other general services that cannot be disagreggated and allocated to the above categories due, for example, to a lack of information ***(O. Miscellaneous).*** Unlike the PSE and CSE transfers, these transfers are not received by producers or consumers individually, and do not affect farm receipts (revenue) or consumption expenditure by their amount, although they may affect production and consumption of agricultural commodities.

III. Consumer Support Estimate (CSE): *an indicator of the annual monetary value of gross transfers to (from) consumers of agricultural commodities, measured at the farm gate level, arising from policy measures which support agriculture, regardless of their nature, objectives or impacts on consumption of farm products.*

The CSE includes explicit and implicit consumer transfers to producers of agricultural commodities, measured at the farmgate (first consumer) level and associated with: market price support on domestically produced consumption ***(P. Transfers to producers from consumers);*** and transfers to the budget and/or importers on the share of consumption that is imported ***(Q. Other transfers from consumers);*** and is net of any payment to consumers to compensate them for their contribution to market price support of a specific commodity ***(R. Transfers to consumers from taxpayers);*** and the producer contribution (as consumers of domestically produced crops) to the market price support on crops used in animal feed ***(S. Excess feed cost).*** When negative, transfers from consumers measure the implicit tax on consumption associated with policies to the agricultural sector. Although consumption expenditure is increased/reduced by the amount of the implicit tax/payments, this indicator is not in itself an estimate of the impacts on consumption expenditure.

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

The TSE is the sum of the explicit and implicit gross transfers from consumers of agricultural commodities to agricultural producers net of producer financial contributions (in MPS and CSE); the gross transfers from taxpayers to agricultural producers (in PSE); the gross transfers from taxpayers to general services provided to agriculture (GSSE); and the gross transfers from taxpayers to consumers of agricultural commodities (in CSE). As the transfers from consumers to producers are included in the MPS, the TSE is also the sum of the PSE, the GSSE, and the transfers from taxpayers to consumers (in CSE). The TSE measures the overall cost of agricultural support financed by consumers ***(T. Transfers from consumers)*** and taxpayers ***(U. Transfers from taxpayers)*** net of import receipts ***(V. Budget revenues).***

Percentage PSE/CSE and producer/consumer NAC

The PSE by country and by commodity can be expressed in monetary terms – the **PSE;** as a ratio to the value of total gross farm receipts,[9] measured by the value of total production (at farm gate prices), plus budgetary support – the **percentage PSE;** or a ratio to the value of total gross farm receipts valued at world market prices, without budgetary support – the **producer NAC** (Nominal Assistance Coefficient).

In algebraic form, these PSE expressions can be written as follows:

$$\%PSE = I.PSE / (Q.Pp + PP) \times 100 \quad (1)$$

$$(100 - \%PSE) = Q.Pb / (Q.Pp + PP) \times 100 \quad (2)$$

$$[1/(100 - \%PSE) \times 100] = [\%PSE/(100 - \%PSE) + 1] = [(I.PSE/Q.Pb) + 1] = NACp \quad (3)$$

where,

PP = Payments to producers = *I. PSE – I.A. Market Price Support* = Σ I.B to I.H (see Box 1)

Q.Pp = value of production at producer prices

Q.Pb = value of production at border prices

In other words, the above equations can be explained as follows:

- for example, a percentage PSE of 60 per cent, expresses the share of transfers to agricultural producers in the total value of gross farm receipts (as measured by the PSE), or the share of gross farm receipts derived from policies (equation (1)); hence
- some 40 per cent of gross farm receipts is derived from the market without any support (equation (2)); and
- the value of gross farm receipts is 250 per cent of (or 150 per cent higher than) what they would be if entirely obtained at world prices without any budgetary support (equation (3)) – a producer NAC of 2.50.

All transfers included in the CSE are implicit taxes or explicit budgetary transfers to consumers of agricultural commodities affecting consumer expenditure (valued at farm gate) of agricultural commodities. Therefore, *the CSE by country and by commodity can be expressed in monetary terms – the **CSE;** as a ratio to the total value of consumption expenditure on commodities domestically produced, measured by the value of total consumption (at farm gate prices), minus budgetary support to consumers – the **percentage CSE;** or as a ratio to the total value of consumption expenditure on commodities domestically produced valued at world market prices, without budgetary support to consumers – the **consumer NAC.***

In algebraic form, the CSE expressions can be written as follows:

$$\%CSE = III.CSE/(Qc.Pd - TC) \times 100 \quad (4)$$

$$(100 - \%CSE) = Qc.Pb/(Qc.Pd - TC) \times 100 \quad (5)$$

$$[1/(100 - \%CSE) \times 100] = [1 + \%CSE/(1 - \%CSE) + 1] = [(III.CSE/Qc.Pb) + 1] = NACc \quad (6)$$

where,

TC = taxpayer transfers to consumers = *III.R. Transfers to consumers from taxpayers* (Box 1)

Qc.Pd = value of consumption at domestic prices (at farm gate)

Qc.Pb = value of consumption at border prices

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Box 2. Transfers associated with market price support

Consider the case of a country where there are border measures and government purchasing agencies (GPAs) importing, and buying and selling in the domestic market in order to maintain the domestic price close to an administered domestic price higher than the world border price.

In the case of exported commodities (Figure 1), farmers sell all their production to domestic consumers (D2) and GPAs (S2-D2) at an average producer price (Pp) higher than the world reference price (Pr). The quantities purchased by the GPAs are sold in the same year in the domestic market at the average price Pp, offered as ***domestic food aid*** at the opportunity cost of Pp, sold in the world market (with ***export subsidies***) at the average price Pr, offered as ***foreign food aid*** at an opportunity cost of Pr, or kept in ***public storage*** for later sale.Payments based on historical entitlements

As in a given year domestic consumers and GPAs purchase all domestic production at the average price (Pp) higher than the price at which the GPAs export the commodity (Pr), the transfers to producers associated with MPS to the commodity is measured by the area abcd = (Pp-Pr)*S2 and considered under ***I.A. Market Price Support.*** Where the area abfg = (Pp-Pr)*D2 measures the share of MPS financed by consumers considered under ***I.A MPS*** in the PSE, and ***III.P. Transfers to producers from consumers*** in the CSE; and area gfcd = (Pp-Pr)*(S2-D2) measures ***transfers to producers from taxpayers,*** *i.e.* the share of MPS financed by taxpayers considered under ***I.A MPS*** in the PSE (through food aid, export subsidies, or public storage).

The CSE is the share of MPS financed by consumer [area abfg = (Pp-Pr)*D2] ***(III.P. Transfers to producers from consumers)*** minus consumption subsidies in cash or in kind, and price compensating aids to processors financed by taxpayers ***(III.R. Transfers to consumers from taxpayers)***. The total of the transfers associated with MPS are therefore obtained by adding to the MPS in the PSE [area abcd = (Pp-Pr)*S2], those under marketing and stockholding in the GSSE, and the consumption subsidies in cash and price compensation in the CSE.

In the case of imported commodities (Figure 2), both, domestic production (S2) and imports (D2-S2) are sold in the domestic market at the average producer price (Pp). But in both cases price compensation is provided by Government to processors (first consumers) to help them to stay competitive in the world market of processed products, and some consumption subsidies in cash and in kind are also provided. The quantities domestically produced and those imported by the GPAs are sold in the same year in the domestic market at the average price Pp, offered as ***domestic food aid*** at the opportunity cost of Pp or as ***foreign food aid*** at the opportunity cost of Pr, or kept in ***public storage*** for later sale.

In these conditions, the transfers to producers associated with MPS to the commodity is measured by area abcd = (Pp-Pr)*S2 and considered under ***I.A Market Price Support*** in the PSE and ***III.P. Transfers to producers from consumers*** in the CSE. While this area also represents the transfers from consumers to producers, the area dcfg = (Pp-Pr)*(D2-S2) measures the transfers from consumers to the budget through import receipts or as rents to importers or exporters due to tariff quotas ***(III. Q. Other transfers from consumers or IV.V. Budget revenues)***.

The CSE is measured by the area abfg = (Pp-Pr)*D2 ***(III.P. Transfers to producers from consumer and III.Q. Other transfers from consumers)*** minus the consumption subsidies in cash or in kind, or price compensation financed by taxpayers ***(III.R. Transfers to consumers from taxpayers)***. The total of transfers associated with MPS are therefore obtained by adding to the MPS in the PSE [area abcd = (Pp-Pr)*S2], those under marketing and stockholding in the GSSE, and the consumption subsidies in cash and price compensating aids in the CSE, minus the transfers from consumers to the budget and/or importers.

In both cases, exported and imported commodities, to provide such transfers to producers through MPS, other transfers are generated, mainly in the form of operational costs of GPAs, and stock depreciation and disposal costs of public stockholding. However, although these transfers contribute to create the price gap received by producers, they are not in themselves a transfer to producers. They are transfers to general services provided to agriculture considered in the GSSE under ***II.M. Marketing and promotion*** in the case of the operational costs of GPAs, and ***II.N. Public stockholding*** in the case of the stock depreciation and disposal costs, which are in most of the cases dead-weight losses.

Figure 1. **Exported commodities**

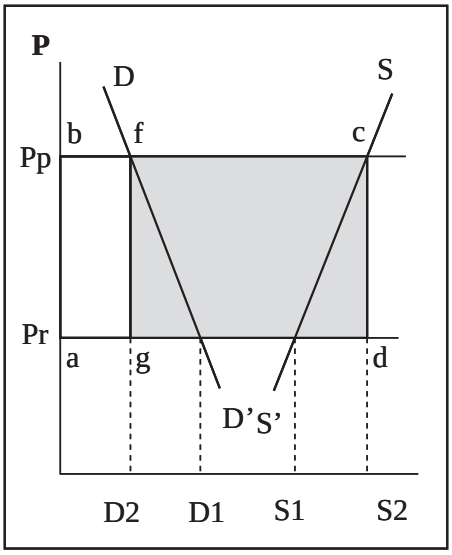
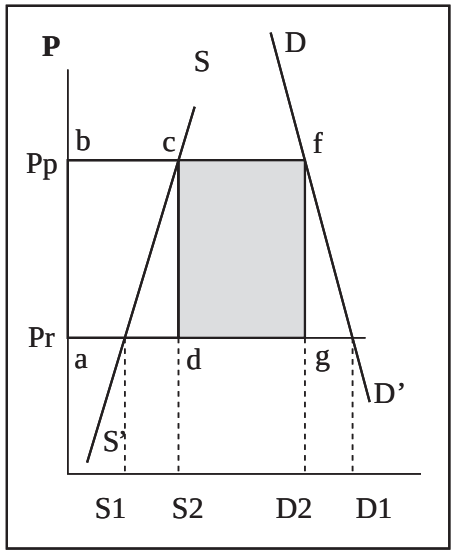


Figure 2. **Imported commodities**



In other words, the above equations can be explained as follows:

- for example, a percentage CSE of 60 per cent, expresses the share of transfers to (from) consumers in the total consumption expenditure on agricultural commodities (as measured by the CSE), or the share of the consumption expenditure created by policies (equation (4)); hence
- some 40 per cent of total consumption expenditure is derived from the market without any market support to domestic agricultural producers (equation (5)); and
- the amount of consumption expenditure is 250 per cent of (or 150 per cent higher than) what it would be if entirely created at world market prices without any budgetary support to consumers (equation (6)) – a consumer NAC of 2.50.

The consumer NAC measures the **consumer price differential** or the ratio between the price paid by consumers (at farm gate) and the border price. When the price paid by consumers (at farm gate) is on average the producer price, and there are no consumption subsidies, the consumer NAC also measures the **producer price differential.** In all the other cases, this differential or the ratio between the producer and border prices can only be measured through the MPS calculation, as the ratio between the unit MPS and the border price.

Percentage GSSE and TSE

For a given country or commodity, the calculation of any of the indicators in percentage terms needs to have a precise meaning. This is the case when both the numerator and the denominator have an economic meaning, and the value of the transfers in the numerator can be seen as an integral part of the denominator.[10] Moreover, as percentage indicators take account of the effect of inflation on both numerator and denominator, this effect is eliminated. As a result percentage indicators are more representative and appropriate measures of suppport for analysis over time and across countries.

The **percentage GSSE** is defined as the share of support to general services provided to agriculture in the total support to agriculture (TSE), the rest being the support to individual producers and consumers of domestic agricultural commodities. In a situation of public support to agriculture, the higher the percentage GSSE, the lower the share of support affecting individual decisions on domestic production and consumption of agricultural commodities.

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The TSE contains taxpayers transfers that are a component of the total current government expenditure, and transfers from consumers which are a component of the total domestic consumption expenditure. But, both of these transfers, from taxpayers and consumers, are included in Gross Domestic Product (GDP). Therefore, the **percentage TSE** is defined as the share of total support to agriculture in the total GDP. The higher the percentage TSE, the larger the share of national wealth used to support agriculture.

NOTES

1. OECD, *National Policies and Agricultural Trade*, Paris, 1987.
2. See *Agricultural Policies in OECD Countries, 1998*, OECD, 1998; and *Modelling the Effects of Agricultural Policies*, OECD Economic Studies, Special Issue, No.13/Winter 1989-1990.
3. Based on work by Professor T. Josling (FAO, Agricultural Protection: Domestic Policy and International Trade. Rome, 1973; and FAO, Agricultural Protection and stabilisation Policies: A framework of Measurement in the Context of Agricultural Adjustment. Rome, 1975), building on early work by Professor W. Corden, The Theory of Protection. Oxford University Press, 1971.
4. In other words, elements in the PSE are, in general, gross transfers to producers because to receive a given payment producers have to produce or plant a specific commodity, or use a specific input, and therefore incur costs, which are not deducted from the amount of the payment, although these costs may absorb a part of the payment.
5. Farm receipts (revenues) are not the same as farm income, which is farm receipts less farm costs.
6. Unlike the others payments to commodities, these payments directly increase farm income by the amount of the payment as producers do not have to incur any specific cost (other than those associated with being a farmer).
7. A payment remunerating farm inputs on condition they are used for producing a non-market good can be seen as a payment associated with constraints on the use of a set of inputs or on the choice of production techniques.
8. Unlike most of the others, these payments directly increase farm income by the amount of the payment as producers do not have to incur any specific cost (other than those necessary to generate an (or the) eligible level of farm income).
9. Gross farm receipts are not the same as farm income, which is farm receipts less farm costs.
10. That is the case of the the percentage PSE and CSE as defined above. The GSSE and the TSE are not a part of the total value of farm receipts (as the PSE) nor a part of the total value of consumption expenditure of agricultural commodities (as the CSE).

Annex Table V.1 Estonia: Estimates of support to agriculture

(LC mn)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997p	1998e
Total value of production (at farm gate)	**2 054**	**1 958**	**1 898**	**2 080**	**2 340**	**4 918**	**3 502**	**4 684**	**5 596**	**5 738**	**6 780**	**7 507**	**6 917**
of which share of common commodities (%)	*65*	*68*	*67*	*64*	*68*	*63*	*59*	*65*	*54*	*60*	*63*	*61*	*79*
Total value of consumption (at farm gate)	**1 659**	**1 493**	**1 486**	**1 473**	**1 879**	**4 217**	**3 796**	**3 975**	**5 351**	**5 832**	**7 152**	**7 917**	**5 386**
Producer Support Estimate (PSE)	**1 706**	**1 633**	**1 658**	**1 704**	**1 775**	**2 979**	**-3 470**	**-1 500**	**-539**	**-6**	**494**	**395**	**1 210**
Market price support	1 510	1 425	1 450	1 473	1 609	2 823	-3 544	-1 524	-560	-75	361	255	584
of which common commodities	*987*	*969*	*969*	*949*	*1 090*	*1 769*	*-2 088*	*-984*	*-303*	*-45*	***227***	***156***	***463***
Payments based on output	0	21	83	86	82	54	51	0	0	0	0	0	0
Payments based on area planted/animal numbers	0	0	0	0	0	0	2	0	0	0	0	0	396
Payments based on historical entitlements	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on input use	173	179	126	142	51	69	20	23	21	68	134	140	230
Payments based on input constraints	0	0	0	0	0	0	0	0	0	1	0	0	0
Payments based on overall farming income	24	7	0	0	30	32	0	0	0	0	0	0	0
Miscellaneous payments	0	0	0	3	2	0	0	0	0	0	0	0	0
Percentage PSE	**76**	**75**	**79**	**74**	**71**	**59**	**-97**	**-32**	**-10**	**0**	**7**	**5**	**16**
Producer NAC	**4.13**	**4.06**	**4.70**	**3.81**	**3.43**	**2.42**	**0.51**	**0.76**	**0.91**	**1.00**	**1.08**	**1.05**	**1.19**
General Services Support Estimate (GSSE)	**17**	**14**	**13**	**18**	**18**	**60**	**78**	**125**	**130**	**195**	**152**	**140**	**180**
Research and development	5	3	3	3	3	7	2	2	2	14	7	9	9
Agricultural schools	5	4	4	4	9	16	33	42	54	71	40	0	0
Inspection services	0	0	0	0	0	0	4	4	5	5	5	6	6
Infrastructure	0	0	0	0	0	2	19	52	43	55	35	35	36
Marketing and promotion	0	0	0	0	0	0	0	5	3	2	3	3	3
Public stockholding	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	7	7	6	10	5	34	20	20	23	48	62	88	126
GSSE as a share of TSE (%)	**0.7**	**0.6**	**0.6**	**0.7**	**0.7**	**1.9**	**-2.3**	**-9.1**	**-31.7**	**103.4**	**23.5**	**17.0**	**13.0**
Consumer Support Estimate (CSE)	**-498**	**-361**	**-424**	**-293**	**-555**	**-2 512**	**3 057**	**1 298**	**401**	**34**	**-68**	**102**	**-289**
Transfers to producers from consumers	**-1 223**	**-1 091**	**-1 018**	**-1 056**	**-1 423**	**-2 821**	**3 014**	**1 363**	**548**	**22**	**-254**	**-151**	**-315**
Other transfers from consumers	**-148**	**-111**	**-121**	**-7**	**-85**	**-501**	**171**	**-9**	**-90**	**5**	**-43**	**-78**	**-42**
Transfers to consumers from taxpayers	**685**	**679**	**639**	**680**	**695**	**86**	**48**	**0**	**0**	**0**	**0**	**0**	**0**
Excess feed cost	**188**	**162**	**76**	**89**	**258**	**725**	**-177**	**-56**	**-58**	**7**	**228**	**331**	**68**
Percentage CSE	**-51**	**-44**	**-50**	**-37**	**-47**	**-61**	**82**	**33**	**7**	**1**	**-1**	**1**	**-5**
Consumer NAC	**2.05**	**1.80**	**2.00**	**1.59**	**1.88**	**2.55**	**0.55**	**0.75**	**0.93**	**0.99**	**1.01**	**0.99**	**1.06**
Total Support Estimate (TSE)	**2 408**	**2 326**	**2 310**	**2 402**	**2 488**	**3 124**	**-3 344**	**-1 375**	**-410**	**189**	**646**	**825**	**1 390**
Transfers from consumers	1 371	1 202	1 139	1 062	1 508	3 322	-3 185	-1 354	-458	-27	296	229	357
Transfers from taxpayers	1 185	1 235	1 292	1 346	1 065	303	-330	-12	138	210	393	385	1 075
Budget revenues	-148	-111	-121	-7	-85	-501	171	-9	-90	5	-43	-78	-42
TSE as a share of GDP (%)	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**-25.42**	**-6.23**	**-1.35**	**0.46**	**1.23**	**1.27**	**1.90**

Notes: p: provisional; e: estimate; n.c.: not calculated; NAC: Nominal Assistance Coefficient.
LC: Local currency. Roubles for 1986-1991; kroons for 1992-1998.
Market price support is net of producer price levies and excess feed costs.
Source: OECD, PSE/CSE database.

Annex Table V.2 **Estonia: Producer support estimate by commodity**

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997p	1998e
Wheat													
LC mn	12	7	2	2	14	77	4	-9	-1	0	2	30	35
Percentage PSE	76	74	62	29	75	90	3	-8	-1	0	1	14	19
Producer NAC	4.14	3.79	2.61	1.41	3.99	9.80	1.04	0.93	0.99	1.00	1.01	1.16	1.23
Coarse grains													
LC mn	171	153	53	86	219	591	-118	-121	-53	82	113	114	111
Percentage PSE	83	83	69	55	81	83	-28	-21	-15	16	12	14	20
Producer NAC	5.83	5.95	3.18	2.23	5.18	6.02	0.78	0.83	0.87	1.19	1.14	1.17	1.24
Potatoes (not included in the aggregation)													
LC mn	158	111	124	188	145	494	-184	68	-11	-594	301	725	387
Percentage PSE	70	69	72	78	79	80	-33	15	-1	-66	35	62	42
Producer NAC	3.35	3.20	3.54	4.45	4.81	4.95	0.75	1.17	0.99	0.60	1.55	2.60	1.71
Oilseeds													
LC mn	nc	nc	nc	nc	nc	nc	1	0	0	4	0	1	17
Percentage PSE	nc	nc	nc	nc	nc	nc	18	-9	4	20	1	4	24
Producer NAC	nc	nc	nc	nc	nc	nc	1.22	0.92	1.04	1.25	1.01	1.04	1.31
Sugar (refined equivalent)													
LC mn	nc	nc	nc	nc	nc	nc	0	0	2	-2	0	nc	nc
Percentage PSE	nc	nc	nc	nc	nc	nc	4	15	35	-49	-76	nc	nc
Producer NAC	nc	nc	nc	nc	nc	nc	1.04	1.18	1.54	0.67	0.57	nc	nc
Crops[1]													
LC mn	**182**	**160**	**55**	**87**	**233**	**667**	**-113**	**-131**	**-51**	**85**	**115**	**146**	**164**
Percentage PSE	**82**	**83**	**68**	**54**	**80**	**84**	**-20**	**-18**	**-12**	**13**	**10**	**14**	**20**
Producer NAC	**5.67**	**5.78**	**3.16**	**2.19**	**5.08**	**6.28**	**0.83**	**0.85**	**0.89**	**1.15**	**1.11**	**1.16**	**1.25**
Milk													
LC mn	392	396	427	410	383	612	-661	-292	-140	129	369	421	750
Percentage PSE	81	79	78	76	73	60	-80	-28	-12	9	20	21	36
Producer NAC	5.36	4.69	4.61	4.16	3.70	2.50	0.56	0.78	0.90	1.09	1.25	1.27	1.56
Beef and Veal													
LC mn	249	251	266	256	291	288	-517	-335	-204	-263	-182	-264	-202
Percentage PSE	79	78	84	80	77	57	-243	-56	-39	-59	-41	-64	-46
Producer NAC	4.66	4.54	6.23	5.12	4.27	2.34	0.29	0.64	0.72	0.63	0.71	0.61	0.69
Pigmeat													
LC mn	187	202	259	236	188	181	-540	-134	107	-25	-55	-148	43
Percentage PSE	59	63	77	71	52	30	-168	-34	19	-4	-8	-19	5
Producer NAC	2.42	2.68	4.27	3.44	2.10	1.42	0.37	0.75	1.24	0.96	0.92	0.84	1.05
Poultry													
LC mn	53	51	59	70	71	39	-58	6	35	48	44	38	85
Percentage PSE	80	81	85	83	81	37	-85	10	32	44	41	34	40
Producer NAC	5.06	5.29	6.57	5.98	5.37	1.58	0.54	1.11	1.47	1.77	1.70	1.51	1.67
Eggs													
LC mn	39	35	41	43	35	99	-143	-81	-35	23	22	51	94
Percentage PSE	74	66	73	74	64	60	-105	-59	-18	11	9	18	32
Producer NAC	3.84	2.93	3.74	3.80	2.77	2.52	0.49	0.63	0.85	1.12	1.10	1.23	1.48
Livestock[1]													
LC mn	**920**	**935**	**1 052**	**1 015**	**968**	**1 220**	**-1 919**	**-836**	**-238**	**-87**	**198**	**99**	**770**
Percentage PSE	**74**	**74**	**79**	**76**	**69**	**51**	**-123**	**-37**	**-9**	**-3**	**6**	**3**	**20**
Producer NAC	**3.90**	**3.85**	**4.84**	**4.20**	**3.21**	**2.03**	**0.45**	**0.73**	**0.92**	**0.97**	**1.06**	**1.03**	**1.25**
All commodities													
LC mn	**1 706**	**1 633**	**1 658**	**1 704**	**1 775**	**2 979**	**-3 470**	**-1 500**	**-539**	**-6**	**494**	**395**	**1 210**
Percentage PSE	**76**	**75**	**79**	**74**	**71**	**59**	**-97**	**-32**	**-10**	**0**	**7**	**5**	**16**
Producer NAC	**4.13**	**4.06**	**4.70**	**3.81**	**3.43**	**2.42**	**0.51**	**0.76**	**0.91**	**1.00**	**1.08**	**1.05**	**1.19**

Notes: p: provisional; e: estimate; n.c.: not calculated; NAC: Nominal Assistance Coefficient.
LC: Local currency. Roubles for 1986-1991; kroons for 1992-1998.
Source: OECD, PSE/CSE database.
1. Only common commodities.

Annex Table V.3 Latvia: Estimates of support to agriculture

(LC mn)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997p	1998e
Total value of production (at farm gate)	**3 285**	**3 088**	**3 477**	**3 774**	**3 955**	**9 287**	**65 222**	**380**	**357**	**443**	**445**	**443**	**373**
of which share of common commodities (%)	*68*	*72*	*70*	*65*	*65*	*58*	*61*	*60*	*64*	*52*	*57*	*56*	*58*
Total value of consumption (at farm gate)	**2 579**	**2 480**	**2 810**	**2 998**	**3 246**	**8 351**	**66 517**	**394**	**413**	**546**	**557**	**526**	**405**
Producer Support Estimate (PSE)	**3 022**	**2 803**	**3 407**	**3 425**	**3 217**	**7 919**	**-65 941**	**-149**	**24**	**19**	**12**	**20**	**39**
Market price support	2 683	2 456	2 765	2 783	2 920	7 662	-66 141	-150	17	7	5	11	18
of which common commodities	*1 812*	*1 772*	*1 922*	*1 813*	*1 905*	*4 454*	*-40 095*	*-91*	*11*	*4*	*3*	*6*	*10*
Payments based on output	231	236	528	504	252	0	70	0	0	0	0	1	1
Payments based on area planted/animal numbers	0	0	0	0	0	0	0	0	5	8	4	5	5
Payments based on historical entitlements	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on input use	108	111	113	138	46	257	130	1	3	3	2	3	15
Payments based on input constraints	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on overall farming income	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	0	0	0
Percentage PSE	**83**	**82**	**83**	**78**	**76**	**83**	**-101**	**-39**	**7**	**4**	**3**	**4**	**10**
Producer NAC	**6.02**	**5.44**	**5.78**	**4.46**	**4.11**	**5.87**	**0.50**	**0.72**	**1.07**	**1.04**	**1.03**	**1.05**	**1.11**
General Services Support Estimate (GSSE)	**83**	**84**	**71**	**83**	**87**	**755**	**797**	**3**	**4**	**7**	**4**	**5**	**6**
Research and development	14	15	3	4	6	19	71	1	1	1	1	0	1
Agricultural schools	9	9	9	9	9	17	173	2	2	3	3	3	3
Inspection services	0	0	0	0	0	3	19	0	1	2	1	1	1
Infrastructure	0	0	0	0	0	0	0	0	0	0	0	0	0
Marketing and promotion	0	0	0	0	0	0	0	0	0	0	0	0	0
Public stockholding	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	60	60	59	71	72	716	535	1	0	2	0	1	2
GSSE as a share of TSE (%)	**2.1**	**2.3**	**1.7**	**1.9**	**1.9**	**8.3**	**-1.2**	**-1.9**	**15.1**	**27.5**	**26.6**	**18.9**	**14.0**
Consumer Support Estimate (CSE)	**-1 200**	**-1 060**	**-1 431**	**-1 272**	**-1 089**	**-6 355**	**53 365**	**90**	**-47**	**-21**	**-22**	**-24**	**-8**
Transfers to producers from consumers	**-1 954**	**-1 843**	**-2 012**	**-2 145**	**-2 481**	**-6 693**	**52 531**	**109**	**-23**	**-7**	**-4**	**-12**	**-20**
Other transfers from consumers	**-166**	**-160**	**-224**	**-122**	**-143**	**-1 094**	**4 643**	**-8**	**-21**	**-10**	**-16**	**-12**	**6**
Transfers to consumers from taxpayers	**807**	**816**	**723**	**868**	**1 258**	**382**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Excess feed cost	**113**	**127**	**81**	**127**	**278**	**1 050**	**-3 809**	**-11**	**-4**	**-4**	**-2**	**0**	**6**
Percentage CSE	**-68**	**-64**	**-69**	**-60**	**-55**	**-80**	**80**	**23**	**-11**	**-4**	**-4**	**-5**	**-2**
Consumer NAC	**3.10**	**2.76**	**3.19**	**2.48**	**2.21**	**4.94**	**0.55**	**0.81**	**1.13**	**1.04**	**1.04**	**1.05**	**1.02**
Total Support Estimate (TSE)	**3 912**	**3 703**	**4 201**	**4 376**	**4 562**	**9 055**	**-65 144**	**-146**	**29**	**26**	**16**	**25**	**45**
Transfers from consumers	2 120	2 003	2 236	2 267	2 624	7 787	-57 174	-101	44	17	20	24	15
Transfers from taxpayers	1 958	1 860	2 189	2 231	2 080	2 362	-12 613	-38	6	18	12	13	24
Budget revenues	-166	-160	-224	-122	-143	-1 094	4 643	-8	-21	-10	-16	-12	6
TSE as a share of GDP (%)	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**-9.98**	**1.40**	**1.09**	**0.59**	**0.76**	**1.22**

Notes: p: provisional; e: estimate; n.c.: not calculated; NAC: Nominal Assistance Coefficient.

Market price support is net of producer price levies and excess feed costs.

LC: Local currency. Roubles for 1986-1992 and lats as from 1993

Source: **OECD, PSE/CSE database.**

Annex Table V.4 Latvia: Producer support estimate by commodity

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997p	1998e
Wheat													
LC mn	19	26	22	28	60	182	-1 425	-6	-1	-1	0	2	5
Percentage PSE	60	62	58	48	69	95	-36	-34	-13	-3	1	6	18
Producer NAC	2.48	2.63	2.37	1.91	3.24	20.52	0.74	0.75	0.89	0.97	1.01	1.06	1.22
Coarse grains													
LC mn	134	147	89	148	260	964	-2 517	-16	-3	-4	-1	2	9
Percentage PSE	71	75	64	61	78	95	-32	-47	-10	-19	-3	4	27
Producer NAC	3.51	4.01	2.77	2.54	4.52	19.18	0.76	0.68	0.91	0.84	0.97	1.05	1.36
Potatoes (not included in the aggregation)													
LC mn	206	110	209	325	377	1 488	-4 647	10	-28	-60	14	17	-7
Percentage PSE	69	58	73	80	86	96	-50	17	-57	-96	20	33	-30
Producer NAC	3.25	2.40	3.75	4.92	7.03	23.43	0.67	1.20	0.64	0.51	1.25	1.49	0.77
Oilseeds													
LC mn	nc	nc	nc	nc	1.74	0.33	3.34	-0.07	-0.02	-0.02	-0.04	0.00	0.03
Percentage PSE	nc	nc	nc	nc	84	81	8	-26	-14	-26	-24	0	12
Producer NAC	nc	nc	nc	nc	6.20	5.21	1.09	0.80	0.88	0.79	0.81	1.00	1.14
Sugar (refined equivalent)													
LC mn	21	21	46	34	31	96	649	2	3	3	3	5	9
Percentage PSE	88	88	91	85	84	96	40	44	49	48	50	55	65
Producer NAC	8.69	8.68	11.59	6.82	6.30	26.31	1.66	1.80	1.97	1.94	2.01	2.25	2.84
Crops[1]													
LC mn	**174**	**193**	**158**	**211**	**353**	**1 243**	**-3 289**	**-20**	**-1**	**-1**	**2**	**9**	**23**
Percentage PSE	**72**	**74**	**69**	**61**	**77**	**95**	**-24**	**-36**	**-3**	**-3**	**2**	**11**	**31**
Producer NAC	**3.53**	**3.88**	**3.22**	**2.58**	**4.30**	**19.76**	**0.81**	**0.74**	**0.97**	**0.97**	**1.03**	**1.12**	**1.44**
Milk													
LC mn	726	708	858	802	694	1 184	-15 302	-30	-7	-5	-4	-3	12
Percentage PSE	87	83	82	79	80	85	-133	-43	-9	-6	-5	-3	13
Producer NAC	7.52	5.76	5.54	4.77	4.89	6.45	0.43	0.70	0.91	0.95	0.95	0.97	1.16
Beef and Veal													
LC mn	582	541	773	721	597	1 094	-11 256	-59	-17	-10	-4	-7	-15
Percentage PSE	89	88	90	87	82	88	-240	-187	-46	-32	-22	-40	-116
Producer NAC	9.42	8.01	9.79	7.91	5.58	8.18	0.29	0.35	0.68	0.76	0.82	0.71	0.46
Pigmeat													
LC mn	441	451	522	466	388	742	-6 868	14	31	15	5	2	-4
Percentage PSE	81	81	85	77	69	68	-92	27	52	28	14	6	-15
Producer NAC	5.35	5.38	6.49	4.39	3.19	3.11	0.52	1.37	2.10	1.39	1.16	1.07	0.87
Poultry													
LC mn	96	103	111	102	84	101	-1 819	3	6	5	3	3	0
Percentage PSE	76	78	81	76	66	55	-206	31	55	54	41	42	-1
Producer NAC	4.11	4.50	5.24	4.25	2.96	2.21	0.33	1.44	2.23	2.16	1.68	1.72	0.99
Eggs													
LC mn	131	132	139	140	84	316	-1 350	2	4	8	7	9	9
Percentage PSE	84	81	84	84	68	81	-85	21	34	49	35	45	48
Producer NAC	6.25	5.29	6.40	6.29	3.14	5.32	0.54	1.26	1.51	1.98	1.53	1.81	1.92
Livestock[1]													
LC mn	**1 976**	**1 935**	**2 402**	**2 231**	**1 848**	**3 437**	**-36 596**	**-70**	**18**	**13**	**6**	**5**	**2**
Percentage PSE	**85**	**83**	**85**	**81**	**76**	**80**	**-140**	**-40**	**9**	**7**	**4**	**3**	**1**
Producer NAC	**6.85**	**5.97**	**6.67**	**5.36**	**4.25**	**4.91**	**0.42**	**0.71**	**1.10**	**1.07**	**1.04**	**1.03**	**1.01**
All commodities													
LC mn	**3 022**	**2 803**	**3 407**	**3 425**	**3 217**	**7 919**	**-65 941**	**-149**	**24**	**19**	**12**	**20**	**39**
Percentage PSE	**83**	**82**	**83**	**78**	**76**	**83**	**-101**	**-39**	**7**	**4**	**3**	**4**	**10**
Producer NAC	**6.02**	**5.44**	**5.78**	**4.46**	**4.11**	**5.87**	**0.50**	**0.72**	**1.07**	**1.04**	**1.03**	**1.05**	**1.11**

Notes: p: provisional; e: estimate; n.c.: not calculated; NAC: Nominal Assistance Coefficient.
LC: Local currency. Roubles for 1986-1992 and lats as from 1993
1. Only common commodities.
Source: OECD, PSE/CSE database.

Annex Table V.5 Lithuania: Estimates of support to agriculture

(LC mn)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997p	1998e
Total value of production (at farm gate)	**4 370**	**4 434**	**4 974**	**5 006**	**5 696**	**12 063**	**96 812**	**3 480**	**3 570**	**5 535**	**6 337**	**6 813**	**6 536**
of which share of common commodities (%)	*79*	*80*	*80*	*79*	*81*	*79*	*71*	*72*	*66*	*60*	*68*	*63*	*57*
Total value of consumption (at farm gate)	**2 809**	**2 817**	**3 208**	**3 129**	**3 761**	**7 571**	**72 641**	**2 546**	**3 001**	**4 385**	**4 930**	**5 189**	**5 064**
Producer Support Estimate (PSE)	**3 592**	**3 472**	**4 440**	**4 165**	**4 448**	**-31 847**	**-120 633**	**-1 291**	**-547**	**21**	**298**	**528**	**925**
Market price support	3 422	3 375	3 831	3 593	3 987	-31 951	-121 156	-1 305	-645	-173	37	246	626
of which common commodities	*2 711*	*2 689*	*3 046*	*2 841*	*3 226*	*-25 082*	*-85 757*	*-942*	*-426*	*-104*	*25*	*156*	*358*
Payments based on output	170	97	610	571	461	0	0	0	18	154	182	211	212
Payments based on area planted/animal numbers	0	0	0	0	0	0	0	0	0	0	12	7	11
Payments based on historical entitlements	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on input use	0	0	0	0	0	104	523	13	76	36	47	63	70
Payments based on input constraints	0	0	0	0	0	0	0	1	4	4	5	1	1
Payments based on overall farming income	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0	0	0	0	0	0	14	0	5
Percentage PSE	**79**	**77**	**80**	**75**	**72**	**-262**	**-124**	**-37**	**-15**	**0**	**5**	**7**	**14**
Producer NAC	**4.79**	**4.28**	**4.88**	**3.95**	**3.60**	**0.28**	**0.45**	**0.73**	**0.87**	**1.00**	**1.05**	**1.08**	**1.16**
General Services Support Estimate (GSSE)	**697**	**168**	**303**	**314**	**69**	**363**	**2 134**	**77**	**160**	**170**	**207**	**241**	**221**
Research and development	205	49	89	92	20	27	15	15	23	27	24	26	29
Agricultural schools	0	0	0	0	0	148	1 029	22	37	79	101	133	146
Inspection services	0	0	0	0	0	0	0	0	0	0	16	22	0
Infrastructure	492	118	214	222	49	187	1 090	40	100	65	63	58	30
Marketing and promotion	0	0	0	0	0	0	0	0	0	0	5	0	5
Public stockholding	0	0	0	0	0	0	0	0	0	0	0	0	9
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	2	2
GSSE as a share of TSE (%)	**12.7**	**3.5**	**5.1**	**5.5**	**1.2**	**-1.2**	**-1.8**	**-6.4**	**-41.4**	**88.8**	**41.0**	**31.3**	**19.3**
Consumer Support Estimate (CSE)	**-934**	**-874**	**-1 256**	**-939**	**-1 488**	**18 279**	**79 236**	**927**	**488**	**13**	**-161**	**-296**	**-507**
Transfers to producers from consumers	**-2 327**	**-2 277**	**-2 576**	**-2 354**	**-3 029**	**21 533**	**88 909**	**1 022**	**623**	**53**	**-194**	**-348**	**-538**
Other transfers from consumers	**-43**	**-40**	**-29**	**-45**	**-59**	**76**	**234**	**3**	**-13**	**-12**	**0**	**0**	**0**
Transfers to consumers from taxpayers	**1 211**	**1 207**	**1 154**	**1 273**	**1 025**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**
Excess feed cost	**225**	**236**	**195**	**186**	**575**	**-3 330**	**-9 907**	**-102**	**-123**	**-28**	**33**	**52**	**30**
Percentage CSE	**-58**	**-54**	**-61**	**-51**	**-54**	**241**	**109**	**36**	**16**	**0.3**	**-3**	**-6**	**-10**
Consumer NAC	**2.41**	**2.19**	**2.57**	**2.03**	**2.19**	**0.29**	**0.48**	**0.73**	**0.86**	**1.00**	**1.03**	**1.06**	**1.11**
Total Support Estimate (TSE)	**5 499**	**4 846**	**5 897**	**5 751**	**5 543**	**-31 484**	**-118 499**	**-1 211**	**-386**	**192**	**505**	**769**	**1 146**
Transfers from consumers	2 370	2 318	2 605	2 398	3 088	-21 609	-89 143	-1 026	-610	-41	194	348	538
Transfers from taxpayers	3 172	2 569	3 322	3 398	2 513	-9 951	-29 590	-188	236	245	310	421	608
Budget revenues	-43	-40	-29	-45	-59	76	234	3	-13	-12	0	0	0
TSE as a share of GDP (%)	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**-37.41**	**-10.45**	**-2.29**	**0.80**	**1.60**	**2.00**	**2.86**

Notes: p: provisional; e: estimate; n.c.: not calculated; NAC: Nominal Assistance Coefficient.

Market price support is net of producer price levies and excess feed costs.

LC: Local currency. Roubles for 1986-1991; talonas for 1992, litas as from 1993.

Source: **OECD, PSE/CSE database.**

Annex Table V.6 **Lithuania: Producer support estimate by commodity**

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997p	1998e
Wheat													
LC mn	58	67	79	79	260	-1 515	-5 537	-96	-66	-24	-9	3	18
Percentage PSE	62	63	60	44	75	-211	-66	-39	-43	-7	-1	1	4
Producer NAC	2.66	2.67	2.52	1.78	4.04	0.32	0.60	0.72	0.70	0.93	0.99	1.01	1.04
Coarse grains													
LC mn	216	226	188	194	518	-3 548	-6 175	-82	-103	-28	87	111	83
Percentage PSE	73	75	67	57	82	-166	-52	-18	-30	-6	9	13	14
Producer NAC	3.73	3.94	2.99	2.31	5.58	0.38	0.66	0.85	0.77	0.94	1.10	1.15	1.16
Potatoes (not included in the aggregation)													
LC mn	306	162	317	370	506	-4 417	5 354	168	-25	-77	-52	294	135
Percentage PSE	69	63	71	75	84	-229	25	28	-4	-5	-8	36	13
Producer NAC	3.26	2.67	3.51	4.05	6.22	0.30	1.34	1.39	0.96	0.96	0.93	1.57	1.15
Oilseeds													
LC mn	4	7	23	27	27	-35	200	-2	-1	1	4	0	8
Percentage PSE	99	93	93	93	93	-135	48	-116	-14	4	15	1	11
Producer NAC	84	14	15	14	13.57	0.42	1.93	0.46	0.88	1.04	1.18	1.01	1.12
Sugar (refined equivalent)													
LC mn	54	47	89	75	70	-245	1 796	49	15	48	63	91	110
Percentage PSE	90	89	89	85	87	-86	52	43	28	40	43	50	62
Producer NAC	9.63	8.91	9.09	6.53	7.79	0.54	2.08	1.74	1.38	1.66	1.75	1.98	2.66
Crops[1]													
LC mn	**332**	**347**	**379**	**375**	**875**	**-5 343**	**-9 715**	**-130**	**-155**	**-3**	**146**	**206**	**219**
Percentage PSE	**73**	**74**	**70**	**59**	**81**	**-169**	**-40**	**-16**	**-28**	**0**	**8**	**12**	**17**
Producer NAC	**3.76**	**3.82**	**3.38**	**2.42**	**5.15**	**0.37**	**0.71**	**0.86**	**0.78**	**1.00**	**1.09**	**1.14**	**1.21**
Milk													
LC mn	909	853	1 054	1 021	1 000	-9 947	-33 295	-492	-409	-260	-266	-185	60
Percentage PSE	83	78	78	76	77	-565	-195	-82	-73	-28	-26	-17	6
Producer NAC	5.91	4.51	4.52	4.09	4.35	0.15	0.34	0.55	0.58	0.78	0.79	0.85	1.06
Beef and Veal													
LC mn	871	800	984	917	917	-3 937	-25 765	-413	-181	-151	-105	-77	-86
Percentage PSE	85	83	85	83	75	-177	-232	-87	-39	-31	-21	-13	-14
Producer NAC	6.73	5.93	6.59	5.80	4.06	0.36	0.30	0.53	0.72	0.76	0.83	0.88	0.88
Pigmeat													
LC mn	561	600	880	740	616	-3 572	-12 374	94	280	313	306	287	268
Percentage PSE	73	74	83	75	60	-215	-110	22	51	42	38	34	39
Producer NAC	3.66	3.78	5.75	4.06	2.50	0.32	0.48	1.28	2.05	1.72	1.61	1.51	1.64
Poultry													
LC mn	90	90	133	140	109	-713	-1 551	31	103	118	117	115	102
Percentage PSE	67	65	75	74	53	-215	-67	30	60	57	52	55	55
Producer NAC	3.02	2.89	4.03	3.79	2.12	0.32	0.60	1.43	2.49	2.31	2.07	2.22	2.20
Eggs													
LC mn	82	76	100	100	83	-1 489	-2 685	-21	6	38	29	44	25
Percentage PSE	68	60	69	71	56	-363	-87	-25	5	25	15	23	17
Producer NAC	3.12	2.49	3.24	3.50	2.28	0.22	0.54	0.80	1.06	1.33	1.18	1.30	1.21
Livestock[1]													
LC mn	**2 513**	**2 419**	**3 151**	**2 918**	**2 724**	**-19 657**	**-75 671**	**-802**	**-200**	**57**	**81**	**183**	**370**
Percentage PSE	**80**	**77**	**81**	**77**	**70**	**-308**	**-169**	**-47**	**-11**	**2**	**3**	**6**	**14**
Producer NAC	**4.98**	**4.36**	**5.21**	**4.42**	**3.33**	**0.25**	**0.37**	**0.68**	**0.90**	**1.02**	**1.03**	**1.07**	**1.16**
All commodities													
LC mn	**3 592**	**3 472**	**4 440**	**4 165**	**4 448**	**-31 847**	**-120 633**	**-1 291**	**-547**	**21**	**298**	**528**	**925**
Percentage PSE	**79**	**77**	**80**	**75**	**72**	**-262**	**-124**	**-37**	**-15**	**0**	**5**	**7**	**14**
Producer NAC	**4.79**	**4.28**	**4.88**	**3.95**	**3.60**	**0.28**	**0.45**	**0.73**	**0.87**	**1.00**	**1.05**	**1.08**	**1.16**

Notes: p: provisional; e: estimate; n.c.: not calculated; NAC: Nominal Assistance Coefficient.

LC: Local currency. Roubles for 1986-1991; talonas for 1992, litas as from 1993.

1. Only common commodities.

Source: OECD, PSE/CSE database.

Annex Table V.7 **Slovakia: Estimates of support to agriculture**

(LC mn)

	1986	1987	**1988**	1989	**1990**	1991	**1992**	1993	**1994**	1995	**1996**	1997p	**1998e**
Total value of production (at farm gate)	**44 374**	**47 004**	**48 427**	**58 555**	**54 238**	**51 515**	**42 977**	**45 252**	**52 547**	**55 133**	**59 693**	**62 381**	**60 478**
of which share of common commodities (%)	*69*	*68*	*68*	*67*	*73*	*69*	*78*	*79*	*76*	*74*	*73*	*76*	*68*
Total value of consumption (at farm gate)	**37 421**	**39 379**	**40 293**	**51 434**	**47 371**	**45 305**	**39 787**	**42 131**	**50 894**	**53 294**	**56 398**	**56 857**	**62 819**
Producer Support Estimate (PSE)	**30 970**	**29 260**	**27 477**	**37 456**	**35 859**	**21 403**	**15 197**	**13 822**	**14 149**	**11 982**	**7 621**	**10 058**	**16 311**
Market price support	20 821	18 939	16 625	22 307	20 281	12 608	4 883	6 974	8 062	4 933	-117	39	6 642
of which common commodities	*14 365*	*12 828*	*11 238*	*14 857*	*14 800*	*8 670*	*3 800*	*5 533*	*6 156*	*3 654*	*-85*	*30*	*4 548*
Payments based on output	797	870	1 426	3 970	4 232	0	0	452	489	777	742	1 316	1 254
Payments based on area planted/animal numbers	0	0	0	0	0	6 235	3 872	3 758	3 482	3 447	3 435	3 456	3 219
Payments based on historical entitlements	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on input use	2 418	2 319	2 276	2 361	1 993	1 211	2 625	2 258	1 986	2 603	3 325	5 027	4 958
Payments based on input constraints	0	0	0	0	0	51	50	44	0	0	20	47	47
Payments based on overall farming income	6 934	7 131	7 149	8 818	9 352	1 212	3 445	336	132	130	140	140	145
Miscellaneous payments	0	0	0	0	0	86	322	0	0	92	76	33	45
Percentage PSE	**57**	**51**	**46**	**51**	**51**	**35**	**29**	**27**	**24**	**19**	**11**	**14**	**23**
Producer NAC	**2.31**	**2.04**	**1.86**	**2.03**	**2.06**	**1.55**	**1.40**	**1.36**	**1.32**	**1.24**	**1.13**	**1.16**	**1.30**
General Services Support Estimate (GSSE)	**1 942**	**2 176**	**2 390**	**2 282**	**2 410**	**2 638**	**2 017**	**1 495**	**1 895**	**1 889**	**1 797**	**1 707**	**1 684**
Research and development	554	564	602	774	664	855	638	465	426	539	499	633	559
Agricultural schools	672	873	1 005	711	653	852	613	335	558	337	210	104	104
Inspection services	442	461	488	511	542	617	488	418	511	595	312	456	563
Infrastructure	274	279	294	286	551	313	277	276	392	400	739	413	361
Marketing and promotion	0	0	0	0	0	0	0	0	3	2	36	102	98
Public stockholding	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0	0	0	6	16	0	0	0
GSSE as a share of TSE (%)	**5.2**	**6.0**	**6.9**	**4.7**	**5.6**	**11.0**	**11.7**	**9.8**	**11.8**	**13.6**	**19.1**	**14.5**	**9.4**
Consumer Support Estimate (CSE)	**-12 603**	**-11 232**	**-9 262**	**-9 663**	**-11 706**	**-10 654**	**-3 688**	**-6 644**	**-7 802**	**-3 723**	**1 284**	**543**	**-5 443**
Transfers to producers from consumers	**-17 914**	**-16 845**	**-14 021**	**-17 835**	**-15 834**	**-11 202**	**-3 437**	**-7 299**	**-8 100**	**-2 863**	**3 343**	**1 419**	**-5 566**
Other transfers from consumers	**-130**	**-126**	**-94**	**-272**	**-740**	**-274**	**21**	**-411**	**-524**	**58**	**45**	**-61**	**-280**
Transfers to consumers from taxpayers	**4 528**	**4 719**	**4 669**	**8 786**	**4 619**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Excess feed cost	**913**	**1 020**	**184**	**-342**	**249**	**822**	**-272**	**1 066**	**822**	**-918**	**-2 104**	**-815**	**403**
Percentage CSE	**-38**	**-32**	**-26**	**-23**	**-27**	**-24**	**-9**	**-16**	**-15**	**-7**	**2**	**1**	**-9**
Consumer NAC	**1.62**	**1.48**	**1.35**	**1.29**	**1.38**	**1.31**	**1.10**	**1.19**	**1.18**	**1.08**	**0.98**	**0.99**	**1.09**
Total Support Estimate (TSE)	**37 440**	**36 155**	**34 535**	**48 524**	**42 888**	**24 041**	**17 214**	**15 316**	**16 044**	**13 871**	**9 418**	**11 765**	**17 994**
Transfers from consumers	18 044	16 971	14 115	18 107	16 574	11 476	3 416	7 710	8 624	2 805	-3 388	-1 358	5 846
Transfers from taxpayers	19 526	19 311	20 514	30 689	27 054	12 839	13 776	8 018	7 945	11 008	12 761	13 184	12 428
Budget revenues	-130	-126	-94	-272	-740	-274	21	-411	-524	58	45	-61	-280
TSE as a share of GDP (%)	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**4.15**	**3.64**	**2.68**	**1.64**	**1.80**	**2.52**

Notes: p: provisional; e: estimate; n.c.: not calculated ; NAC: Nominal Assistance Coefficient.

Market price support is net of producer price levies and excess feed costs.

LC: Local currency. Czechoslovak koruna before 1993, Slovak koruna as from 1993.

Source: **OECD, PSE/CSE database.**

Annex Table V.8 Slovakia: Producer support estimate by commodity

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997p	1998e
Wheat													
LC mn	1 158	1 232	928	351	1 042	1 837	668	1 415	1 645	-866	-1 721	18	1 449
Percentage PSE	31	28	18	6	19	33	12	24	20	-13	-25	0	19
Producer NAC	1.46	1.38	1.22	1.07	1.24	1.48	1.14	1.32	1.25	0.89	0.80	1.00	1.24
Maize													
LC mn	706	1 131	656	1 092	552	702	887	777	344	352	20	442	-21
Percentage PSE	35	47	29	41	43	30	34	29	16	14	1	12	-1
Producer NAC	1.55	1.87	1.41	1.69	1.77	1.43	1.51	1.41	1.20	1.16	1.01	1.14	0.99
Other grains													
LC mn	819	1 007	185	434	810	579	373	1 195	1 140	172	-450	527	1 216
Percentage PSE	37	43	8	15	28	22	12	37	33	6	-14	12	29
Producer NAC	1.58	1.77	1.09	1.17	1.38	1.28	1.14	1.59	1.49	1.06	0.88	1.13	1.41
Potatoes (not included in the aggregation)													
LC mn	249	17	-30	862	916	1 408	1 877	2 221	1 897	1 224	1 961	1 693	1 002
Percentage PSE	17	1	-2	45	42	48	59	66	55	28	53	62	39
Producer NAC	1.21	1.01	0.98	1.83	1.73	1.91	2.44	2.95	2.25	1.38	2.15	2.64	1.65
Oilseeds													
LC mn	458	514	321	585	610	603	224	-18	7	232	178	251	169
Percentage PSE	60	62	39	58	62	47	27	-2	1	13	9	12	9
Producer NAC	2.49	2.64	1.63	2.36	2.62	1.87	1.37	0.98	1.01	1.15	1.10	1.13	1.10
Sugar (refined equivalent)													
LC mn	617	483	418	719	732	1 149	753	481	342	337	612	820	1 130
Percentage PSE	70	66	56	57	59	68	60	47	34	29	35	44	87
Producer NAC	3.37	2.92	2.26	2.33	2.43	3.17	2.51	1.90	1.52	1.40	1.53	1.78	7.60
Crops[1]													
LC mn	**3 758**	**4 366**	**2 508**	**3 181**	**3 746**	**4 870**	**2 905**	**3 851**	**3 479**	**228**	**-1 360**	**2 058**	**3 944**
Percentage PSE	**39**	**41**	**22**	**24**	**31**	**36**	**22**	**28**	**22**	**1**	**-8**	**10**	**23**
Producer NAC	**1.65**	**1.68**	**1.29**	**1.31**	**1.46**	**1.56**	**1.28**	**1.40**	**1.28**	**1.02**	**0.93**	**1.11**	**1.30**
Milk													
LC mn	8 273	7 105	6 377	8 014	10 777	4 507	3 272	4 205	3 674	3 885	3 469	4 527	5 656
Percentage PSE	76	66	58	64	73	52	43	48	42	42	38	45	52
Producer NAC	4.20	2.97	2.39	2.75	3.76	2.10	1.75	1.93	1.73	1.72	1.62	1.81	2.09
Beef and Veal													
LC mn	4 742	4 389	4 130	5 526	6 089	2 818	2 343	45	205	559	225	69	-424
Percentage PSE	70	65	63	69	64	44	40	1	4	12	5	1	-10
Producer NAC	3.39	2.85	2.71	3.24	2.79	1.78	1.66	1.01	1.05	1.13	1.05	1.01	0.91
Pigmeat													
LC mn	3 448	3 516	4 412	5 979	4 354	1 714	1 572	1 849	2 453	2 447	1 742	-623	264
Percentage PSE	48	47	55	56	41	20	17	19	23	21	15	-5	2
Producer NAC	1.93	1.88	2.23	2.27	1.71	1.26	1.20	1.24	1.29	1.27	1.17	0.95	1.02
Poultry													
LC mn	903	909	1 160	1 537	1 075	558	634	462	384	698	783	761	781
Percentage PSE	45	44	54	59	42	26	28	24	21	32	28	22	20
Producer NAC	1.81	1.80	2.18	2.46	1.71	1.34	1.38	1.32	1.26	1.46	1.38	1.28	1.25
Eggs													
LC mn	1 125	670	1 056	1 298	686	455	759	481	552	851	563	815	860
Percentage PSE	52	31	46	55	29	18	29	20	19	31	18	25	28
Producer NAC	1.22	1.41	1.24	1.23	1.45	1.22	1.33	1.38	0.00	0.00	0.00	0.00	0.00
Livestock[1]													
LC mn	**18 491**	**16 589**	**17 134**	**22 354**	**22 980**	**10 052**	**8 581**	**7 042**	**7 267**	**8 440**	**6 783**	**5 549**	**7 137**
Percentage PSE	**64**	**57**	**57**	**62**	**58**	**36**	**31**	**25**	**25**	**28**	**22**	**16**	**21**
Producer NAC	**2.77**	**2.32**	**2.34**	**2.61**	**2.38**	**1.56**	**1.44**	**1.34**	**1.34**	**1.38**	**1.28**	**1.19**	**1.26**
All commodities													
LC mn	**30 970**	**29 260**	**27 477**	**37 456**	**35 859**	**21 403**	**15 197**	**13 822**	**14 149**	**11 982**	**7 621**	**10 058**	**16 311**
Percentage PSE	**57**	**51**	**46**	**51**	**51**	**35**	**29**	**27**	**24**	**19**	**11**	**14**	**23**
Producer NAC	**2.31**	**2.04**	**1.86**	**2.03**	**2.06**	**1.55**	**1.40**	**1.36**	**1.32**	**1.24**	**1.13**	**1.16**	**1.30**

Notes: p: provisional ; e: estimate; NAC: Nominal Assistance Coefficient.

LC: Local currency. Czechoslovak koruna before 1993, Slovak koruna as from 1993.

1. Only common commodities.

Source: OECD, PSE/CSE database.

Annex Table V.9 Russia: Estimates of support to agriculture

(Rb mn)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996p	1997p	1998a;e
Total value of production (at farm gate)	**94 700**	**100 281**	**122 880**	**134 667**	**152 442**	**241 164**	**2 330 202**	**16 739 160**	**45 502 356**	**154 642 677**	**212 914 288**	**237 041 920**	**227 781**
of which share of common commodities (%)	*80*	*79*	*79*	*81*	*81*	*71*	*77*	*72*	*63*	*62*	*63*	*69*	*65*
Total value of consumption (at farm gate)	**112 690**	**118 103**	**152 138**	**164 276**	**175 837**	**300 629**	**2 618 836**	**18 799 656**	**55 007 090**	**192 826 856**	**260 318 833**	**284 467 129**	**299 173**
Producer Support Estimate (PSE)	**94 768**	**97 761**	**110 398**	**113 469**	**115 729**	**150 473**	**-2 647 116**	**-4 745 945**	**-6 096 896**	**32 073 140**	**63 673 136**	**83 742 691**	**49 806**
Market price support	73 183	76 053	95 794	99 698	101 455	138 533	-3 412 307	-10 069 998	-17 432 794	7 841 928	30 747 312	61 557 300	15 236
of which common commodities	*58 443*	*59 881*	*75 846*	*80 568*	*82 189*	*98 770*	*-2 617 813*	*-7 252 248*	*-11 042 553*	*4 831 766*	*19 443 002*	*42 388 376*	*9 955*
Payments based on output	1 350	1 500	0	0	0	0	369 872	1 898 029	4 078 428	8 175 655	10 446 584	8 637 254	8 820
Payments based on area planted/animal numbers	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on historical entitlements	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on input use	18 136	18 079	13 846	12 993	13 725	1 654	373 515	2 943 772	6 564 066	13 122 550	22 192 050	13 389 753	25 750
Payments based on input constraints	0	0	0	0	0	0	0	0	0	0	0	0	0
Payments based on overall farming income	0	0	0	0	0	9 844	0	0	0	0	0	0	0
Miscellaneous payments	2 099	2 129	757	778	550	442	21 804	482 252	693 404	2 933 007	287 190	158 383	0
Percentage PSE	**81**	**80**	**80**	**76**	**69**	**59**	**-86**	**-22**	**-11**	**18**	**26**	**32**	**19**
Producer NAC	**5.40**	**5.04**	**5.08**	**4.24**	**3.27**	**2.47**	**0.54**	**0.82**	**0.90**	**1.22**	**1.35**	**1.48**	**1.23**
General Services Support Estimate (GSSE)	**3 885**	**4 396**	**4 960**	**5 105**	**5 820**	**8 327**	**69 605**	**550 464**	**2 208 236**	**3 585 774**	**3 885 429**	**17 198 895**	**3 393**
Research and development	598	798	899	997	1 496	2 135	4 421	75 018	156 996	238 770	371 388	375 789	332
Agricultural schools	420	423	429	434	444	664	6 883	56 607	185 024	437 217	1 153 700	1 211 200	856
Inspection services	241	256	268	182	245	316	5 732	76 622	306 748	668 672	855 300	949 383	949
Infrastructure	1 024	1 216	1 561	1 588	1 631	1 638	26 921	199 668	1 001 764	855 950	167 878	18 100	0
Marketing and promotion	0	0	0	0	0	1 090	1 400	780	27 880	129 645	119 467	75 914	0
Public stockholding	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	1 602	1 703	1 803	1 904	2 004	2 482	24 248	141 769	529 824	1 255 520	1 217 695	14 568 509	1 256
GSSE as a share of TSE (%)	**3.0**	**3.3**	**3.1**	**3.1**	**3.3**	**3.9**	**-2.8**	**-14.5**	**-64.0**	**10.1**	**5.8**	**17.0**	**6.4**
Consumer Support Estimate (CSE)	**-60 901**	**-62 368**	**-78 312**	**-80 091**	**-70 411**	**-140 927**	**4 025 088**	**11 935 518**	**21 734 302**	**-6 279 327**	**-44 393 553**	**-87 850 845**	**-27 821**
Transfers to producers from consumers	**-80 045**	**-83 463**	**-102 588**	**-110 176**	**-119 650**	**-179 259**	**4 017 491**	**12 027 393**	**21 094 279**	**667 865**	**-29 861 652**	**-62 826 252**	**-9 685**
Other transfers from consumers	**-16 131**	**-14 874**	**-24 914**	**-24 966**	**-19 500**	**-46 725**	**404 016**	**1 020 692**	**2 757 617**	**-1 650 755**	**-13 901 441**	**-26 087 294**	**-14 061**
Transfers to consumers from taxpayers	**29 460**	**30 135**	**43 808**	**46 530**	**53 690**	**55 913**	**74 166**	**388 225**	**437 801**	**0**	**0**	**0**	**0**
Excess feed cost	**5 815**	**5 834**	**5 382**	**8 522**	**15 049**	**29 144**	**-470 584**	**-1 500 792**	**-2 555 395**	**-5 296 437**	**-630 461**	**1 062 701**	**-4 075**
Percentage CSE	**-73**	**-71**	**-72**	**-68**	**-58**	**-58**	**158**	**65**	**40**	**-3**	**-17**	**-31**	**-9**
Consumer NAC	**3.73**	**3.44**	**3.61**	**3.13**	**2.36**	**2.36**	**0.39**	**0.61**	**0.72**	**1.03**	**1.21**	**1.45**	**1.10**
Total Support Estimate (TSE)	**128 113**	**132 291**	**159 166**	**165 104**	**175 240**	**214 712**	**-2 503 345**	**-3 807 257**	**-3 450 859**	**35 658 914**	**67 558 564**	**100 941 586**	**53 199**
Transfers from consumers	96 176	98 337	127 503	135 143	139 150	225 983	-4 421 506	-13 048 086	-23 851 895	982 891	43 763 092	88 913 546	23 746
Transfers from taxpayers	48 069	48 829	56 578	54 928	55 590	35 453	1 514 146	8 220 137	17 643 420	36 326 778	37 696 912	38 115 334	43 514
Budget revenues	-16 131	-14 874	-24 914	-24 966	-19 500	-46 725	404 016	1 020 692	2 757 617	-1 650 755	-13 901 441	-26 087 294	-14 061
TSE as a share of GDP (%)	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**n.c.**	**-13.18**	**-2.22**	**-0.57**	**2.25**	**3.07**	**3.90**	**1.98**

Notes: a: for 1998, all values are given in denominated roubles (denominated by a factor of 1 000); p: provisional; e: estimate; n.c.: not calculated ; NAC: Nominal Assistance Coefficient.
Market price support is net of producer price levies and excess feed costs.
Source: **OECD, PSE/CSE database.**

Annex Table V.10 **Russia: Producer support estimate by commodity**

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996p	1997p	1998a;e
Wheat													
Rb mn	4 476	4 029	3 681	6 340	10 814	23 124	-392 368	-659 007	-1 466 981	-2 581 375	1 314 894	3 272 812	-3 136
Percentage PSE	68	70	62	65	70	81	-89	-25	-37	-21	5	11	-19
Producer NAC	3.08	3.28	2.61	2.84	3.36	5.36	0.53	0.80	0.73	0.83	1.06	1.12	0.84
Maize													
Rb mn	594	899	1 608	1 814	1 800	1 989	-12 129	-6 092	98 422	287 963	432 021	707 770	82
Percentage PSE	87	84	87	86	90	85	-55	-3	38	27	39	34	12
Producer NAC	7.88	6.17	7.63	6.98	9.89	6.89	0.65	0.97	1.61	1.38	1.63	1.51	1.13
Other grains													
Rb mn	6 448	6 060	4 275	6 406	11 808	16 479	-106 960	-688 105	-1 562 073	-3 006 433	2 096 370	2 586 479	-1 445
Percentage PSE	77	76	62	65	72	74	-15	-28	-35	-40	12	12	-16
Producer NAC	4.26	4.11	2.60	2.83	3.62	3.86	0.87	0.78	0.74	0.71	1.13	1.14	0.86
Potatoes (noot included in the aggregation)													
Rb mn	2 335	4 993	5 153	7 159	7 571	32 911	-243 809	680 392	-459 258	-9 398 416	30 161 594	27 947 140	24 021
Percentage PSE	78	67	69	78	75	82	-60	26	-5	-24	63	65	53
Producer NAC	4.57	2.99	3.24	4.53	3.96	5.53	0.63	1.35	0.95	0.81	2.67	2.85	2.12
Oilseeds													
Rb mn	628	1 181	937	1 732	1 185	1 771	-31 469	-299 484	-281 054	186 743	-2 721	-264 134	-832
Percentage PSE	77	84	73	80	73	69	-49	-123	-37	5	0	-11	-21
Producer NAC	4.31	6.42	3.74	5.06	3.65	3.21	0.67	0.45	0.73	1.05	1.00	0.90	0.83
Sugar (refined equivalent)													
Rb mn	2 295	2 671	2 393	2 594	1 946	1 499	9 146	357 447	238 115	1 049 803	1 661 832	1 538 980	2 077
Percentage PSE	92	91	89	85	78	70	12	49	26	34	48	52	59
Producer NAC	12.71	11.73	9.18	6.48	4.63	3.35	1.14	1.94	1.36	1.52	1.94	2.09	2.44
Crops[1]													
Rb mn	**14 441**	**14 840**	**12 893**	**18 887**	**27 552**	**44 861**	**-533 782**	**-1 295 240**	**-2 973 572**	**-4 063 300**	**5 502 396**	**7 841 907**	**-3 254**
Percentage PSE	**76**	**77**	**69**	**70**	**73**	**78**	**-41**	**-21**	**-29**	**-15**	**11**	**14**	**-10**
Producer NAC	**4.14**	**4.41**	**3.21**	**3.32**	**3.68**	**4.49**	**0.71**	**0.83**	**0.78**	**0.87**	**1.12**	**1.16**	**0.91**
Milk													
Rb mn	27 033	26 388	34 204	34 020	32 214	27 821	-471 298	-929 176	-1 169 168	15 019 333	18 882 269	21 645 958	19 064
Percentage PSE	89	86	86	84	80	63	-102	-27	-13	39	41	45	35
Producer NAC	8.96	7.05	7.36	6.24	5.00	2.69	0.49	0.79	0.89	1.63	1.69	1.81	1.54
Beef and Veal													
Rb mn	18 342	19 618	22 229	22 302	22 244	23 271	-370 414	-1 036 013	-2 789 629	-3 149 067	1 127 050	10 385 477	-3 318
Percentage PSE	87	85	86	83	74	63	-135	-41	-48	-20	5	32	-11
Producer NAC	7.46	6.74	6.96	5.76	3.91	2.73	0.42	0.71	0.67	0.83	1.05	1.48	0.90
Pigmeat													
Rb mn	8 041	8 634	10 558	9 515	7 881	5 259	-311 543	320 131	1 448 872	5 093 531	6 465 953	8 404 162	6 231
Percentage PSE	71	71	76	66	49	25	-162	16	29	37	36	43	25
Producer NAC	3.40	3.50	4.20	2.90	1.97	1.34	0.38	1.19	1.42	1.59	1.56	1.75	1.34
Poultry													
Rb mn	4 445	4 938	5 019	5 214	3 564	3 854	-103 792	343 831	1 345 209	4 043 866	4 459 274	5 218 113	7 754
Percentage PSE	77	78	80	76	49	34	-117	32	49	64	58	60	61
Producer NAC	4.35	4.61	4.95	4.14	1.97	1.51	0.46	1.47	1.96	2.75	2.39	2.52	2.59
Eggs													
Rb mn	3 948	3 642	3 724	3 224	1 991	3 926	-176 067	-140 257	1 272 986	5 878 183	7 106 319	8 183 280	7 969
Percentage PSE	70	63	66	59	36	35	-142	-12	31	55	48	52	45
Producer NAC	3.36	2.72	2.93	2.43	1.56	1.54	0.41	0.89	1.44	2.23	1.94	2.09	1.83
Livestock[1]													
Rb mn	**61 809**	**63 220**	**75 734**	**74 275**	**67 895**	**64 131**	**-1 433 114**	**-1 441 484**	**108 270**	**26 885 846**	**38 040 866**	**53 836 989**	**37 701**
Percentage PSE	**83**	**81**	**83**	**79**	**69**	**52**	**-126**	**-14**	**0**	**31**	**35**	**43**	**27**
Producer NAC	**5.91**	**5.29**	**5.85**	**4.69**	**3.19**	**2.06**	**0.44**	**0.88**	**1.00**	**1.46**	**1.54**	**1.76**	**1.37**
All commodities													
Rb mn	**94 768**	**97 761**	**110 398**	**113 469**	**115 729**	**150 473**	**-2 647 116**	**-4 745 945**	**-6 096 896**	**32 073 140**	**63 673 136**	**83 742 691**	**49 806**
Percentage PSE	**81**	**80**	**80**	**76**	**69**	**59**	**-86**	**-22**	**-11**	**18**	**26**	**32**	**19**
Producer NAC	**5.40**	**5.04**	**5.08**	**4.24**	**3.27**	**2.47**	**0.54**	**0.82**	**0.90**	**1.22**	**1.35**	**1.48**	**1.23**

Notes: a: for 1998, all values are given in denominated roubles (denominated by a factor of 1 000); p: provisional; e: estimate; n.c.: not calculated ; NAC: Nominal Assistance Coefficient.

1. Only common commodities.

Source: OECD, PSE/CSE database.

Annex Table V.11. i **Estimates of support to agriculture by country, 1986-1998**

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997p	1998e
Estonia														
Total PSE	mn US$	2 472	2 592	2 764	2 704	3 060	1 708	-274	-113	-42	-1	41	28	86
	mn ECU	2 519	2 248	2 339	2 456	2 410	1 382	-212	-97	-35	0	32	25	77
General Support Estimate	mn US$	25	21	21	28	30	34	6	9	10	17	13	10	13
Total Support Estimate	mn US$	3 490	3 692	3 850	3 812	4 289	1 791	-264	-104	-32	16	54	39	99
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	-25.4	-6.2	-1.4	0.5	1.2	0.8	1.9
Percentage PSE	**%**	**76**	**75**	**79**	**74**	**71**	**59**	**-97**	**-32**	**-10**	**0**	**7**	**5**	**16**
Latvia														
Total PSE	mn US$	4 380	4 449	5 678	5 437	5 547	13 653	-485	-222	43	35	22	35	65
	mn ECU	4 463	3 859	4 805	4 938	4 369	11 045	-375	-189	37	27	17	31	58
General Support Estimate	mn US$	120	133	119	132	150	1 301	6	4	8	13	8	8	11
Total Support Estimate	mn US$	5 669	5 878	7 002	6 946	7 865	15 613	-479	-217	51	49	30	43	76
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	-10.0	1.4	1.1	0.6	0.8	1.2
Percentage PSE	**%**	**83**	**82**	**83**	**78**	**76**	**83**	**-101**	**-39**	**7**	**4**	**3**	**4**	**10**
Lithuania														
Total PSE	mn US$	5 205	5 511	7 401	6 610	7 670	-915	-733	-298	-137	5	74	132	231
	mn ECU	5 304	4 780	6 262	6 004	6 041	-740	-566	-254	-116	4	59	116	207
General Support Estimate	mn US$	1 010	266	504	498	119	10	13	18	40	43	52	60	55
Total Support Estimate	mn US$	7 970	7 693	9 829	9 129	9 556	-905	-720	-279	-97	48	126	192	286
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	-37.4	-10.4	-2.3	0.8	1.6	2.0	2.9
Percentage PSE	**%**	**79**	**77**	**80**	**75**	**72**	**-262**	**-124**	**-37**	**-15**	**0**	**5**	**7**	**14**
Czech Republic														
Total PSE	mn US$	5 104	4 525	4 184	5 258	5 306	4 449	1 689	1 329	869	610	636	409	731
	mn ECU	5 201	3 925	3 541	4 775	4 179	3 600	1 305	1 134	733	467	501	361	654
General Support Estimate	mn US$	18.73	20	20	56	26	35	25	22	62	119	124	110	99
Total Support Estimate	mn US$	5 939	5 366	4 986	6 741	6 067	4 484	1 714	1 350	931	728	760	519	831
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	8.8	4.3	3.5	2.3	1.4	1.3	1.0	1.5
Percentage PSE	**%**	**66**	**59**	**53**	**55**	**54**	**52**	**31**	**27**	**21**	**13**	**13**	**10**	**17**
Hungary														
Total PSE	mn US$	3 393	3 047	2 707	2 132	1 914	793	905	1 005	1 357	840	680	433	642
	mn ECU	3 458	2 643	2 290	1 936	1 507	641	699	858	1 144	642	536	382	574
General Support Estimate	mn US$	86	83	78	81	75	73	84	87	90	95	122	92	126
Total Support Estimate	mn US$	3 879	3 512	2 901	2 308	2 053	913	989	1 092	1 446	935	802	525	768
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	2.7	2.7	2.8	3.5	2.1	1.8	1.2	1.6
Percentage PSE	**%**	**45**	**40**	**35**	**27**	**24**	**13**	**17**	**20**	**25**	**14**	**10**	**8**	**12**

Annex Table V.11. ii **Estimates of support to agriculture by country, 1986-1998** *(cont')*

	Units	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997p	1998e
Poland														
Total PSE	mn US$	6 161	3 688	3 157	869	-1 159	-49	2 598	2 134	2 556	3 190	4 599	3 404	3 746
	mn ECU	6 278	3 199	2 672	789	-913	-39	2 008	1 821	2 155	2 440	3 623	3 003	3 350
General Support Estimate	mn US$	294.20	303	276	212	224	481	376	323	421	450	526	465	474
Total Support Estimate	mn US$	8 114	5 067	6 481	3 008	-773	436	2 977	2 458	2 979	3 643	5 129	3 873	4 225
	% GDP	n.c.	n.c.	n.c.	n.c.	-1.3	0.6	3.5	2.9	3.2	3.1	3.8	2.9	2.8
Percentage PSE	**%**	**40**	**25**	**30**	**9**	**-18**	**0**	**20**	**15**	**19**	**17**	**24**	**21**	**25**
Slovakia														
Total PSE	mn US$	1 786	1 723	1 664	2 346	2 069	986	596	481	442	403	249	299	464
	mn ECU	1 820	1 494	1 408	2 131	1 630	798	461	410	372	308	196	264	415
General Support Estimate	mn US$	112	128	145	143	139	122	79	52	59	64	59	51	48
Total Support Estimate	mn US$	2 159	2 129	2 091	3 040	2 474	1 107	676	533	501	466	307	350	512
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	4.1	3.6	2.7	1.6	1.8	2.5
Percentage PSE	**%**	**57**	**51**	**46**	**51**	**51**	**35**	**29**	**27**	**24**	**19**	**11**	**14**	**23**
Russia														
Total PSE	mn US$	157 947	162 935	183 996	189 116	148 181	86 172	-13 751	-5 092	-2 766	7 043	12 426	14 476	5 130
	mn ECU	160 948	141 330	155 697	171 755	116 722	69 713	-10 624	-4 347	-2 332	5 388	9 790	12 768	4 627
General Support Estimate	mn US$	6 475	7 326	8 266	8 509	7 452	4 768	362	591	1 002	787	758	2 973	349
Total Support Estimate	mn US$	213 522	220 485	265 276	275 174	224 379	122 960	-13 004	-4 085	-1 566	7 830	13 185	17 449	5 480
	% GDP	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	-13.2	-2.2	-0.6	2.2	3.1	3.9	2.0
Percentage PSE	**%**	**81**	**80**	**80**	**76**	**69**	**59**	**-86**	**-22**	**-11**	**18**	**26**	**32**	**19**
EU[1]														
Total PSE	mn US$	93 084	106 646	99 054	77 372	125 068	138 549	132 712	121 934	121 146	131 826	109 361	109 670	129 808
	mn ECU	94 853	92 505	83 819	70 269	98 516	112 086	102 533	104 095	102 138	100 847	86 155	96 729	116 075
General Support Estimate	mn US$	8 685	8 794	11 571	8 494	12 988	17 416	14 518	14 626	8 029	7 683	9 519	9 585	8 407
Total Support Estimate	mn US$	104 515	118 955	114 461	89 726	142 695	160 949	152 939	142 385	133 957	144 333	122 585	123 030	142 201
	% GDP	3.1	2.1	1.7	1.5	1.5	1.6	1.3	1.6	1.4	1.0	0.9	1.2	1.4
Percentage PSE	**%**	**48**	**48**	**41**	**36**	**44**	**49**	**46**	**45**	**42**	**40**	**34**	**38**	**45**
OECD[2]														
Total PSE	mn US$	214 259	233 319	214 314	185 521	247 820	263 476	261 167	248 030	249 683	249 148	224 683	215 541	251 155
	mn ECU	218 330	202 380	181 353	168 490	195 208	213 152	201 777	211 743	210 508	190 598	177 006	190 107	224 582
General Support Estimate	mn US$	62 974	57 650	54 655	52 312	53 983	69 784	68 351	77 953	67 522	68 610	62 043	60 760	58 394
Total Support Estimate	mn US$	291 751	303 895	283 351	252 483	320 325	354 157	351 969	349 515	338 535	341 097	307 046	298 887	334 554
	% GDP	2.7	2.1	1.7	1.6	1.6	1.7	1.5	1.6	1.5	1.2	1.1	1.2	1.4
Percentage PSE	**%**	**43**	**43**	**37**	**32**	**38**	**40**	**39**	**38**	**36**	**34**	**31**	**32**	**38**

Notes: p: provisional; e: estimate; n.c.: not calculated;

1. EU-12 for 1986-1994, EU-15 from 1995; as from 1990, includes ex-GDR.

2. OECD does not include Czech Republic, Hungary, Poland, Mexico and Korea.

Source: OECD, PSE/CSE database.

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SUPPLEMENT TO
AGRICULTURAL POLICIES IN EMERGING AND TRANSITION ECONOMIES

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT



AGRICULTURE AT A GLANCE IN EMERGING AND TRANSITION ECONOMIES



1999

CENTRE FOR CO-OPERATION WITH NON-MEMBERS

AGRICULTURAL POLICIES IN EMERGING AND TRANSITION ECONOMIES 1999

Volume II

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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- to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development; and
- to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

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FOREWORD

This is the first issue of *Agriculture at a Glance in Emerging and Transition Economies*. It presents a snapshot of developments during 1998 in agricultural policies, trade and markets, for 18 emerging and transition countries. The policy highlights in *Agriculture at a Glance* respond to the following six questions:

- How did the macroeconomic environment change in the course of 1998 and what were the impacts on agriculture?
- What were the main changes in the performance of agriculture and the agro-food sector?
- How did structural adjustment policies and processes affect agriculture?
- How did the domestic policy environment change?
- What were the main changes in the international policy environment?
- What is the assessment of policy changes in 1998 and the outlook?

Key statistical indicators accompany the policy highlights.

Agriculture at a Glance is designed to ensure continuity with past work. The OECD has monitored agricultural policy developments in about a dozen countries annually since the beginning of the transition, and, for eight of them, in-depth country reviews have been carried out. For a more detailed analysis and evolution of developments in individual countries, as well as cross-cutting issues, the reader should consult these reports, which are listed at the end of this issue. The reader will find expanded analysis for certain major agricultural players and regions, as well as coverage of policy themes, in the main report, *Agricultural Policies in Emerging and Transition Economies 1999*. A detailed statistical annex covering 21 countries is also featured in the main report.

Both reports were prepared as part of the programme of the OECD's Centre for Co-operation with Non-Members by the Food, Agriculture and Fisheries Directorate. Two other annual publications prepared by the Food, Agriculture and Fisheries Directorate will be of interest to the reader – *OECD Agricultural Outlook 1999-2004* and *Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999*.

The report was submitted to the Working Party on Agricultural Policies and Markets of the Committee for Agriculture under the written procedure on 12 May 1999 with a view to its declassification. It is published under the responsibility of the Secretary-General of the OECD.

Kumiharu Shigehara
Deputy Secretary-General

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ALBANIA

Macroeconomic situation

The overall situation and prospects of Albania have been gravely threatened by the conflict in the neighbouring region and the influx of close to 400 000 refugees by April 1999, a net addition equivalent to 12 per cent of its total population. Albania had recovered significantly in 1998 from the serious political, social and economic crisis of the previous year. GDP increased by about 8 per cent, allowing Albania to recoup the 1997 decline of 7 per cent. The rate of inflation fell to below 9 per cent in 1998 from 42 per cent in 1997. The internally financed budgetary deficit was reduced to about 6 per cent of GDP, below the IMF target, although high compared with other transition countries. Despite problems with tax collection and low revenues from privatisation, the government was able to contain the deficit by limiting planned expenditure on capital investment. This puts at risk longer-term economic development. Additional funds intended for investment in Albania's development will likely be used in 1999 to meet humanitarian needs.

The trade balance appears to have worsened in 1998 to US$ –625 million, as did the current account deficit.

In view of the Albanian government's successful efforts to fulfil the conditions of the second IMF enhanced structural adjustment facility of May 1998, the second tranche of structural funds was approved, thereby releasing funds from other sources. The international community has signalled its readiness to provide the necessary support to Albania in its current critical circumstances. However, the prospects for foreign investment remain dim, given a business climate marred by crime and corruption and accentuated by the conflict in the region.

Unemployment in Albania remains difficult to measure. It is estimated to have increased to over 17 per cent in 1998, while in reality it may be more than 25 per cent.

Agricultural and agro-food situation

With a contribution of around 60 per cent of GDP, Albania's agricultural sector has been the largest contributor to national income since 1991. Agriculture provides a direct livelihood for a major share of the population (around 64 per cent) and generates secondary employment and growth effects through linkages with the upstream and downstream agribusiness sector. It is estimated that domestic production meets up to 70 per cent of the total food requirements of the population. As of end-April 1999 the agricultural sector had been shielded from the effects of the regional crisis, as refugees had not penetrated into rural areas. In addition, the increased demand for foodstuffs has buoyed agricultural prices.

Albania was one of the few economies in transition to have experienced positive agricultural growth early in the reform process, but since 1995 output growth has stagnated (from 13 per cent in 1995 to 3 per cent in 1996, 1 per cent in 1997 and 6 per cent in 1998). Substantial increases were achieved in the yields of agricultural and livestock production for 1998, due to important investments in the irrigation infrastructure, the protection of animal health, an increased use of agricultural inputs and other measures. Yield levels of the major crops are well below western European levels, leaving much room for improvement. Animal production is carried out mainly by family farms, which have an average of 2-5 head of cattle and 10-20 sheep and goats. Milk yield per cow is about 1 700 litres per head annually. One of the main reasons for low animal productivity is that forage feed is often of low quality and insufficient to cover winter needs.

A persistently negative agricultural trade balance (about US$195 million for 1998) represents a major component of the overall trade deficit. Agricultural imports are still about eight times greater than exports, the latter representing 16 per cent of total exports, while agricultural imports account for 25 per cent of total imports.

Since 1994, the primary source of on-farm gross cash income has been obtained through livestock and livestock product sales. Average gross incomes received by farm operators have increased in the last three years due to market price increases, but a substantial number of farm operators appear to be operating their farms at a loss, mainly in the mountainous areas, prompting off-farm migration in search of more viable economic opportunities.

According to consumption surveys, the diet of the average Albanian has more than adequate calories, but is still heavily based on cereals (over 50 per

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cent). Yearly per capita consumption of bread is approximately 200 kg. While rural areas are largely self sufficient, urban areas are much more dependent upon imported food supplies, particularly cereals, fruits, vegetables and sugar. Family expenditures for food in urban areas are approximately US$150 per month, almost equally divided among the four major categories, cereals, meat products, dairy products and vegetables and fruits. Since incomes are still extremely low, the proportion of income spent on food is high, over 75 per cent.

Structural adjustment policies

Although land distribution is estimated to have covered 97 per cent of the agricultural land, the process has not been entirely completed because of conflicts over ownership. Awarding of land titles is estimated to be 85 per cent complete. However, steps need to be taken to resolve problems related to the compensation of original landowners. The government recognises the need for the rapid registration of land for the consolidation of a sustainable land market. Significant progress was made to advance the land registration process in 1998, with a target date for completion by 2001.

Banks currently do not accept agricultural land as collateral for loans due to the lack of a land market and the absence of sanctions for non-repayment. Legislation facilitating land transactions and the leasing of agricultural land by both Albanian nationals and foreigners was adopted in 1998, and some leasing seems to be taking place.

Fragmentation of land holdings brought about by privatisation remains the norm, with more land becoming fallow (and unused by other operators), as people leave the farms. In 1997, the average farmer in Albania planted 3.4 separate parcels of land with a total area of only 1.1 hectares. Small farm sizes are especially prevalent in the northern part of the country. As a consequence, the traditional agricultural sector consists almost entirely of subsistence farmers with heavy emphasis placed on livestock production.

As of September 1997 around 89 per cent of all agro-processing and marketing had been fully privatised, with the remaining 11 per cent (459 enterprises) at various stages in the privatisation process. Based on a survey of agro-industrial activity carried out during the first half of 1998, this sector is composed mainly of small privately-owned enterprises. There are about 2 016 enterprises operating in the agro-industrial sector in Albania, of which 65 per cent operate in bread making and milling. About 88 per cent of production sold comes from the private sector. Ninety per cent of the investments in the sector are from private sources, of which 90 per cent from own capital.

Domestic support policies

All agricultural prices have been liberalised and no support is being provided. There is little difference between border and market prices, other than marketing margins. In general, agricultural products are exempt from the value-added tax. Some imported agricultural inputs are charged the lowest tariff level, but all must pay the value-added tax of 20 per cent.

There are no restrictions on imports or exports. The harmonisation of Albania's customs code with the International Code came into force in 1998. Of the four import tariff categories (5, 10, 20 and 30 per cent) modified in 1998, investment commodities, raw materials and basic foodstuffs generally fall under the lowest one. As regards imports of agricultural products, in addition to customs tariffs, excise taxes have been applied on tobacco, cigars and alcoholic beverages. Exports of agricultural and food products are not subject to tariffs, licensing or quota restrictions. There are no import or export limits on food products.

A medium-term Agricultural Development Strategy paper was debated at the national and international levels over the course of 1998 and approved by the Council of Ministers in December 1998. Albania's overall strategy is to integrate its agricultural sector into the European and global trade frameworks. Key elements include the settling of disputes related to conflicts over land, integration of remote rural areas by promoting private initiative, and developing an agro-food sector based on high value, exportable commodities. By increasing high value production Albania could become a net agricultural exporter, although it will always need to import significant amounts of grains, oilseed and sugar.

International policy environment

The Albanian import-export results for 1998 are close to 1996 levels, with exports particularly low. During 1998 the value of exports was about US$205 million, of which US$32.7 million, or 16 per cent of total exports, are agriculture and food products. Imports are valued at about US$830.5 million, of which US$226.9 million constitutes food products. Growth in domestic food production has resulted in some reduction in food imports since 1996.

Grains constitute the main food import (wheat and wheat flour) amounting to over 160 000 tonnes and valued at US$53 million. Grain imports meet about 45 per cent of country's needs. The second most important imported commodity is sugar and its derivatives. Albania's total demand for sugar products is met by imports, valued at US$13.5 million. Vegetable oil (excluding olive oil) requirements are met by imports at a value of US$17.5 million. Beef for the salami processing industry and chicken for direct consumption valued at US$22 million also constitute a large group of imported products.

Natural and cultivated medical plants, spices, and herbs account for 40 per cent of Albanian agricultural exports valued at US$11 million. This is followed by exports of unprocessed tobacco, fish and snail products. Some increases in exports have been observed for olive oil, fresh vegetables and particularly white beans.

External trade for Albania of both exports and imports is primarily with neighbouring countries (Italy, Greece, Bulgaria, Turkey, Macedonia). Greece and Italy alone account for 72 per cent of Albanian imports and 54 per cent of its exports. Numerous Greek and Italian companies are partners in production, commercial and processing enterprises that they have established in Albania.

After an interruption in the WTO accession process due to the 1997 crisis, the Albanian government has developed an action plan regarding institutional strengthening. At the end of August 1998, Albania submitted a document on obligatory tariffs as provided by the new customs code (8-digit harmonised system) and has been holding various consultative meetings with the objective of adhering to the WTO possibly in 1999.

To guarantee its agricultural development and promote the setting up of a domestic agro-food processing industry Albania will ensure necessary protection through the application of import customs duties at a proposed level of 10-40 per cent.

With respect to co-operation with the European Union, the second meeting of the joint committee of the European Commission with the Albanian Government (March 1998) agreed that measures should be taken in the field of agriculture and agro-industry to allow Albania to benefit fully from the Agreement. Through the PHARE Programme, work has begun on a legal framework necessary to adapt a selected list of products, especially agro-food, livestock and fish, to EU norms. The aim is to increase agro-food trade with EU countries, to obtain support for the export of specific products in which Albania has a comparative advantage and to strengthen food control, veterinary and phytosanitary bodies as well as customs practices to build a functioning market.

Assessment and outlook

Following 1998 developments, the assessment and perspectives for Albania were optimistic early in 1999, but the conflict in the region has seriously jeopardised the favourable outlook. A stable macroeconomic framework is of critical importance for the economy at large and for agricultural performance. If the current crisis can be contained within a relatively short time period, Albania would need to continue its fiscal consolidation and structural reforms, supported by the ESAF programme, which aims to cut the fiscal deficit, tighten monetary policy and reduce inflation below 5 per cent. Lower inflation and a consolidated budget would allow expansion of credit to the private sector, which, together with structural reform measures, should help stimulate private investment and growth. Albania is expected to continue its flexible exchange rate policy and maintain foreign exchange reserves at slightly less than four months of imports over the programme period. With grains and sugar constituting the main food imports, Albania's trade balance should benefit from the current low commodity prices of these commodities.

The performance of the agricultural sector is constrained by the small size of farms and the use of traditional technology. Increases in crop production will require higher quality seeds, fertiliser, chemicals and better management practices. Greater productivity in the livestock sector calls for higher quality feed. Policies would need to promote research and extension as well as to find new export markets, once production has met the demands of domestic markets. The development of a modern agricultural sector will also depend on improved financial markets, land markets, transportation and communications and an overall enabling framework to promote efficiency in production and marketing of agricultural produce, as well as welfare for the farming community.

Without a reasonable degree of market stability, no sound structural policy can be pursued in order to overhaul the obsolete agricultural and rural structures in the process of transition. At the same time the modernisation of those structures forms the key precondition for improved competitiveness and better living conditions in the agricultural and rural sector.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	2.42	2.64	2.46
Gross agricultural product (US$ billions)	1.36	1.47	1.54
Gross domestic investment/GDP (%)	21.30	20.54	12.16
Population (millions)	3.61	3.67	3.73
GNP per capita (US$)	630	820	760
Share in GDP (%)			
Agriculture	55.9	55.4	62.6
Industry	21.3	21.1	18.2
Services	22.7	23.5	19.2
Population in rural area (% of total population)	62.8	62.4	62.0
Employment in agriculture (% of total employment)	64.6	64.5	64.5
Agro-food exports (% of total exports)	19.3	16.5	13.1
Agro-food imports (% of total imports)	36.4	48.0	20.6
Consumption			
Private consumption/cap. (annual growth %)	–0.7	18.6	–2.5
Share of household income spent on food (%)	72	73	73

Domestic prices (% change from previous year)

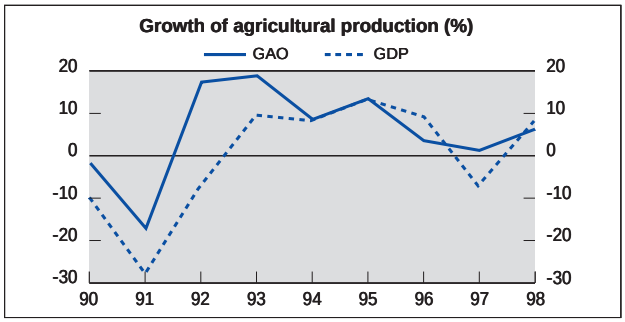
	1995	1996	1997
Implicit GDP deflator	9.8	14.6	29.7
Consumer price index	6.0	17.4	42.0
Agricultural commodity price index	9.8	14.6	29.7
Food price inflation	6.6	15.1	36.0

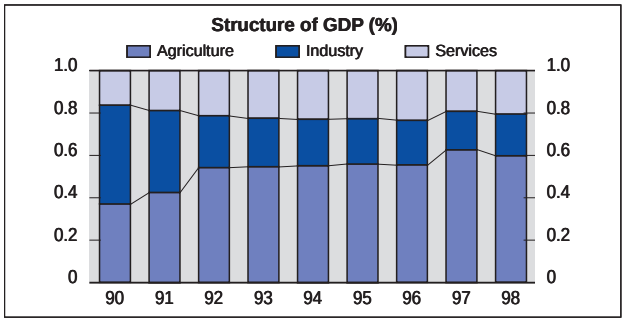
NATURAL RESOURCES AND ENVIRONMENT

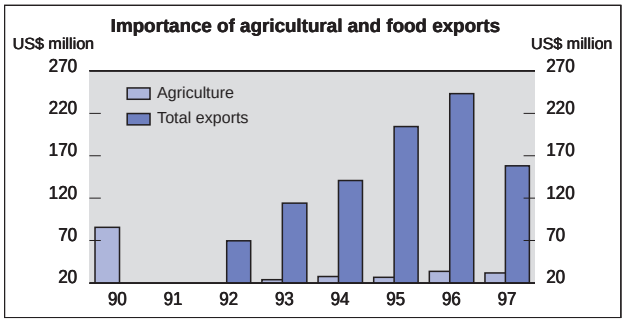
	1995	1996	1997
Total land (millions ha)	2.7	2.7	2.7
Agricultural land (millions ha)	0.7	0.7	0.7
Forestry (millions ha)	1.0	1.0	1.0
Arable land per capita (ha)	0.2	0.2	0.2

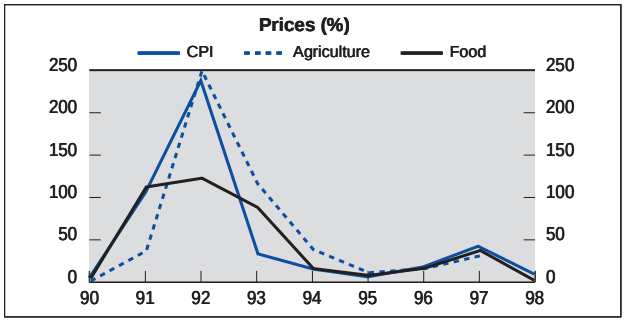
CAPITAL INFLOWS

	1995	1996	1997
Foreign Direct Investment (millions US$)	70	90	48
Portfolio Investment (millions US$)	0	0	0
Net aid flows (millions US$)	185.6	226.9	169.3





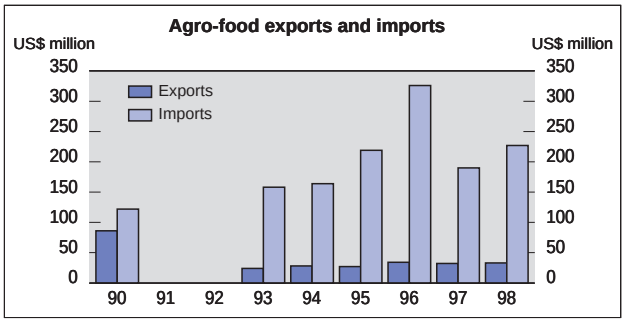




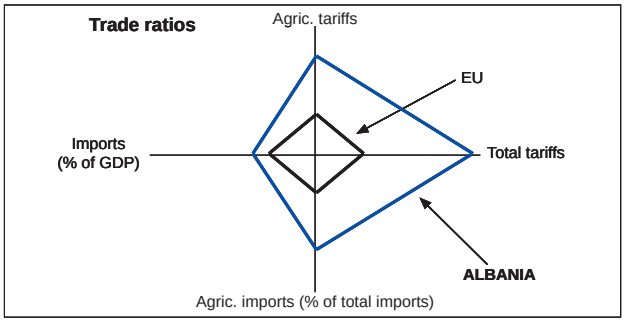
II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

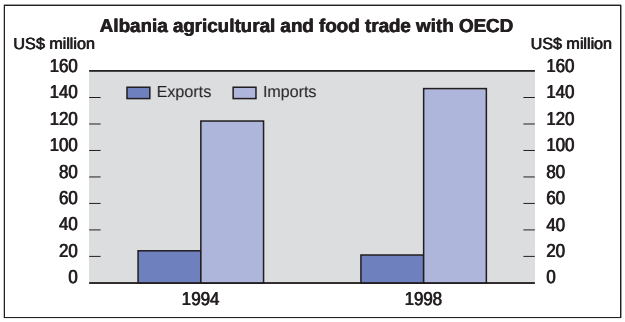
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	205	229	167
Food	24	34	32
Agricultural raw materials	3	0	0
Non agricultural	178	195	135
Total imports (cif)	680	921	685
Food	195	326	190
Agricultural raw materials	24	0	0
Non agricultural	461	595	495



1998 Tariff barriers	Range	Average	Deviation	Mode
Total	[0 30]	15.9		
Agriculture	[10 30]	16.4	6.7	20
Animal products (including. live)	[10 30]	15.1	4.5	10
Vegetable products	[10 30]	17.1	6.4	20
Animal and vegetable fats	[10 30]	10.3	0.5	
Processed food (including tobacco)	[10 30]	20.1	7.2	20

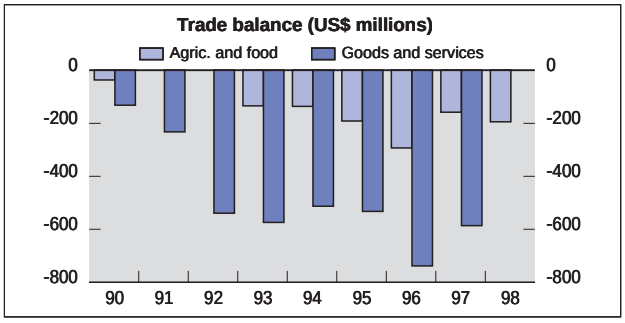


Regional trade blocks	1994	1995	1996	1997	1998
			Per cent		
Agricultural and food exports					
To OECD	71	82	94	90	90
To CEECs	25	10	4	3	2
To NIS	0	1	0	0	0
To others	4	8	2	6	8
Agricultural and food imports					
From OECD	74	63	75	86	80
From CEECs	21	18	15	7	11
From NIS	1	0	1	0	4
From others	5	18	10	6	5



BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	304	373	222
Imports of goods and services	836	1 111	809
Resource balance	–532	–738	–586
Balance of agro-food trade	–191	–293	–158
Current account balance	–12	–107	–272



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ARGENTINA

Macroeconomic situation

Argentina's overall economic growth contracted in 1998 as a result of the crisis in world financial markets. Compared with 1997 GDP fell from almost 9 per cent to 4 per cent in 1998. Since economic reforms and the convertibility scheme were launched in the beginning of the 1990s, tying the Argentine currency to the US Dollar, inflation fell to levels similar to those in OECD countries. However, in 1998, the rate of inflation remained low at 1 per cent only up 0.5 per cent compared with 1997.

The budget deficit was slightly reduced in 1998 to 1.2 per cent of GDP as a result of the general tax reform. Between 1991 and 1997 the country's foreign debt rose by over 86 per cent in value terms, to US$109 billion. As a result of the rapid growth in GDP, foreign public debt has since risen more slowly and in 1998 it amounted to 26 per cent of GDP. To date Argentina has had no difficulty in obtaining the external funding required. The current account deficit deteriorated in 1998 to almost US$14 billion or 4 per cent of GDP.

Foreign direct investment fell in 1998 to US$11 billion compared with US$15 billion in 1997. Over 47 per cent of total FDI derives from the Americas, with the United States being the main investor with 35 per cent and Chile the second with 14 per cent. The European Union invests about 15 per cent of total FDI (10 per cent coming from France and almost 5 per cent from Germany). FDI inflows in the agro-food sector fell in 1998 to US$633 million.

In 1998, total merchandise exports fell by 2 per cent to about US$26 billion and imports rose by 3 per cent to US$31 billion, increasing the trade deficit to about US$6 billion. The fall in exports reflected the lower prices for basic commodities and a fall in the volume of beef exports because of higher domestic prices. Argentina exported mainly to Mercosur (36 per cent), the European Union (18 per cent) and NAFTA (10 per cent). Agricultural products made up about the half of total exports in 1998. The main suppliers of imports were the European Union (28 per cent), Mercosur (25 per cent) and NAFTA (23 per cent). Imports from south-east Asia accounted for 13 per cent of total imports, which represents an increase of 14 per cent over 1997. Imports from Mercosur and the European Union also rose by 5 and 4 per cent, respectively.

The employment situation improved in 1998. The level of unemployment fell in 1998 to 12 per cent compared with almost 15 per cent in previous year. Agriculture's share of total employment was estimated at about 11 per cent in 1998.

Agricultural and agro-food situation

The agricultural sector increased its contribution to GDP slightly to almost 8 per cent in 1998. Gross agricultural output rose by almost 5 per cent in 1998 due to substantial increases in vegetable crops. After the bumper harvests in 1996 and 1997, total grain production fell by approximately 14 per cent in 1998. The fall was mainly due to adverse weather conditions, decreasing crop area and falling world market prices. While wheat production fell, production of coarse grains and rice increased slightly. Among vegetable crops, the volume of soybeans and potatoes reached its highest output in the last ten years, the latter amounting to 3.1 million tonnes, or 30 per cent above the 1997 level. The higher soybean yields are a result of the use of genetically modified seed, such as RR Soya, which reduces production costs and produces "cleaner" crops. In 1997, 21 per cent of the total soybean crop area was devoted to RR Soya, and in 1998 the corresponding figure is estimated to be over 70 per cent. As a result of falling returns the cattle number continued to decline in 1998 to about 50 million, one of the lowest figures in the last 40 years. Beef and veal production fell constantly during the 1990s and in 1998 it was down by approximately 9 per cent. Milk output rose moderately to 9.75 million tonnes over 1997.

In 1997 and 1998 floods resulting from *El Niño* damaged 645 000 hectares. The crops most affected were cotton, soybean, maize, sunflower and rice, with losses amounting to 1.3 million tonnes. The costs to arable farming and stockbreeding amounted to over US$1 billion. To cope with the emergency, international institutions helped to build up an aid fund of US$500 million. The Ministry of Agriculture allocated about US$100 million to agricultural producers.

Expenditures on foodstuffs as a proportion of household consumption have fallen since the economic reform process was launched. In 1998, foodstuffs accounted for about 45 per cent of household expenditure. The divergent price trends for beef and

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chicken encouraged poultry consumption, which rose by 14 per cent.

Structural adjustment policies

Since the beginning of the 1990s, the Argentine government has promoted a programme on privatisation and deregulation. Where agriculture is concerned, it has led to privatisation of the public network of terminal and rural elevators, a concession for rail freight, and public and private investments in waterways. Since the ports were privatised in 1991 new facilities have been put in place and existing ones modernised, tripling the warehouse capacity at ports. Private management and investments in these areas have affected agro-food trade and production positively by reducing operating costs both for producers and foreign buyers.

Bank funding for the agricultural sector accounted for about US$7 billion in 1998. The proportion of all bank loans to the agricultural sector has been stable at around 9 per cent over the last ten years. Rates for loans to the sector depend on the lender, the level of credit and the borrower's size and rating. Terms for investment credits are up to seven or eight years, depending on the type of farming. Operating capital is funded via credit lines for stock or crops or for farm operating costs, for a maximum of one year. A range of instruments has been developed to increase efficiency in the farm sector, such as farm credit cards and current account overdrafts backed by mortgage guarantees.

Domestic support policies

A number of programmes have been launched in recent years to provide economic, social, technical and administrative assistance to agricultural producers. They include a rural development programme to encourage small and medium size farmers to diversify, a social programme supplying technical assistance to small farmers, and the provincial farm services programme aimed at the provincial level. An integrated agricultural and fishery information system is being set up to provide an extensive sectoral database for decision-makers in the private and public sectors.

Since the National Grain Board and National Meat Board have been privatised, the government of Argentina has become less involved in the promotion of individual commodities. Although the government of Argentina does not use direct export subsidies, it does administer the two export promotion programmes PROMEX and PROCAR. The objective of PROMEX is to increase exports of non-traditional agricultural products by helping companies to fund participation in exhibitions and fairs. The programme is financed by the Inter-American Development Bank and the World Bank. The second programme, PROCAR was abolished in September 1998. Until then PROCAR promoted beef exports by identifying new markets and reinforcing existing markets, diversifying products, and launching new products. The programme also offered services like market information, participation in international fairs, organisation of trade and promotional campaigns. PROCAR was financed both by the government and the Inter-American Development Bank.

The Argentine government undertook further measures to reform the country's grain marketing system. In 1998, the government eliminated a 27 per cent sales and profit tax on foreign commodity trading firms doing business in Argentina. This change could increase total commodity futures exchange volume and strengthen participation of foreign based firms on the local market, particularly from Brazil. Secondly, the government decided to cease setting prices for "to-be-fixed" contracts for sunflower seeds.

The government administers a form of transportation subsidy to promote investment in the poor and desert-like region of Patagonia. The government also directed credits to stockbreeding and investment for farm and agro-industrial production in Patagonia. The purpose is to reduce production costs, promote investments and raise returns and productivity, and to tackle emergencies for instance brought about by adverse weather conditions. Measures have also been taken to restrict deforestation and the depletion of fishery resources.

Argentina has made substantial efforts to meet sanitary requirements for meat exports, in order to diversify and expand market openings. A seven-year campaign, partly financed by the Inter-American Development Bank, was launched to eradicate foot-and-mouth disease, with US$600 million being invested to immunise the country's entire cattle herd. In May 1997, the International Office of Epizootics declared Argentina free of foot-and-mouth disease. As a result the authorities launched in early 1999 a stockbreeding and meat programme to give general impetus to beef production, raising quality and competitiveness. The programme has four modules (production, marketing, processing and promotion), each with specific targets and involving the actors most closely concerned.

International policy environment

The share of agro-food exports of total exports increased by 9 per cent in 1998. Total agro-food exports rose by 3 per cent. The major export destination for Argentine food products is the European Union absorbing about 27 per cent of total agro-food exports, which represents an increase of 12 per cent over 1997. Mercosur is the second largest export destination with 22 per cent. Agricultural imports decreased by approximately 10 per cent for almost all agro-food products, except for meat imports from Mercosur and Nafta, which increased by almost 2 per cent. The agro-food trade surplus increased in 1998 by about 10 per cent to US$11.6 billion.

Argentina is the leading world exporter of soybean oil, sunflower oil and flour. Vegetable oil output available for export covers 12 per cent of world trade, with a share of around 30 per cent for soybean oil and around 45 per cent for sunflower oil. Argentina is also the world's second largest exporter of maize and sorghum, and the fifth largest of wheat. Wheat exports totalled 10.7 million tonnes in 1998, an increase of 20 per cent compared with 1997. Brazil was the main destination for wheat exports, absorbing about 58 per cent, followed by Iran, Egypt and Peru. The increase in maize exports to 12.3 million tonnes partly offset the price falls for maize in 1998. The main buyers of maize were Brazil, Egypt, Japan, Chinese Taipei and Spain. Oilseed exports were worth US$1.1 billion in 1998, an increase of 34 per cent compared with the previous year.

The volume of beef exports in 1998 was the lowest in this decade. The main factors to this sharp fall were higher domestic prices for steers and lower prices on international markets. The main export destinations of beef in 1998 were the European Union, followed by the United States, Chile and Mercosur. As a result of increasing exports to Chile and China, poultry exports rose by 28 per cent over 1997, corresponding to 25 400 tonnes. The Russia crisis contributed to a decline in exports of whole birds by about the half due to difficulties in completing contracts with especially Russia. Exports of dairy products were worth US$325 million in 1998. Milk powder accounted for 75 per cent of total dairy exports, of which three-quarters were exported to Brazil. Milk exports rose by 10 per cent in 1998.

Argentina's farm trade takes place without practically any government intervention that affects pricing. There are export levies on unprocessed cattle by-products and unprocessed oilseed, to offset in part the high tariff levels that items with greater value-added face in the developing countries. In 1998, average nominal tariff protection for the farm sector was 9.3 per cent, against 13.5 per cent for all goods. It is expected that as Mercosur converges on its common external tariff, protection will fall to 7 per cent.

Since 1 January 1995 the Mercosur States apply a common external tariff for most products. For States with products subject to special regimes, convergence with the common external tariff will be completed by year 2006 at the latest. Priority is currently given to simplification of customs operations, not only through full implementation of the agreed Mercosur regulations but, more fundamentally, by promoting the principle of mutual recognition of the product registration and inspection systems that each country employs. In 1998, to cope with the Asian crisis, Mercosur's common external tariff was temporarily raised by 3 percentage points for virtually all items, a few exceptions being allowed.

In July 1998, compensatory levies were imposed on imports of wheat gluten (US$123 per tonne) from the European Union. The measure was introduced to offset the subsidies which European Union exporters received.

Assessment and outlook

Overall, tighter monetary and fiscal policies, structural reforms and growing integration in Mercosur contributed to Argentina's economic stability in 1998. Growth prospects for 1999 are more positive than at the end of 1998 due to the stable macroeconomic environment and the recovery of the Brazilian financial market. By the year 2000, the overall public sector deficit is forecast to fall to approximately 0.5 per cent of GDP due to increasing tax revenues and further reforms of the social security system.

The overall performance of the agricultural sector was relatively positive as its contribution to GDP rose slightly in 1998. However, three factors influenced the contraction in agro-food trade: the deepening economic crisis in Brazil, the downward trend in the world commodities market, and over-supply as a result of two very large harvests in succession across the world. The short-term perspective for the agricultural sector is directly shaped by the development of commodity prices and the financial crisis in Brazil. It is expected that Brazil will continue in 1999 to be a major purchaser of Argentine commodities, especially of those which form a substantial part of the basic diet, such as rice, wheat, dairy products, onions, potatoes, garlic and fruit. Over the medium term agricultural output is expected to expand as a result of increasing productivity. In particular, the cereals and oilseed sectors are supposed to show appreciable rises in unit yields due greater application of new technologies to crop-growing.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1975	1995	1996	1997
GDP (US$ billions)	52.4	280.8	298.8	325.0
Gross agricultural product (US$ billions)	3.4	19.7	20.7	21.4
Gross domestic investment/GDP (%)	29.4	18.3	18.5	20.1
Population (millions)	26.0	34.8	35.2	35.7
GNP per capita (US$)	2 680	8 030	8 410	8 950
Share in GDP (%)				
Agriculture	6.6	7.0	6.9	6.6
Industry	50.1	32.1	32.1	32.9
Services	43.3	60.9	60.9	60.5
Population in rural area (% of total population)	19.3	11.9	11.6	11.4
Agro-food exports (% of total exports)	74.8	47.9	40.6	48.8
Agro-food imports (% of total imports)	11.1	6.4	5.9	5.8
Consumption				
Share of household income spent on food (%)	..	45	45	45

Domestic prices (% change from previous year)

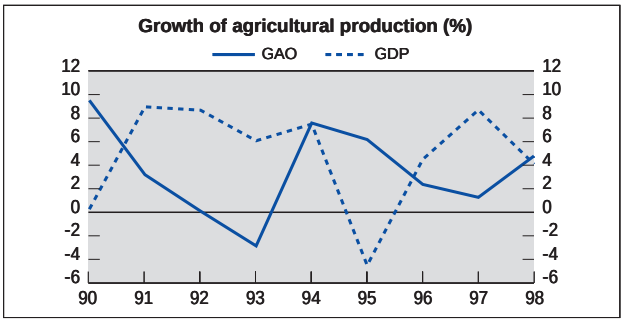
	1975	1995	1996	1997
Implicit GDP deflator	198.2	3.9	1.5	0.2
Consumer price index	182.6	3.4	0.2	0.5
Agricultural commodity price index	523.7	3.9	1.5	0.2
Food price inflation	..	3.4	0.2	0.5

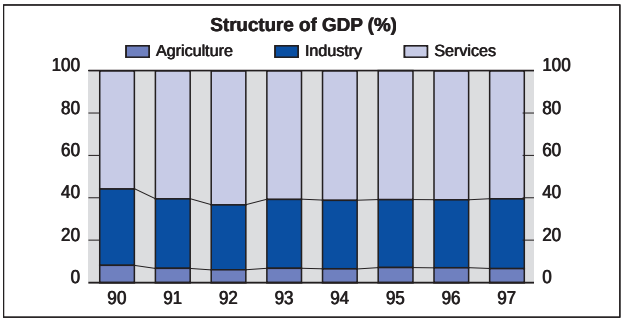
NATURAL RESOURCES AND ENVIRONMENT

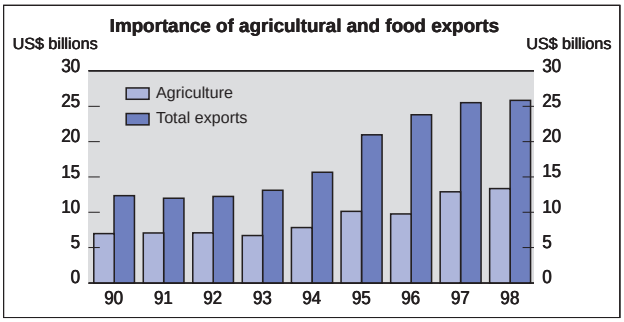
	1975	1995	1996	1997
Total land (millions ha)	273.7	273.7	273.7	273.7
Agricultural land (millions ha)	170.5	169.2	..	..
Forestry (millions ha)	..	33.9	..	..
Arable land per capita (ha)	0.9	0.7	0.7	..
Water use (billion cu. m)	27.6	..	..	..

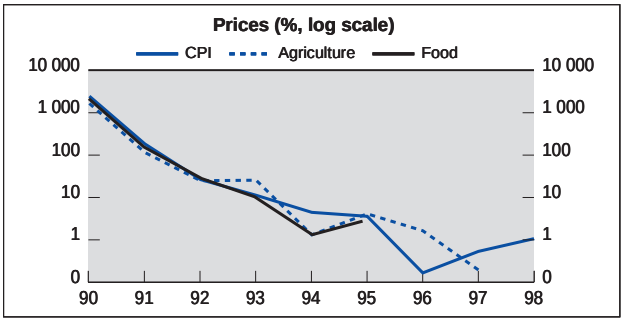
CAPITAL INFLOWS

	1975	1995	1996	1997
Foreign Direct Investment (millions US$)	0	4 783	5 090	6 645
Portfolio Investment (millions US$)	..	5 173	10 871	11 117
Net aid flows (millions US$)	23.5	224.9	277.5	221.5









II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

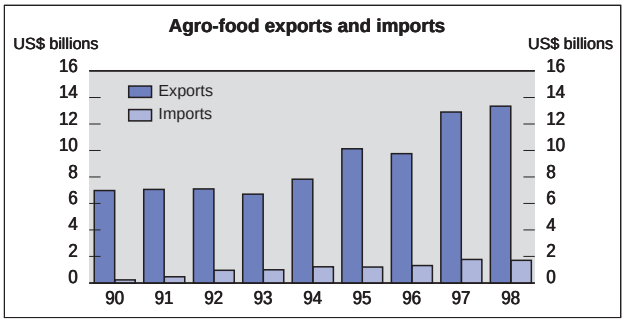
	1975	1995	1996	1997
		(US$ millions)		
Total exports (fob)	2 961	20 963	23 810	25 516
Agriculture and food exports	2 907	10 131	9 760	12 902
Non agricultural	54	10 832	14 050	12 614
Total imports (cif)	3 945	20 122	23 762	30 349
Agriculture and food imports	303	1 197	1 305	1 774
Non agricultural	3 642	18 925	22 457	28 575

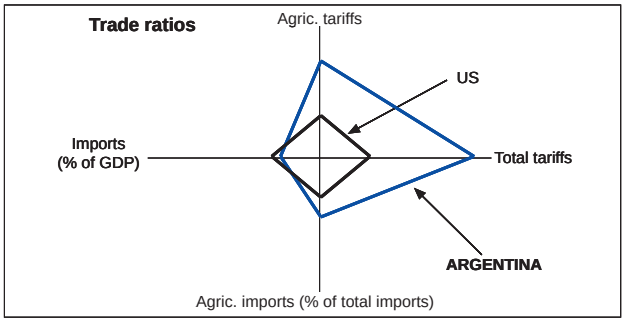
1998 Tariff barriers	Range	Average	Deviation	Mode
Total	[0 33.5]	13.9	6.9	5.5
Agriculture				
Animal products (including. live)	[0 19.5]	12.3	4.6	13.5
Vegetable products	[0 17.5]	10.6	5.1	13.5
Animal and vegetable fats	[7.5 15.5]	12.9	1.8	13.5
Processed food (including tobacco)	[5.5 23.5]	18.3	4.2	19.5

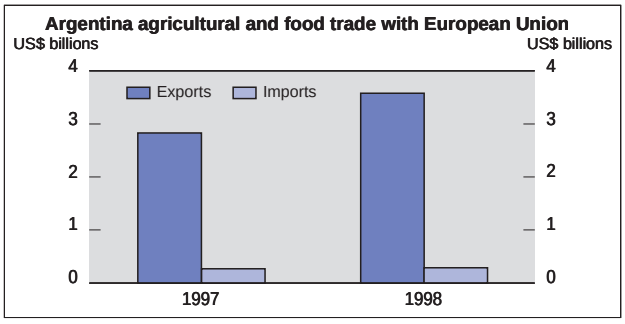
Regional trade blocks	1997	1998
	Per cent	
Agricultural and food exports		
To Mercosur	18	22
To Nafta	6	6
To European Union	22	27
To others	54	45
Agricultural and food imports		
From Mercosur	37	41
From Nafta	24	15
From European Union	15	17
From others	24	27

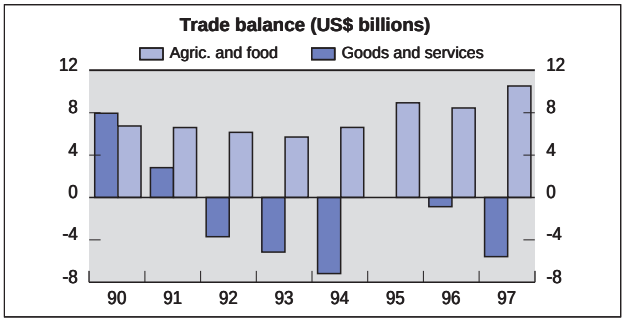
BALANCE OF PAYMENTS

	1975	1995	1996	1997
		(US$ millions)		
Exports of goods and services	4 632	23 824	27 037	29 382
Imports of goods and services	3 507	23 808	27 910	34 968
Resource balance	1 125	16	–873	–5 586
Balance of agro-food trade	2 604	8 934	8 455	11 128
Current account balance	651	–2 768	–3 787	–9 429









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BELARUS

Macroeconomic situation

In 1998, economic policies in Belarus developed in line with the "market socialism" paradigm articulated by the Belarusian President. Direct controls over the real sector kept tightening, combined with continued money emissions to cover enterprise debts and provide new easy credits. Enterprise restructuring has been limited in an overall economic environment that has experienced few changes since the Soviet period.

GDP growth, predominantly driven by demand from Russia, slowed to 8 per cent in 1998, according to official data. The crisis in Russia, leading to an abrupt fall of its imports, largely contributed to the economic slow-down in Belarus. According to preliminary information, between August and December 1998 total Belarusian exports dropped by 17 per cent compared to the same period of 1997. Stocks of unsold goods accumulated to 85 per cent of monthly industrial output in January 1999. Nevertheless, the situation in Belarus can not be exclusively related to the impact of Russian crisis. The internal inefficiency of the domestic economy was the initial driver of the serious economic setbacks, which Belarus experienced in 1998. Monetary and external debt situations became particularly serious, which forced the Belarusian government to resume dialogue with the IMF and the World Bank on financial assistance.

One of the major features was the sharp depreciation of the Belarusian rouble, despite the government's attempts to control it by tightening restrictions on currency trading. The depreciation of the national currency accelerated particularly after the devaluation of the Russian rouble. During 1998, the Belarusian rouble lost over two thirds of its value based on the official exchange rate, with the market exchange rate experiencing a far greater fall. Since the replacement on 1 March 1999 of multiple exchange rates by a unified official one (which was part of the agreement with the IMF), the gap between the official and market rates was reduced substantially.

Austere policies were applied to cover debt on energy imports and to replenish declining reserves, leading to the implicit taxation of exporting enterprises and shortages in domestic supplies. Export orders were imposed on exporting enterprises (including those in the food processing sector), which were often fulfilled at a cost of reduced domestic sales. Forty per cent of foreign currency trade proceeds were required to be sold to the state at the official exchange rate. In addition to this, at the end of the year banks were obliged to surrender 95 per cent of their currency receipts directly to the Central Bank at the official exchange rate. A surrender requirement, although less rigid, was also imposed on exchange booth traders.

Credit emissions and the depreciation of the Belarusian rouble fuelled inflation. The year-end CPI grew by 182 per cent compared to 63 per cent in 1997. The most dramatic rise in inflation occurred in the last quarter of the year, with the monthly CPI rising from 4 per cent in August to 25 per cent in November and 22 per cent in December 1998. Rapid expansion of black markets suggests that the actual level of inflation is much higher. The government reacted by imposing stronger price and trade restrictions, particularly in consumer markets. Growing shortages and rationing of foodstuffs in cities were observed. To limit food outflow from the country, severe restrictions preventing the shuttle trade in foodstuffs with Ukraine, Lithuania and Russia were introduced in September 1998. Physical persons were allowed to take only minimum amounts of foodstuffs outside of Belarus.

Agricultural and agro-food situation

The agricultural sector contribution to the GDP fell to 11 per cent in 1998 from 23 per cent in 1990. Livestock production continued to account for the larger, although declining, share of the GAO, which equalled 53 per cent in 1998, with the remaining 47 per cent coming from the crop sector. Households produced about 26 per cent of total meat, 41 per cent of milk, 85 per cent of potato, and 83 per cent of vegetable output in 1998.

The performance of the agricultural sector in 1998 was characterised by relatively modest changes from the previous year. GAO fell slightly by 0.4 per cent, reflecting a 9 per cent reduction in crop output and 6 per cent growth in livestock production. Crop output contracted due to a low drought-affected grain harvest (4.8 million tonnes, down by 25 per cent from 1997) and a fall in production of fodder crops and vegetables. A recovery in livestock output was recorded for a second consecutive year. Livestock inventories continued to

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fall, but official reports showed an improvement in animal productivity, with increases in meat and milk output by 6 and 4 per cent respectively.

Despite positive price trends observed in 1998, with the output price index growing faster than the input price index, the financial condition of large-scale farms worsened. Forty four per cent of them reported losses in 1998.

The total production of foodstuffs increased by 12 per cent in 1998, largely due to a growth in output of dairy products and sugar, whereas meat processing experienced a substantial decline. Bread and bakery and flour production have been declining since the beginning of the 90s, and reached only 57 per cent and 31 per cent of their 1990 respective levels in 1998.

In contrast to 1997 when official data had recorded improvements in the consumption of livestock products, in 1998 per capita consumption of meat and meat products, eggs and particularly milk and milk products declined. Consumption of cereal foodstuffs, potatoes, fruits and berries remained relatively stable, while sugar intake increased. Rationing of butter, eggs and sugar was in place in the cities of Grodno, Gomel and Vitebsk. Sharp increases in the retail sales of eggs and butter, most probably associated with panic buying, were reported in Minsk in the second half of 1998.

Structural adjustment policies

Private land ownership in Belarus is restricted to household plots of up to one hectare. Household plots accounted for 16 per cent of total agricultural land in 1998. Just about one third of this amount (*i.e.* 5 per cent of all agricultural land) has been transferred to private ownership. Amendments to the Law On Land Ownership Right (1993) adopted in December 1997 permitted land ownership by legal entities in particular cases. These cases were defined by Presidential Decree only in September 1998. Nevertheless, none of these cases relate to agricultural land.

About 95 per cent of agricultural land in Belarus remains state owned and is farmed by 1 809 *kolkhozes*, 587 *sovkhozes*, 20 inter-farm enterprises and private farmers on the basis of non-transferable use rights. The prohibition on transferability was theoretically eased with the adoption of the Lease Law in 1998. It outlines the general legal framework of leasing procedures and sets the terms of the standard lease agreement. However, this is a general law, which does not include specific provisions regulating the leasing of agricultural land.

The progress in restructuring *sovkhozes* and *kolkhozes* that started in 1994 has been very limited. Only 139 units had been reorganised by 1 January 1999. The existing economic environment as well as the absence of clear farm privatisation legislation prevent substantial farm restructuring. In some cases open opposition to the process at the level of local administrations adds to the difficulties. Farm reorganisations implemented so far have led to formal revisions in the legal status of farms, with no significant changes in their ownership structure and management.

Structural changes in 1998 included the reorganisation of 12 *sovkhozes* into *kolkhozes*. As in 1997, the government obliged the profitable farms and agro-service enterprises to take on the assets of loss-making farms. Twenty three loss-making units were merged in these ways in 1998.

In March 1998, a set of measures was introduced to facilitate the development of private farming. Local administrations were allowed to allot up to 100 hectares (compared to 50 hectares previously) to Belarusian citizens wishing to start private farming. The latter had the right to pass this land on to their heirs. *Kolkhozes* and *sovkhozes* were permitted to lease their assets to private farmers with a subsequent buy-out option. It is questionable to what extent these measures can stimulate private farming in Belarus, given the low profitability of agricultural production and inadequate legal framework for private entrepreneurship. Since 1994, the number of private farms has grown marginally, while in 1998 it decreased to 2 886 compared with 3 020 in 1997.

Restructuring in the upstream and downstream sectors which was decreed in 1994, implied a distribution of enterprises' assets between their workers, agricultural producers, the general public (through a voucher scheme), and the state. During 1998, the share of privatised processing enterprises increased very modestly. It reached 42 per cent in meat and meat processing (40 per cent in 1997), 91 per cent in milk processing (90 per cent), 70 per cent in grain milling (68 per cent), 80 per cent in animal feed industry (78 per cent). By the beginning of 1998, about 500 agro-service enterprises had been privatised.

Domestic support policies

The Belarusian government maintains state purchases of major agricultural commodities at fixed prices. Unlike most other NIS countries, the share of total production procured by the state declined modestly during the transition. In 1998 it accounted for 31 per

cent of total grain production, about 60 per cent of meat and milk output, and 77 per cent of sugar beet production.

In 1998, the main components of budgetary support were capital grants to flax, grain, sugar and potato processing plants within the framework of the so-called special state programmes of agro-food development; soil liming subsidy; financial support of social infrastructure in rural areas; subsidies to private farms; and provision of general services. In addition to the state budget the Non-Budgetary Fund for Support of Agricultural Producers financed low-interest short and long-term loans, aids to agricultural producers in less favoured areas, and a subsidy for mineral fertiliser (covering 40 per cent of fertiliser costs, with an additional 40 per cent compensated from local budgets).

Substantial support to the agricultural sector in Belarus is provided through credit and tax policies. The interest rates on all loans to agricultural enterprises are set at 50 per cent of the National Bank of Belarus rate. The bulk of these loans took the form of directed credit funded through monetary emissions. Furthermore, debts of all agricultural and agro-service enterprises on tax payments and contributions to state non-budgetary funds accumulated by the end of 1997 were restructured until the year 2000. Loss-making farms received additional debt restructuring concessions as well as a 4-year exemption from land and real estate taxes.

International policy environment

In contrast to the overall trade performance, Belarusian agro-food exports and imports increased, with the net agro-food balance remaining negative and contributing about 30 per cent to the overall trade deficit. NIS countries accounted for 87 per cent of agro-food exports and 46 per cent of imports. Milk and dairy products, sugar and confectionery, and beverages dominated the exports. The main imports were grain, sugar, tobacco, and vegetable oil.

There were no significant changes in the trade policy of Belarus in 1998. No major international agreements were initiated. Several agreements were signed directly with the Russian regions.

The tariff regime applied is harmonised with that of Russia according to the customs union agreement.

Assessment and outlook

The macroeconomic conditions in Belarus deteriorated sharply in 1998. The government's attempts to stabilise the situation by increasing interventions failed to prevent the growth in imbalances, evidenced by high inflation, rapid depreciation of the domestic currency, and food shortages. The Russian crisis substantially limited the possibility of sustaining demand for Belarusian goods at previous levels. The government will confront stronger pressures to retreat from command-type policies based on monetary emissions and a broadening external debt. The growing need to resort to international aid may stimulate a move towards more liberal policies. This is evidenced by the contacts with the IMF and the World Bank resumed at the end of 1998, and agreements reached on the exchange rate regime and banking sector liberalisation. Nevertheless, the extent to which the Belarusian government will agree to further adjustments is highly uncertain.

It may be expected however, that there will be no substantial changes in agricultural policies. The government, driven by the need to assure the support of the rural electorate, will tend to maintain substantial direct and indirect subsidies to the agricultural sector combined with pervasive controls over production, prices and distribution.

A recovery of crop production may be expected from the low level of 1998, but the situation of the livestock sector will likely be less favourable than in 1998 due to lower feed availability.

Prospects for agricultural exports, which are predominantly based on Russian demand, apart from purely political factors will depend on the relative speed of depreciation of the two national currencies. If the Belarusian rouble depreciates against the Russian rouble, incentives to export will increase. Against this background, the government will likely face a political choice of whether to secure higher export earnings or to tackle food shortages on the domestic markets.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	18.5	19.9	22.6
Gross agricultural product (US$ billions)	2.9	2.8	2.7
Gross domestic investment/GDP (%)	25.1	24.5	25.6
Population (millions)	10.28	10.25	10.22
GNP per capita (US$)	1 870	1 880	2 150
Share in GDP (%)			
Agriculture	15.2	13.4	11.5
Industry	41.3	46.5	51.7
Services	43.5	40.1	36.8
Population in rural area (% of total population)	29.0	28.3	27.6
Employment in agriculture (% of total employment)	19.1	17.4	17.2
Gender structure of agricultural employment (%)			
Male	59.6	61.0	62.3
Female	40.4	39.0	37.7
Agro-food exports (% of total exports)	7.8	9.7	9.3
Agro-food imports (% of total imports)	12.0	13.6	13.4
Consumption			
Private consumption/cap. (annual growth %)	–12.5	5.4	11.6
Share of household income spent on food (%)	67	68	61

Domestic prices (% change from previous year)

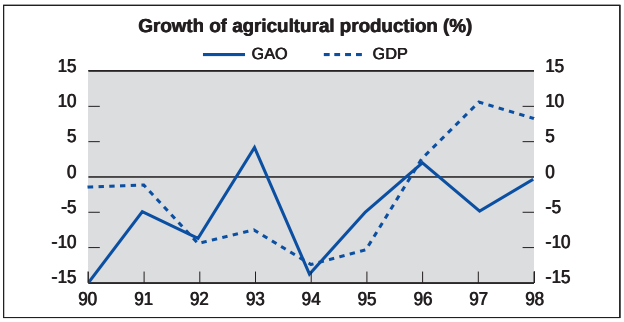
	1995	1996	1997
Implicit GDP deflator	650.4	49.5	72.6
Consumer price index	244.0	39.3	63.4
Agricultural commodity price index	4.0	125.0	47.0
Food price inflation	661.8	49.6	69.9

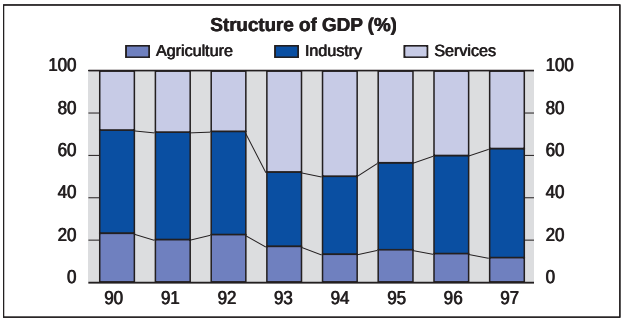
NATURAL RESOURCES AND ENVIRONMENT

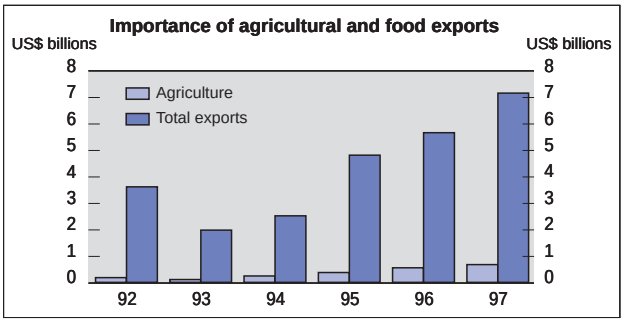
	1995	1996	1997
Total land (millions ha)	20.7	20.7	20.7
Agricultural land (millions ha)	9.3	9.3	9.3
Arable land per capita (ha)	0.6	0.6	0.6
Water use (billion cu. m)	1 878	1 781	1 726
Agriculture (%)	15.2	10.9	10.5

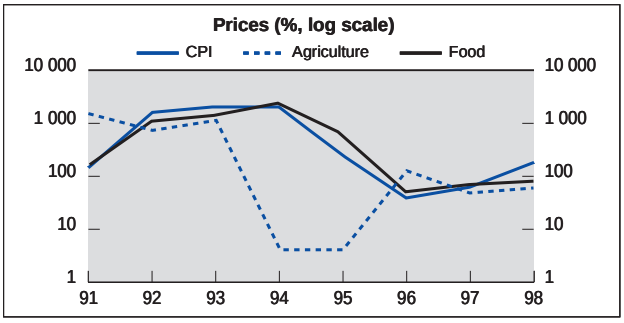
CAPITAL INFLOWS

	1995	1996	1997
Foreign Direct Investment (millions US$)	15	73	200
Portfolio Investment (millions US$)	..	–15	–20
Net aid flows (millions US$)	222.9	74.5	42.5









II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

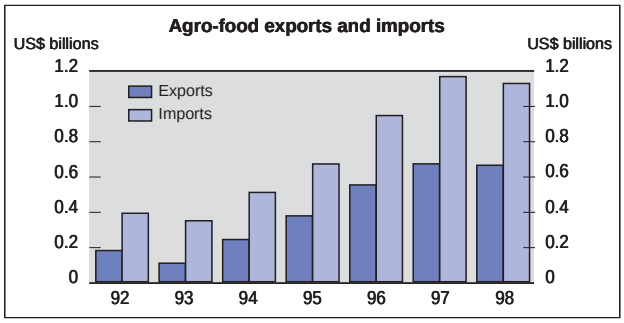
MERCHANDISE TRADE

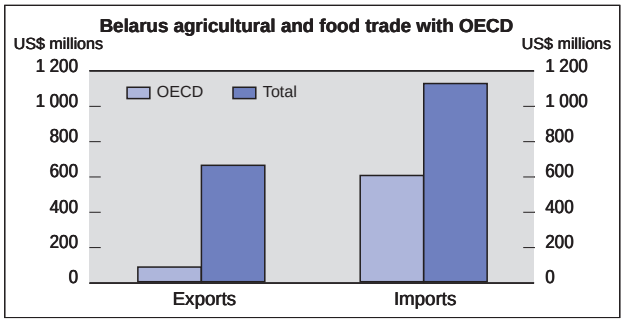
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	4 803	5 652	7 147
Food	318	492	627
Agricultural raw materials	55	56	41
Non agricultural	4 430	5 104	6 479
Total imports (cif)	5 564	6 939	8 644
Food	642	906	1 186
Agricultural raw materials	25	34	43
Non agricultural	4 897	5 998	7 482

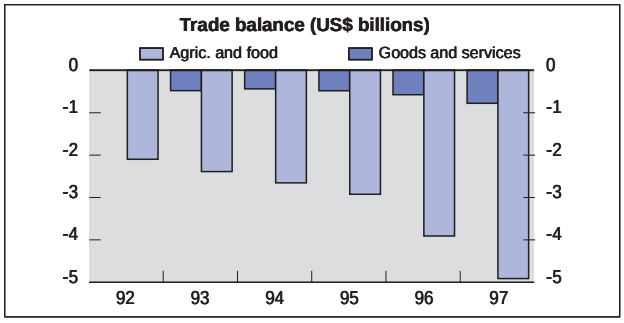
Regional trade blocks	1996	1998
	Per cent	
Agricultural and food exports		
To OECD	..	13
To CEECs	..	0
To NIS	86	87
To others	..	0
Agricultural and food imports		
From OECD	..	53
From CEECs	..	0
From NIS	50	46
From others	..	0

BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	5 269	6 698	8 301
Imports of goods and services	5 752	7 275	9 083
Resource balance	–483	–576	–781
Balance of agro-food trade	–294	–393	–494
Current account balance	–484	–576	–781







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BRAZIL

Macroeconomic situation

The spill-over effects from the crises in Asia and Russia heavily affected Brazil's economy in 1998. After the Russian debt moratorium in August 1998, a rapid and massive capital flight out of emerging markets began. Brazil was particularly hard hit, because of its dual deficit both in the current account and the fiscal balance. The economy experienced a typical "credibility crisis" with sharply rising net outflows of capital and growing pressure on the exchange rate. To defend the exchange rate, interest rates were raised to 40 per cent and more in real terms.

Over and above the commitment to maintain a tight monetary environment, a number of supplementary measures have been initiated to ease the pressure on the exchange rate and to stabilise the overall economic situation. The government reaffirmed its commitment towards fiscal consolidation and announced a programme striving to achieve a primary public sector surplus of 2.6 per cent of GDP for 1999. The International Monetary Fund (IMF) endorsed a comprehensive loan package with credit lines up to US$41.5 billion. This provided an important buffer to fend off possible speculative attacks against the Real. In response to these measures, capital market rates eased promptly and substantially. But concerns about growing instability re-emerged when the Brazilian Congress rejected a bill aimed at further fiscal consolidation and the state of Minas Gerais announced a moratorium on debt to the federal government. After losses of up to US$1 billion a day in foreign exchange reserves, the Central Bank decided on 15 January 1999 to widen the band for fluctuations of the Real. Eventually, the Bank had to accept the free float of the Real.

High real interest rates, set to defend the Real, caused a marked slow-down of the real economy. Growth in real GDP fell from 3.7 per cent in 1997 to a mere 0.8 per cent in 1998. While inflation was down to 3.8 per cent, largely due to the restraining effect of high real interest rates, the fiscal deficit continued to increase from –6.1 per cent in 1997 to –7.5 per cent in 1998. Containing inflation and the fiscal deficit will hold the key for economic development in 1999. Even with persistently high interest rates, inflation is expected to rise from 3.8 per cent in 1998 to around 9 per cent in 1999. GDP is expected to shrink by –2.5 per cent. Low growth and high interest rates suggest that the much-needed fiscal consolidation process will be difficult to achieve.

Agricultural and agro-food situation

The contribution of agriculture to GDP rose slightly in 1998. In volume terms, production increased (in prices of 1989-91) to US$49.1 billion, equivalent to about 9 per cent of GDP. While production of grains declined, output and exports of soyabeans and meal continued to increase. Production of other export commodities such as orange juice and coffee increased as well. For 1999, the trend towards production of "cash crops" is expected to continue. Similarly, sugar and alcohol production increased to new record levels, benefiting from favourable growing and harvesting conditions. Exports increased in parallel, providing some relief to high domestic stocks of sugar and alcohol. Exports benefited from recent investments in infrastructure, particularly the remodelling of old sugar terminals and the construction of new ones. Coffee production was also up sharply compared with the *El Niño* affected crop in 1997/98. Coffee exports however experienced a slowdown, brought about by the economic and financial crisis in Russia. Exports of soluble coffee were particularly hard hit by the collapse of the Russian market, traditionally Brazil's most important export market for this product.

Brazil's livestock industry was – more than the crop sector – affected by the economic slowdown at home and in other emerging markets. Shrinking demand, lower prices and declining returns to producers characterised the industry for most of 1998 and underlined the responsiveness of the livestock sector to changes in income. While domestic demand for livestock products slowed due to lower income growth, meat exports benefited from the gradual devaluation ("crawling peg") of the Real in 1998, which preceded the decision to float the exchange rate in January 1999. In addition to the devaluation effect, the beef industry benefited from problems in the Argentine beef sector. The pork sector too profited from buoyant export demand in the first half of 1998. With the crisis in Russia, however, a fast growing export market virtually collapsed in the second half of 1998. Long-term prospects for pork production remain good as recent and planned investments in pork operations

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come on stream, primarily in the centre-east region, but also in the northeast. While beef and pork markets boomed, the poultry industry experienced production problems and a weaker demand in the export market due to the crises in Asia and Russia. In addition, domestic consumption started to slow. This suggests that past double-digit growth rates in production are unlikely to be maintained over the coming years.

Structural adjustment policies

The government remained committed to continuing its new land reform programmes. The current programmes rest on two major pillars. The first pillar is the new land tax system, promoting release of, and access to, farmland for new settlements. The tax system was revised in 1997 to address more effectively the problems associated with speculation and the concentration of agricultural land in the hands of a few landed proprietors. High tax rates on large unproductive units of land push proprietors to farm their land, or alternatively to sell large unproductive properties to the government's land reform programme. The second pillar consists of a number of credit schemes (most importantly the so-called PROCERA programme). These credits provide farmers with subsidised loans to build up the necessary farm infrastructure in order to make new settlements economically viable. They help finance the construction of homes, roads, warehouses, schools, health centres, and the creation of co-operatives.

Domestic support policies

Rural credit programmes of the National Rural Credit System (NRCS) remained the backbone of agricultural support policies in 1998. Subsidised loans were provided for both short-term financing of production and marketing as well as long-term investments. Within the NRCS, the credit programme for smallholders (PRONAF) enjoyed particular popularity, providing the highest interest rate subsidies but limited to relatively small amounts. By 1997, the volume of credits disbursed had increased to R$ 1.5 billion, with 600 000 families benefiting. For 1998, the programme was stepped up to R$ 1.815 billion, with interest rates down to 5.75 per cent compared with 6.5 per cent in 1997.

To support the domestic wheat market, the government reinstated the so-called PEP programme ("*Premio de Escoamento da Producão*") from September through to November 1998. Until November 12, about 1.07 million tonnes of wheat had been marketed through the programme. PEP is essentially implemented through an auction system. There is no actual purchase or storage of grain and thus no storage costs, which was a particular advantage in the high interest rate environment of 1998. Similarly, the government tried to support the sugar market through intervention purchases of 0.5 billion litres of hydrated alcohol. In addition, the government approved blending diesel fuel with hydrated alcohol. Despite the general commitment to support cane-based alcohol production, the government announced quotas for subsidised production as well as an overall limit of subsidies transferred per processing mill. This will require a change in the subsidy transfer system, with payments channelled directly to alcohol producers rather than to fuel distributors.

International policy environment

In volume terms, total agricultural exports remained largely at their 1997 levels but decreased in value terms due to lower world prices. The value of overall agricultural exports declined from US$18.5 billion to US$17.2 billion in 1998. Net imports declined to US$10.5 billion, more than 7 per cent below their respective levels in 1997. This trend is likely to change in 1999. The massive devaluation of the Real in January 1999 is expected to boost domestic prices, production and exports, and put a brake on agricultural imports. The prospects for higher food prices and booming exports brought about concerns of a possible food shortage and reinforced public pressure to reinstate the ICMS export tax. Moreover, given Brazil's dominant position in the international market for certain agricultural commodities, the boost in exports could also add to lower international commodity prices. World prices for soyabeans and soyabean meal in particular are likely to be under continued downward pressure. In addition, the devaluation also means that imports to Brazil will become less competitive. Foreign supplies to the Brazilian dairy market have already been affected. Imports of milk and dairy products from Argentina declined sharply after the devaluation.

Overall, the exact impacts of the devaluation are difficult to gauge at this early stage. Much will depend on characteristics of the new macroeconomic equilibrium, *i.e.* the expected increase in the inflation rate, a possible short-term appreciation of the nominal exchange rate and thus the devaluation of the real exchange rate. This in turn will depend on how fast the envisaged fiscal reforms will be implemented and on their effectiveness. The impacts on agriculture will

also depend on a number of factors. Particularly important are the extent of international-to-domestic price transmission, the share of traded output and inputs, and the responsiveness of demand and supply to changes in real prices. Production and exports of "cash crops" like coffee, orange juice or soyabeans are likely to benefit most from the devaluation of the real exchange rate.

Changes in border measures have dominated trade in dairy products. After a tariff increase of 3 per cent for all products in the Mercosur Common External Tariff (CXT) in 1997, Brazil announced another increase in tariffs for dairy products in February 1998. This increase was in response to claims that the dairy sector was experiencing unfair competition from foreign supplies, mostly from the European Union, Australia and Eastern Europe, which were either based on subsidies or on arbitrage trade due to the misalignments of interest and exchange rates. In addition, the government continued to promote productivity at the farm level as well as in the dairy-processing sector. Funds of the rural credit programme have been used to achieve this goal.

Assessment and outlook

The rapid and massive changes in the macroeconomic environment dominated developments in the food and agriculture sector over the last three years. The swift macroeconomic stabilisation brought about by the "Real Plan" helped achieve high rates of income and consumption. Food consumption and thus agricultural production benefited accordingly. At the same time, growing internal imbalances (fiscal and current account deficit) made the economy increasingly susceptible to external shocks brought about by the financial and economic crises in Asia and Russia. To defend the exchange rate, real interest rates had been increased to more than 40 per cent in 1998. This placed a heavy burden on the economy in general and on Brazil's relatively capital-intensive agriculture in particular.

Despite high real interest rates and a substantive aid package by the IMF, private investors lost confidence in the government's ability to master the crisis. A rapid and massive capital flight starting in December 1998 forced the Central Bank to cease the exchange rate peg to the US Dollar. On 15 January 1999, the band for fluctuations was increased and, eventually, the Real was allowed to float.

Prospects for food and agriculture crucially depend upon future macroeconomic developments. A lasting devaluation of the real exchange rate, for instance, would boost agricultural production and exports. The downside scenario would include a return to export taxes, low growth and high inflation rates.

Regional trade flows may also be affected. Diverging macroeconomic performance and policies have an increasing impact on regional trade within the group of Mercosur countries. Prior to the devaluation, large differences in interest rates brought about distortions of regional trade flows such as "triangle trade" and transhipments. With the devaluation, Brazil gained extra competitiveness for its exports as well as extra protection for its imports. Agricultural trade with Argentina is particularly affected, as exports of many products to Brazil have come to a halt, while Brazilian exports to Mercosur countries are rapidly rising.

The macroeconomic environment is also likely to have a marked impact on the instrumentation and effectiveness of agricultural policies. The need to shift to, or maintain, tight fiscal and monetary policies is likely to place increasing constraints on the availability of subsidised credits, the backbone of the most important agricultural policy programmes in Brazil. Tighter fiscal constraints mean lower credit volumes, while high interest rates raise the costs of subsidised credits.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1975	1995	1996	1997
GDP (US$ billions)	123.6	703.9	774.9	820.4
Gross agricultural product (US$ billions)	13.2	53.5	52.3	56.8
Gross domestic investment/GDP (%)	26.8	22.3	20.7	21.3
Population (millions)	108	156	158	160
GNP per capita (US$)	1 170	3 690	4 340	4 790
Share in GDP (%)				
Agriculture	12.1	9.0	8.0	8.1
Industry	40.2	36.7	35.5	35.2
Services	47.7	54.3	56.5	56.7
Population in rural area (% of total population)	38.8	21.7	21.1	20.5
Employment in agriculture (% of total employment)	..	26.1	24.5	..
Gender structure of agricultural employment (%)				
Male	..	65.6	68.2	..
Female	..	34.4	31.8	..
Agro-food exports (% of total exports)	58.0	28.7	30.0	31.0
Agro-food imports (% of total imports)	8.0	12.6	11.8	10.7
Consumption				
Private consumption/cap. (annual growth %)	–3.2	9.5	3.3	1.0

Domestic prices (% change from previous year)

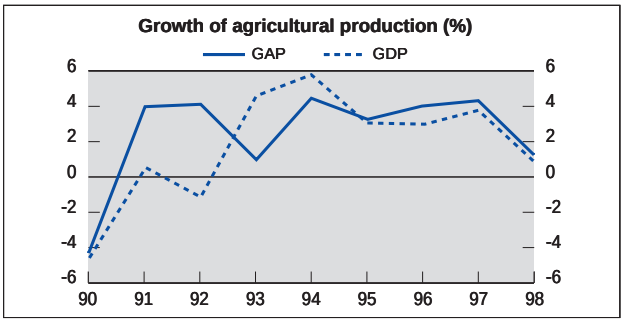
	1975	1995	1996	1997
Implicit GDP deflator	33.9	77.6	17.2	7.8
Consumer price index	..	66.0	15.8	6.1
Agricultural commodity price index	..	63.0	2.8	12.1
Food price inflation	..	58.5	5.9	..

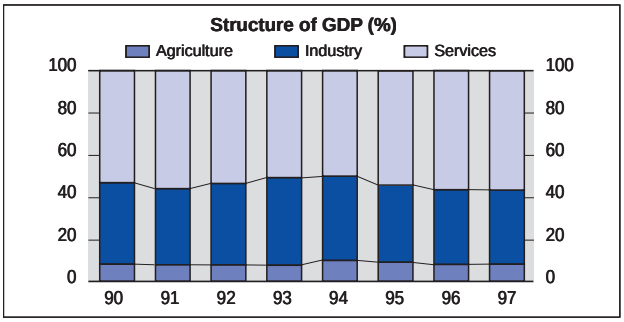
NATURAL RESOURCES AND ENVIRONMENT

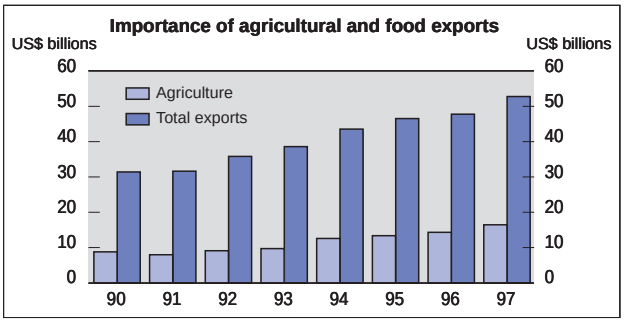
	1975	1995	1996	1997
Total land (millions ha)	845.6	845.6	845.6	845.6
Agricultural land (millions ha)	205.0	245.0	..	..
Forestry (millions ha)	..	551.1	..	..
Arable land per capita (ha)	0.3	0.3	0.3	0.3

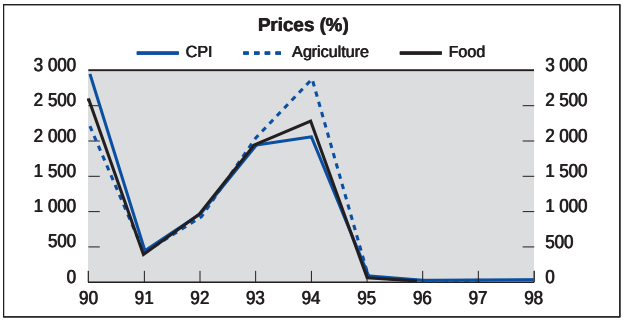
CAPITAL INFLOWS

	1975	1995	1996	1997
Foreign Direct Investment (millions US$)	1 302	4 859	11 200	19 652
Portfolio Investment (millions US$)	0	9 235	21 648	10 311
Net aid flows (millions US$)	165.3	367.8	408.2	487.4





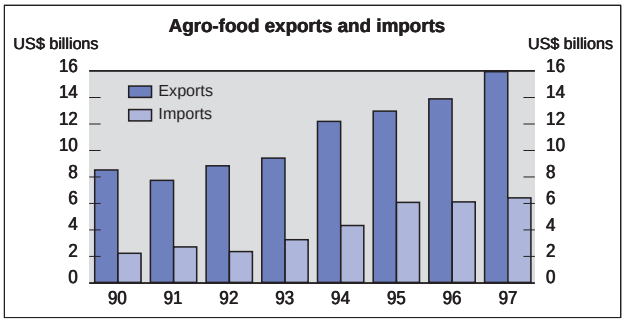




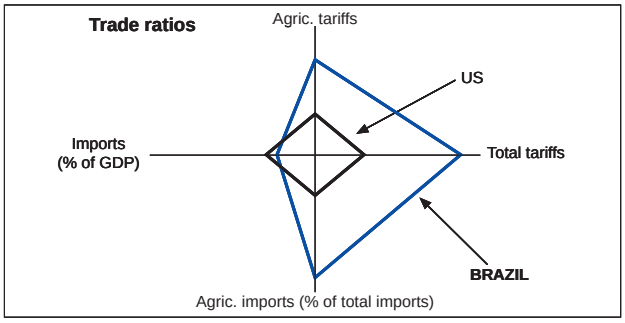
II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

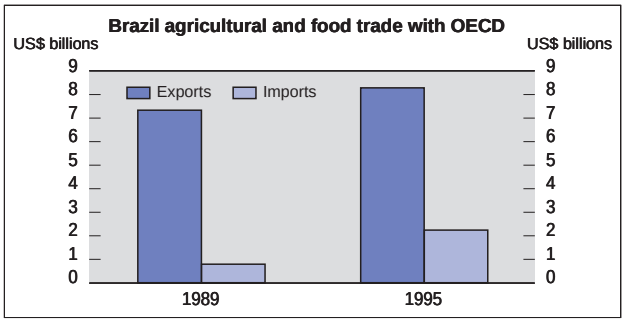
	1975	1995	1996	1997
	(US$ millions)			
Total exports (fob)	8 670	46 506	47 747	52 759
Agriculture and food exports	5 026	13 354	14 308	16 427
Non agricultural	3 644	33 152	33 439	36 332
Total imports (cif)	13 592	53 783	56 947	65 007
Agriculture and food imports	1 040	6 237	6 280	6 590
Non agricultural	12 552	47 546	50 667	58 417



1998 Tariff barriers	Range	Average	Deviation	Mode
Total	[0 52]	14.6	7.5	5.0
Agriculture				
Animal products (including. live)	[0 27]	11.9	5.2	13.0
Vegetable products	[0 21]	10.2	5.0	13.0
Animal and vegetable fats	[7 15]	12.2	2.0	13.0
Processed food (including tobacco)	[5 36]	18.1	4.8	19.0

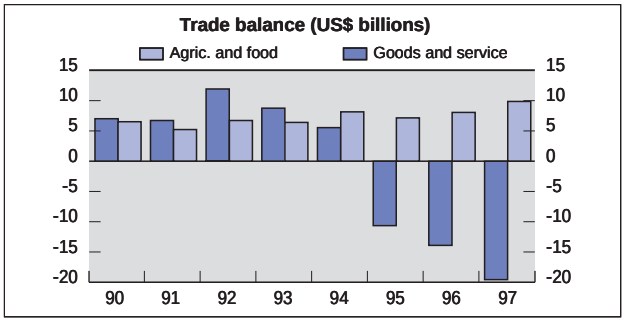


Regional trade blocks	1989	1990	1991	1992	1993	1994	1995
				Per cent			
Agricultural and food exports							
To OECD	78	80	78	75	69	69	61
To others	23	20	22	25	31	31	39
Agricultural and food imports							
From OECD	41	34	45	38	35	37	38
From others	59	67	55	62	66	64	62



BALANCE OF PAYMENTS

	1975	1995	1996	1997
	(US$ millions)			
Exports of goods and services	9 552	52 641	52 872	60 256
Imports of goods and services	14 546	63 293	66 770	79 817
Resource balance	–4 994	–10 652	–13 898	–19 561
Balance of agro-food trade	3 986	7 117	8 027	9 837
Current account balance	–6 968	–18 136	–23 602	–33 840



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BULGARIA

Macroeconomic situation

Bulgaria's economic performance in 1998 was shaped fundamentally by the comprehensive macroeconomic reforms enacted in 1997. These reforms, which were introduced in response to triple-digit inflation and sharp falls in real incomes, managed to arrest the decline in output. However, measures designed to re-establish monetary and fiscal control have, by nature, a restraining impact on domestic demand. Accordingly, real GDP grew by 4.0 per cent in 1998, a modest figure given the 20 per cent drop accumulated in the previous two years.

The currency board set up by the government in 1997 kept the exchange rate fixed at 1 000 Bulgarian leva to the deutsche mark throughout 1998. With most European currencies fixed in anticipation of the introduction of the euro, and these currencies in turn appreciating against most other non-European currencies, the result was a sharp appreciation against the dollar and the currencies of other trading partners (notably Turkey and those CEECs whose exchange rates were not tied to the deutsche mark). An appreciating real exchange rate dampened the recovery of exports, which were expected to provide the engine of renewed growth.

Inflation was more or less brought to a standstill in 1998, declining to 1.0 per cent at the end of December, compared with approximately 580 per cent the previous year. Interest rates fell concomitantly. The combination of low real interest rates and stable prices enabled gross capital formation to recover by 8.8 per cent. However, this represents a modest rebound from the 38 per cent loss accumulated in 1996 and 1997, and, at 12 per cent of GDP, investment remains too weak to fuel long-term growth. The main impetus to economic growth came from additional private consumption, which recovered by 5.3 per cent in 1998. Public consumption fell, as it has done in each of the last ten years, but the 2.0 per cent decline owed more to the shift of assets into the private sector than to funding deficiencies. The government ran a net surplus of 1.0 per cent of GDP.

Merchandise exports fell by 13 per cent. Within this total, exports to OECD countries fell by 5 per cent, as increased exports to the EU mitigated the impact of a rising real exchange rate *vis-à-vis* countries outside the EU. Imports also fell, but not as sharply as exports. The deterioration of the merchandise trade balance meant that Bulgaria posted a deficit (3.5 per cent of GDP) on the balance of payments current account.

The return of economic stability prompted a slight reduction in the level of unemployment, which fell from 13.7 per cent at the end of 1997 to 13.0 per cent by the end of 1998.

Agricultural and agro-food situation

Agriculture was an exception to the general pattern of modest economic recovery in 1998, with Gross Agricultural Output declining by 6.2 per cent. Production of most field crops fell as a result of both reduced sown acreage and lower yields. The reduction in acreage occurred despite a 3.4 per cent increase in crop prices, suggesting that farmers may have misread price signals at planting time. Production disincentives were heightened by a renewed price-cost squeeze, with the cost of fertiliser being prohibitive for many farmers. In a number of areas, the adverse impact that low fertiliser use had on yields was compounded by the effects of continued uncertainty over land rights. This situation has led to land degradation, with many farmers failing to rotate their crops or undertake other investments.

The area sown to wheat decreased less sharply than the acreage devoted to other grains (–6 per cent versus declines of over 10 per cent for maize and barley), while the biggest drops in area were recorded for two of Bulgaria's most import sources of export earnings: tobacco (–20 per cent) and wine grapes (-12 per cent). Tobacco yields fell by 9 per cent, while grape yields were down by over 30 per cent, causing wine grape production to halve. In contrast, the output of sunflower and tomatoes increased on the strength of improved yields. Favourable price expectations led to fertiliser being used more widely than for other crops. Improved meat prices also caused livestock farmers to purchase new animal stock.

Corresponding to the modest economic upturn, food consumption increased in 1998. There was little change in the consumption of bread, but there were sharp increases in the demand for fresh fruits (46 per cent), vegetables (36 per cent) and meat (28 per

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cent). Large carryover stocks of grain meant that supply was enough to meet both higher feed demand and provide an exportable surplus.

Bulgaria's traditional exports suffered particularly from lower foreign demand. Exports of wine and cheese fell by 28 per cent and 75 per cent respectively, while tobacco exports, afflicted by the collapse of the Russian market, dropped by 36 per cent. However, the overall decline in exports was less precipitous, owing to increased exports of wheat and fruits.

Trade became more focused on EU countries. On the export side, this can be explained by the appreciation of the lev against currencies outside the euro-zone, and weakness in NIS markets. However, a similar pattern for imports suggests a broader structural shift.

Structural adjustment policies

By 1998, 70 per cent of the land claimed for restitution (82 per cent of Bulgaria's total agricultural land area) had been returned to former owners. However, the basic law governing land allocations, the 1991 Land Law, was amended in 1997 in such a way as to establish specific grounds for appeal against the rulings of the Municipal Land Commission (MLC). As a result, nearly one-third of the allocations made by the MLC are to be revised and there is a backlog of appeals pending over previous MLC rulings.

The process of restituting forest land faces similar difficulties. Forests cover about one-third of Bulgaria's territory and 15 per cent of this area is to be returned to former owners. The basic law governing the restitution of forest land was not passed until 1997, with the regulations for implementation of this law set in place in 1998. However, a shortage of clear historical records and some ambiguity over what constitutes forest – as opposed to farm – land (with the latter problem exacerbated by afforestation) looks set to delay implementation of the programme. Already, the deadline for presenting land claims has been extended by five months to April 1999 and it is unlikely that the project will be completed in time for the end of 1999 deadline. On a more positive note, the problem of shortfalls in government funding for the administration of land reform looks to have been resolved by the improvement in the country's finances.

There was progress in ensuring longer term leases for tenant farmers. In 1998 a number of larger farmers started signing up to 5 year lease agreements, rather than the 2-4 year contracts that had been used previously. The new contracts also oblige land-owners to offer the land to their tenants first in the event of a sale.

The trend towards increased private ownership throughout the food chain continued in 1998, and was reinforced by a streamlining of the privatisation law. The privatisation of state owned farms is now largely complete (although many farmers have yet to complete the formality of obtaining notary deeds), while privatisation of the agro-food sector has been also swifter than elsewhere. In most agro-food industries, the degree of private ownership exceeds 90 per cent, notable exceptions being the fish and sugar sectors (where the proportions are 75 per cent and 73 per cent respectively).

Domestic support policies

Controls on domestic farm gate prices were removed in August 1998. Legislation enacted in 1995 had established a price floor for wheat and set controls on profit margins for a number of products. However, the former were never implemented owing to a shortage of government funds and the erosion of price guarantees through inflation. In mid-1997, the system was partially liberalised through the elimination of controls on profit margins and the introduction of a system of "negotiated" prices, which were extended to 15 basic food products. The August decision establishes effectively liberalised markets for most products. The main exception to this pattern was tobacco, where guaranteed prices were maintained and updated several times in the course of the year.

Amendments to the 1995 Law on Protection of Agricultural Producers rescinded most of the existing legislation. However, regulations governing the State Agriculture Fund's (SAF) provision of direct subsidies and credit concessions were retained. In an important amendment, the SAF is now authorised to provide the collateral with which farmers can obtain credit. In conjunction with 50 per cent interest subsidies for working capital, and earlier reforms that enable farmers to use their land as collateral, this move is designed to help overcome the dearth of rural credit. Farmers also remain exempt from profit tax and are not obliged to pay VAT on equipment purchases.

Preferential lines of credit were opened in 1998 for wheat, maize, sunflower and sugar beet and cost an estimated 6.4 billion leva (6.4 million deutsche marks). Most of this was extended as short-term credit paid directly to farmers and repayable at harvest time. A small amount was used for forward purchases of output, with actual delivery seldom enforced. A further 30 million leva was granted for a range of direct

support programmes. At the same time, a programme which enabled farmers to buy fertiliser at subsidised prices was discontinued.

A National Grain Commission was established to oversee a new grain storage and trading regime based on the US system of warehouse receipts. Registered farmers may now deposit grain in a licensed public storage facility. For this they receive a tradable receipt. Transactions may thus take place without physical delivery. These receipts may be used as collateral for receiving credit. The system is intended to establish a strategic level of reserves and to improve market stability. A further benefit is that transactions costs are likely to be reduced through stricter contracting procedures.

International policy environment

In common with other CEECs, Bulgaria's ambitions for EU membership were advanced through the adoption of an "Accession Partnership" agreement with the EU. Under the auspices of the National Programme for the Adoption of the Acquis (NPAA), Bulgaria agreed to establish a timetable for harmonisation with EU legislation and to build the institutional structures necessary to administer aligned common policies. A stream of legislation has already started to flow from the agreement, covering such areas as the registration of livestock numbers, sanitary and phyto-sanitary controls and marketing controls for fruits and vegetables.

Elsewhere, Bulgaria's membership of CEFTA came into effect in July 1998 and a free trade agreement was signed with Turkey. The latter provided for a 50 per cent reduction on (within-quota) duties on agricultural products.

The liberalisation of trade policy continued in 1998. Export taxes were abolished for all products except live animals, sunflower and sunflower oil, and reduced on these products. At the same time, the requirement that all agricultural products intended for export be licensed was rescinded, although seeds of wheat, maize and barley still need to go through a certification procedure. Exports are now registered for statistical purposes only. These reforms accelerated a process begun in 1997.

A temporary ban on vegetable imports was imposed in August to ensure that farmers did not suffer the adverse consequences of domestic food processors purchasing lower cost vegetables from overseas suppliers.

A new law governing export insurance was introduced. The goal of this legislation was to stimulate exports by covering some of the risks faced by Bulgarian exporters.

Reflecting its aspirations to EU membership, Bulgaria harmonised its import tariffs in line with EU rates. In order to improve producers' incentives all duties on imports of pesticides, agricultural machinery and other farm inputs were set to zero.

Assessment and outlook

Bulgaria committed itself to a number of important institutional and market reforms in 1998. For the agricultural sector most of the immediate steps were of a liberalising nature. The longer term direction is more difficult to gauge, but is likely to be one of increased market protection, unless the EU's Common Agricultural Policy is subjected to far reaching reform.

Bulgaria's agricultural markets continue to suffer from the twin effects of weak commodity prices and underinvestment. Revisions to the country's land legislation should, by clarifying landowners' rights, alleviate the latter problem. However, the benefits of such reforms are likely to come on stream only gradually.

Greater macroeconomic stability should provide a fillip to the agricultural sector. However, the fixing of the lev to the deutsche mark and thus to all euro currencies suggests that the structure of trade may be about to change fundamentally. The first indications of such a change are contained in this year's trade figures. If the euro's relative strength is maintained, exports to the 12 countries that have adopted the euro are likely to increase. The same reasoning would suggest that imports would be sourced increasingly from outside the euro zone, and that Bulgaria's net deficit with the EU would improve. However, that did not happen in 1998, in part because the relative weakness of other economies (particularly in the CEECs and the NIS) limited the supply response. Most likely, the structural shift towards increased trade with the EU would withstand a weakening of the euro.

With trade increasingly focused on the EU, Bulgaria stands to gain from the liberalisation of EU trade policies. More generally, having liberalised many of its own policies, it has a substantial interest in a successful outcome to the forthcoming round of WTO negotiations.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	13.1	9.8	10.1
Gross agricultural product (US$ billions)	1.7	1.4	2.3
Gross domestic investment/GDP (%)	15.7	8.4	11.8
Population (millions)	8.41	8.36	8.31
GNP per capita (US$)	1 370	1 200	1 170
Share in GDP (%)			
Agriculture	12.5	11.1	18.8
Industry	32.7	32.4	29.4
Services	53.9	54.5	51.8
Population in rural area (% of total population)	31.7	31.3	31.0
Employment in agriculture (% of total employment)	23.8	24.2	23.3
Agro-food exports (% of total exports)	17.5	18.2	10.0
Agro-food imports (% of total imports)	7.1	7.3	5.6
Consumption			
Private consumption/cap. (annual growth %)	3.1	–11.6	–15.2
Share of household income spent on food (%)	46	48	54

Domestic prices (% change from previous year)

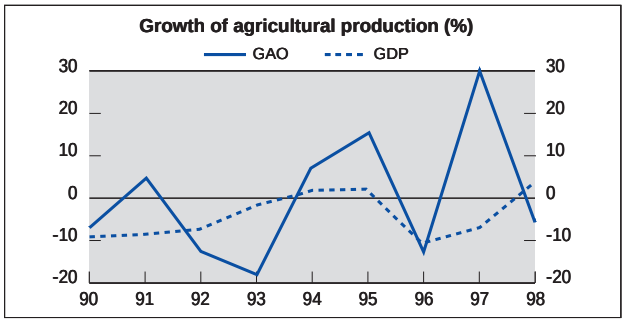
	1995	1996	1997
Implicit GDP deflator	62.8	121.0	951.0
Consumer price index	32.9	310.8	579.0
Agricultural commodity price index	43.0	..	..
Food price inflation	59.0	121.0	611.0

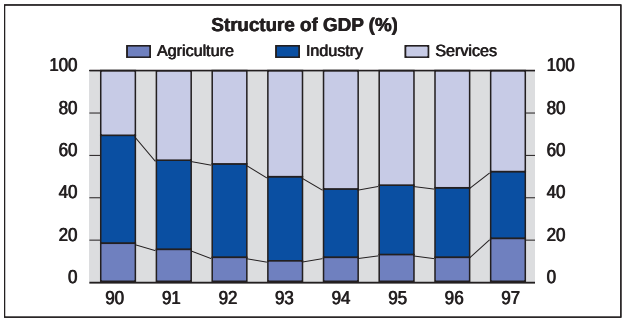
NATURAL RESOURCES AND ENVIRONMENT

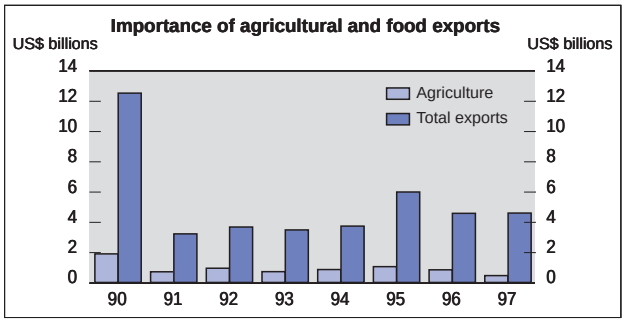
	1995	1996	1997
Total land (millions ha)	11.1	11.1	11.1
Agricultural land (millions ha)	6.1	6.1	6.2
Arable land per capita (ha)	0.5	0.5	..

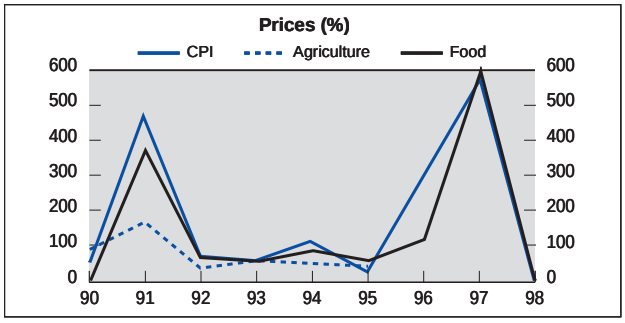
CAPITAL INFLOWS

	1995	1996	1997
Foreign Direct Investment (millions US$)	90	109	498
Portfolio Investment (millions US$)	–65	–129	77
Net aid flows (millions US$)	114.5	178.5	209.9









II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

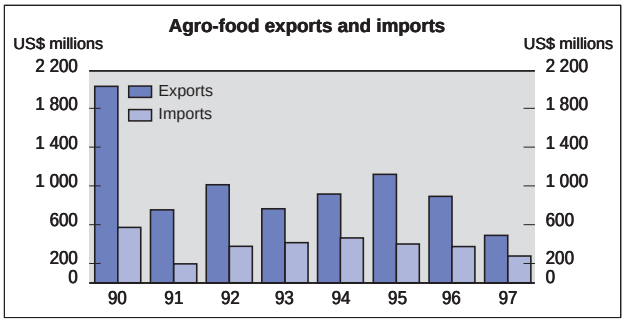
MERCHANDISE TRADE

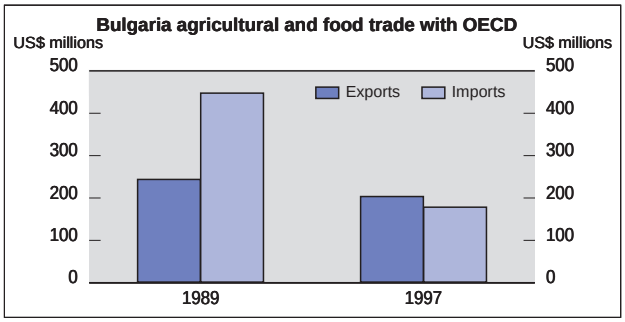
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	6 403	4 890	4 913
Agriculture and food exports	1 119	891	489
Non agricultural	5 284	3 999	4 424
Total imports (cif)	5 658	5 074	4 886
Agriculture and food imports	400	373	276
Non agricultural	5 258	4 701	4 720

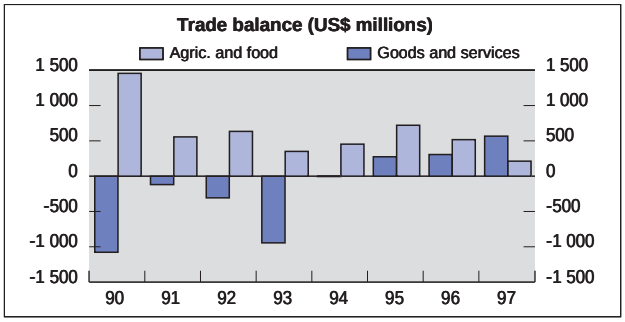
Regional trade blocks	1993	1994	1995	1996	1997	1998
			Per cent			
Agricultural and food exports						
To OECD	34	28	35	32	37	39
To CEECs	11	5	7	6	7	10
To NIS	28	37	40	45	46	34
To others	27	30	19	17	9	17
Agricultural and food imports						
From OECD	62	56	51	36	56	51
From CEECs	7	10	12	8	17	10
From NIS	4	9	7	9	6	2
From others	28	26	30	47	20	38

BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	6 776	6 256	6 251
Imports of goods and services	6 502	5 949	5 685
Resource balance	274	307	566
Balance of agro-food trade	720	518	213
Current account balance	–26	16	444







OECD 1999

CHINA

Macroeconomic situation

China's overall economic growth slowed for the third successive year in 1998. Real GDP growth declined to 7.6 per cent in 1998, after 8.8 per cent in 1997 and 9.9 per cent in 1996. The slow-down in growth was a reflection of both a cyclical contraction and the impacts of the Asian crisis on the export markets. Recent data suggest that growth began to pick up again in the second half of 1998 in response to the government's fiscal stimulus measures.

In tandem with the slow-down in growth, a further moderation of price inflation was evident and there are indications of growing deflationary pressures. The rate of inflation declined to -2.5 per cent in 1998, compared with a positive rate of 0.8 per cent in 1997. In view of these deflationary pressures, the authorities have moved to ease monetary policy by lowering interest rates and increasing banks' liquidity. Consumption spending has lagged because urban households have become very cautious in the light of massive lay-offs from the state enterprise sector and the phasing out of the welfare system for state workers.

On the policy front, numerous challenges have arisen simultaneously. The key task ahead is to stimulate growth and fight unemployment. At the same time the government needs to continue with the reforms of the state-owned enterprise (SOE) sector, address growing social problems and maintain the current exchange rate peg to the US Dollar. To remain committed to structural and SOE reform policies without compromising the high growth/high employment objectives is the main challenge.

To meet these challenges, the government tried to stimulate economic growth through further fiscal spending in 1998. While growth continued to decline, public investments helped prevent a major surge in unemployment. In addition, efforts to privatise small and medium-sized enterprises were postponed. Moreover, there the government decided to put a brake on housing reforms aimed at encouraging home ownership and at ending rent subsidies by state-owned enterprises to their employees. The government also endorsed measures to compensate companies for the loss in competitiveness due to the relative currency appreciating *vis-à-vis* other emerging economies. This included exemptions from export taxes and other tax benefits.

Agricultural and agro-food situation

The agricultural sector as a whole experienced another strong year in terms of output growth. With the exception of maize and oil crops, production of all major agricultural commodities increased. Total grain production exceeded the mark of 378 million tonnes (including rice in milled equivalent), falling only about 10 million tonnes shy of the 1996/97 record harvest. The third good crop in a row added to plentiful private and public grain stocks and is likely to create an exportable net surplus in 1998/99 of 1.5-2.0 million tonnes. But growing self-sufficiency in grains comes – at least partly - at the expense of lower oilseed production. Coupled with robust demand for vegetable oils and oil meals, the drop in oilseed production resulted in new record levels for oilseed, oil and meal imports in 1998.

It is interesting to note that the political priority given to grain production largely ignores the preference of the market for oilseeds and oilseed products. Urbanisation and vigorous income growth have resulted in a shrinking share of demand for grain and grain products, a demand segment that is increasingly characterised by low or negative income responsiveness. At the same time, higher incomes have spurred demand for vegetable oils and meat (demand for oil meals reflects derived demand for meat and livestock products) and driven imports of oilseeds and oil meals to new record highs.

The basic features of China's livestock sector remained unchanged in 1998. Pork remains the preferred meat, accounting for more than 80 per cent of total meat consumption. On the supply side, the shift towards larger and more efficient units for pork production gathered strength in 1998. A growing share of output is coming from specialised households or industrial operations, which benefit from scale economies and modern production techniques. But this shift may also mean that China's pork industry could be exposed to greater cyclical price swings, particularly if feed grain prices are also allowed to fluctuate more freely. The shift towards large-scale pork production units will also be accompanied by an increase in compound feed use. This is likely to increase overall grain and soybean meal requirements. Additional needs could come from both higher domestic production and rising imports.

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The speed and magnitude of reforms of trade policies versus domestic support policies will determine the relative importance of the two sources, *i.e.* whether additional needs will come from imports of grain or domestic production.

Structural adjustment policies

Structural adjustment policies remained largely unchanged in 1998. A stable farm policy environment is part of the strategy of the new government, trying to provide maximum stability for rural areas. At the same time, the government focused on urban reforms, an area that is deemed more urgent and important. At the same time, agriculture benefited from increased investments in domestic infrastructure, the government's measures to stimulate growth and offset the losses in export markets. Rising investment in infrastructure is part of a gradual change in the overall development paradigm from outward-looking export oriented growth pattern towards a faster development of the domestic market and a broader regional focus. This could help overcome the binding, infrastructural constraints for agricultural development and provide a broad-based stimulus to domestic food demand and supply.

The land tenure system based on the land contract system will not change. Farmland will continue to be owned by village collectives, which will continue to extend land contracts to individual farm households for 15 to 30 years. The government also intends to reduce the tax burden on rural households. It was stated that the tax burden on farm households should not exceed five per cent of net farm income.

The growth in China's agriculture, in common with growth in other sectors, has been based on mobilising more resources (land, irrigation, increasing cropping intensity) rather than on increasing the efficiency of resource use. With tight constraints on the most important resources (land and water), this growth pattern resulted in growing environmental problems. More and more marginal and environmentally fragile land was brought into production, resulting in an unsustainable use of the resource base. Deforestation and encroachments on marginal land along the banks of the major rivers brought about soil erosion and ground water pollution, and contributed to the floods in 1998. In response to the problems encountered during the floods, the government has announced a package of measures to promote reforestation and to reduce soil erosion.

Domestic support policies

The "governors' grain responsibility system" remains the dominant agricultural policy package. It provides economic incentives and exerts administrative pressure to push farmers to grow more grain and use more fertiliser than they would under free market conditions. This policy system was successful in raising grain production to record levels. However, these policies also promoted the overuse of inputs (particularly nitrogen fertiliser), aggravated environmental problems, and contributed to administrative problems.

The procurement price system for grains and oilseeds remained unchanged. Procurement quantities remained largely at the 1997 level, while procurement prices for grains were raised. Traditionally, the procurement prices were kept artificially low, placing a considerable tax on producers of grain. This allowed keeping urban food prices low and helped to meet the overall development objective of "supporting industrial development by assuring stable supplies of reasonably priced food". With renewed emphasis on food production following the reforms in 1994, market prices fell below procurement price levels. This meant that the implicit tax on grain production turned into a subsidy.

In addition to the procurement prices and quotas, the government introduced the so-called "protective" price for grains in 1997. This aimed at providing a floor price, which would allow covering costs and included a small profit. The grain stations are obliged to buy – at the protective price – all grain that farmers offer over and above their procurement quota. The protective price remained unchanged in 1998.

In April 1998, the central Government announced a new policy package to launch a comprehensive reform of the grain storage and distribution system. These reforms aimed at addressing growing concerns about inefficiencies and fraud in the grain administration and distribution system. The grain stations were charged with: *i)* being too slow to change management mechanisms; *ii)* having surplus staff; *iii)* being poorly managed; and *iv)* having diverted funds designated for grain purchases into other uses. The reform package affected five major areas which are known as the "four separations and one perfection". The measures include:

A separation of policy functions (the state grain reserve) from the commercial functions.

A separation of central government-owned stocks from commercially held stocks.

A separation of the duties of the central government in stabilising grain markets from market stabilisation duties of the local administrations.

A separation of old and new grain debts.

A "perfection" of the system that will allow supply and demand elements within markets to set grain prices.

The reforms were destined to improve efficiency of the grain storage and distribution, decrease staff, and separate policy functions from the commercial operations of the grain bureaux. In practice, the implementation of the reforms may help strengthen government control over the grain economy but it will impede the functioning of open markets.

The exact impacts of the reform package are however difficult to gauge at this early stage. Some of the measures will help to reduce fraud and misuse of subsidies in the grain bureaux. Over the past two decades, billions of US Dollars have disappeared in the grain administration system without arriving at the farm household, the intended beneficiary. The new price system could also more appropriately reward quality differentials and help reduce high stocks of low quality grain. However, the re-monopolisation of the grain stations will limit the role of private grain traders and is likely to result in a loss of market efficiency and market transparency. The reforms also fail to define the role of private grain traders and fall short of addressing the fundamental problem of surplus production. Instead, some of the measures are likely to strengthen state control over the national grain system. Moreover, the reforms ignore the fundamental problems, such as chronic overproduction and the inefficient distribution system. Finally, there are also growing concerns that they will fail to solve the fiscal and management problems that plague China's grain bureaux system. In 1998, the losses reached an estimated total of US$1.8 billion a month.

International policy environment

Unlike many other Asian economies, China managed to remain largely immune to the crises in Asia and Russia. The Government maintains a managed exchange rate system, insulates China's currency from market forces and speculative pressure, and exercises full control over foreign trade. While these measures have helped to minimise the immediate and direct effects of the crises, there was growing evidence that China's agricultural exports become less competitive *vis-à-vis* other Asian suppliers, who have benefited from exchange rate devaluations. Over the first five months of 1998, for instance, China's exports to eight Asian economies dropped by 13 per cent, compared with the same period in 1997. The government stepped in on various occasions offering tax rebates to exporters in order for them to maintain competitiveness in the international markets. In January 1999, a whole package of tax rebates for industrial and agricultural goods was endorsed.

As a major importer of some agricultural commodities, China also benefited from the impacts of the Asian crisis. The most important benefits arose from low international prices for commodities in general and depressed agricultural prices in particular. Two key forces contributed to lower international commodity prices. Significant reductions in purchasing power due to lower income growth and exchange rate devaluations brought about a slump in demand and commodity imports. At the same time, currency devaluations in major commodity exporting countries, particularly in Brazil, boosted exports and exacerbated the downward pressure on prices. China benefited in particular from low international prices for soyabeans and soyabean products. Persistently low prices in the international sugar market suggest that China could reap similar benefits by relying more on sugar imports for its domestic needs.

Assessment and outlook

After years of double-digit growth rates, China's economy has started to slow over the past three years. This anticipated cyclical contraction of the economy was compounded by the impacts of the Asian crisis on China's export markets. With the economic slowdown, unemployment started to rise and the momentum to reform the ailing state-owned enterprise sector dissipated. While privatisation efforts slowed, the government chose to step-up public investments in order to overcome the economic slow-down. Unlike in the past, these public investments focus on improvements in infrastructure and have a broader regional coverage. This shift is deemed to herald a new overall development strategy, away from an outward-looking/export-oriented growth pattern with focus on the coastal areas, towards a broader development of the whole domestic market.

Similar trends govern the development of agricultural policies. The governors' grain responsibility of 1994 started this process by promoting domestic production of grain and regional trade flows to balance surpluses and deficits between different provinces. With the reforms of the grain storage and distribution system in 1998, agriculture too experi-

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enced the broad-based slowdown of privatisation efforts. The 1998 reforms are expected to reduce the role of private traders and will reinstate the grain purchasing and marketing monopoly of the governmental grain stations.

Future challenges for food and agriculture arise in a number of areas. The shift in the structure of pork production systems, for instance, is likely to increase the needs for compound feed stuffs and could renew concerns about the country's capacity to produce and/or import sufficient grain to meet growing domestic needs.

Moreover, large industrial pork operations are primarily emerging in the vicinity of densely populated urban conglomerates. The need to dispose of manure is likely to generate environmental problems comparable with those in OECD countries. In addition, the choice to meet rising feed needs through higher domestic production will exert added pressure on already scare natural resources, particularly water and land. This will underscore the challenge for policymakers to get the "prices right" both in product and in input markets. It also calls for a clear definition of property rights to promote investments in the sustainability of the resource base.

I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1975	1995	1996	1997
GDP (US$ billions)	160.3	697.6	815.4	..
Gross agricultural product (US$ billions)	51.2	143.6	150.9	..
Gross domestic investment/GDP (%)	30.3	40.5	42.4	..
Population (millions)	916.4	1 221.5	1 232.1	1 243.7
GNP per capita (US$)	..	620	750	..
Share in GDP (%)				
Agriculture	32.4	20.5	20.4	18.7
Industry	45.7	48.8	49.5	49.2
Services	21.9	30.7	30.1	32.1
Population in rural area (% of total population)	82.7	69.8	69.0	68.2
Employment in agriculture (% of total employment)	..	48.6	47.8	47.4
Agro-food exports (% of total exports)	..	11.2	9.5	7.3
Agro-food imports (% of total imports)	..	16.6	13.3	11.7
Consumption				
Private consumption/cap. (annual growth %)	3.3	8.6	9.3	4.1

Domestic prices (% change from previous year)

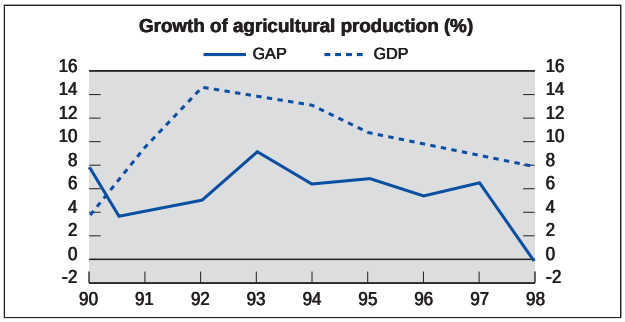
	1975	1995	1996	1997
Implicit GDP deflator	–1.6	13.2	5.9	1.2
Consumer price index	..	16.9	8.3	0.8
Agricultural commodity price index	..	20.8	9.8	–2.5

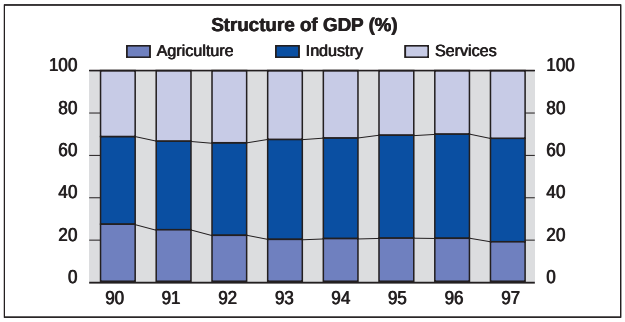
NATURAL RESOURCES AND ENVIRONMENT

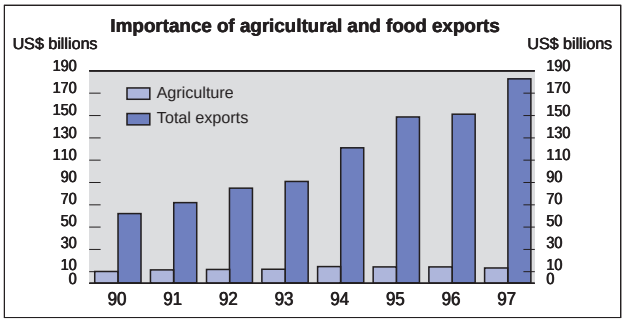
	1975	1995	1996	1997
Total land (millions ha)	932.6	932.6	932.6	932.6
Agricultural land (millions ha)	401.6	495.7	..	..
Forestry (millions ha)	..	133.3	..	..
Arable land per capita (ha)	0.1	0.1	0.1	..

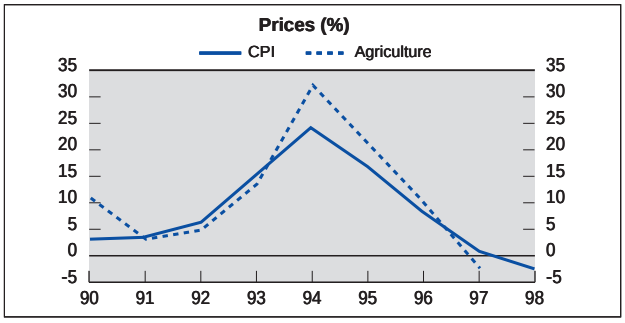
CAPITAL INFLOWS

	1975	1995	1996	1997
Foreign Direct Investment (millions US$)	0	35 849	40 180	44 236
Portfolio Investment (millions US$)	..	789	1 744	6 804
Net aid flows (millions US$)	0	3 540.3	2 658.3	2 054.40







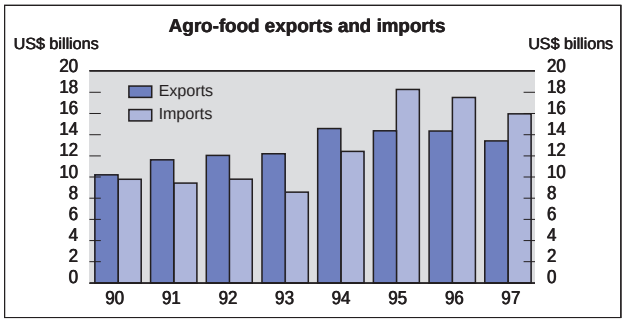


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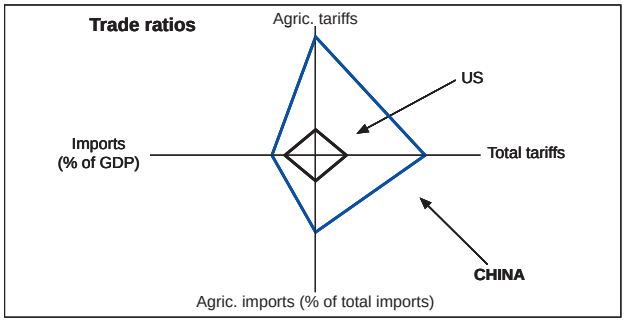
II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

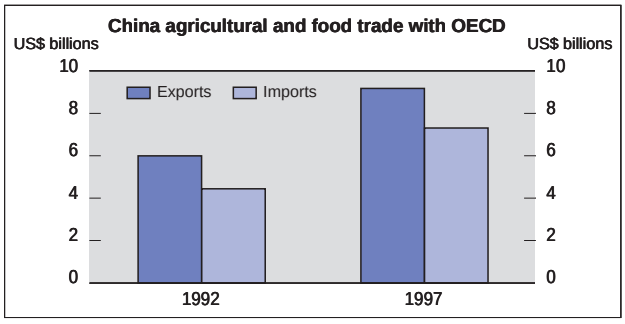
	1975	1995	1996	1997
		(US$ millions)		
Total exports (fob)	7 689	148 797	151 197	182 877
Food	..	12 268	12 403	13 026
Agricultural raw materials	..	2 517	2 354	2 527
Non agricultural	..	134 012	136 440	167 324
Total imports (cif)	7 926	129 113	138 944	142 189
Food	..	9 218	8 164	7 162
Agricultural raw materials	..	6 862	7 108	7 449
Non agricultural	..	113 033	123 672	127 578



1998 Tariff barriers	Range	Average	Deviation	Mode
Total	[0 122]	17.4		
Agriculture	[0 122]	25.9	15.2	13.9
Animal products (including live)	[0 50]	22.2	11.7	..
Vegetable products	[0 114]	25.2	15.0	30.1
Animal and vegetable fats	[0 122]	28.7	17.1	..
Processed food (incl. tobacco)	[2 65]	29.3	17.7	13.9

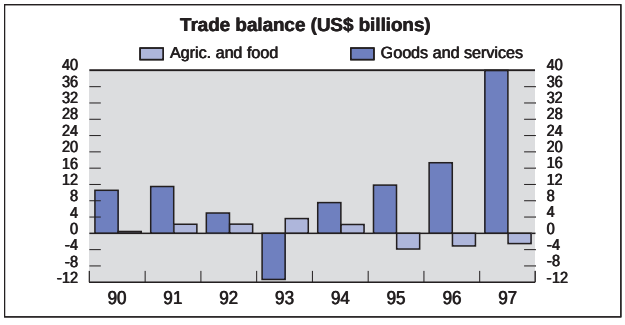


Regional trade blocks	1992	1993	1994	1995	1996	1997
			Per cent			
Agricultural and food exports						
To OECD	52	53	55	54	61	59
To others	49	48	46	45	19	42
Agricultural and food imports						
From OECD	58	56	54	59	55	51
From others	42	44	47	41	45	49



BALANCE OF PAYMENTS

	1984	1995	1996	1997
		(US$ millions)		
Exports of goods and services	26 716	147 240	171 678	207 251
Imports of goods and services	26 748	135 282	154 127	166 754
Resource balance	–32	11 957	17 551	40 497
Balance of agro-food trade	832	–3 908	–3 170	–2 555
Current account balance	2 030	1 618	7 243	29 718



CROATIA

Macroeconomic situation

During 1998 the Croatian economy remained stable with inflation around 6 per cent and a somewhat lower current account deficit below –8 per cent, with economic growth down to an estimated 3 per cent. Croatia's chronic post-war economic problems, such as the high rate of unemployment, low level of savings and underdevelopment of the financial market persisted. In addition, a high level of overall enterprise arrears has reached disturbing proportions.

Retail prices increased by over 5 per cent in 1998, which is the highest increase since 1994. This was mostly influenced by the introduction of VAT at the beginning of the year. The cost of living increase was significantly influenced by the cost of food.

The unemployment rate reached 17.4 per cent (298 000 persons) by the end of November 1998. By comparison, the June 1998 "Labour Force Survey" carried out according to International Labour Organisation (ILO) guidelines estimates the unemployment rate at 11.2 per cent, both representing increases of just over 1 per cent over the previous 12-month periods.

The current account deficit for 1998 is estimated to have declined to a still high US$1.8 billion. This positive development was mainly influenced by a decrease in the trade deficit, which amounted to US$3.075 billion or 11 per cent less than in 1997. VAT is the main revenue source followed by individual and corporate taxes. The central government budget has been in surplus: in November 1998 total revenues were higher than total expenditures by US$7.7 billion and most of the surplus was used to repay foreign debt. However, large amounts of off-budget financing, particularly for social services, cloud the fiscal picture.

Following independence, Croatia inherited US$2.5 billion of ex-Yugoslav foreign debt. Since then, foreign debt has been increasing: in 1993 it amounted to 23 per cent of GDP; at the beginning of 1997 it reached US$5 billion; and finally at the end of 1998 it reached US$8 billion or 38 per cent of GDP. The increasing amount of foreign direct investment, albeit from a low base, constitutes a positive trend, which is important for decreasing Croatia's balance of payments deficit and reliance on international capital markets.

Agricultural and agro-food situation

The share of primary agriculture (including fisheries) in GDP was 9 per cent in 1997. The share of the labour force in agriculture and fisheries decreased to about 10 per cent of total employment or nearly to the pre-war level.

Compared to 1997, exports of agricultural and food products decreased by almost 3 per cent and imports, by 16 per cent. The share of agricultural and food exports in total exports decreased from 13 per cent in 1997 to about 12 per cent in 1998. The share of agricultural and food imports declined from 11 per cent in 1997 to 10 per cent in 1998.

The most serious problems in Croatian agriculture during 1998 were in the market for live pigs for slaughtering. The price of pigs has decreased steadily and increasing volumes could not be absorbed by the domestic market. The Russian crisis has influenced the Croatian market indirectly but markedly: huge quantities of pork meat and live pigs have been imported into Croatia (mainly from the European Union), almost paralysing domestic sales.

Croatian milk production recorded a moderate increase and relatively stable farm gate prices. However, at the end of the year, some dairies faced difficulties because of the closure of a few Croatian small and medium sized banks, which disrupted payments.

The number of private farmers fell by almost 11 per cent in 1998 to 110 000 compared to 1997, when there were 123 000 registered private farmers. The fall concerns mainly full time farmers, accounting for about 10 per cent of all farms. On the other hand, the number of part-time farms continues to increase and now accounts for more than 70 per cent of all farms.

During 1997 the process of reintegration of Eastern Slavonia into Croatia was completed, which increased areas sown to crops by about 4.6 per cent in 1998. While this part of Croatia accounts for only 4.6 per cent of Croatian territory, it accounts for almost 19 per cent of total agricultural production.

Cereals continue to prevail in the cropping pattern, with about two-thirds of total area sown during the last ten years. However, the cropping pattern shifted somewhat during 1998 in favour of industrial crops (sugar beet and sunflower) as well as fruit and

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vegetables. Yields for almost all field crops declined compared to pre-1990 period, mainly because of lower input use. Maize is the most important cereal in Croatia and it covered on average about 37 per cent of total area sown over the last ten years. The share of areas sown to maize decreased to 34 per cent in 1998, primarily the result of declining animal production in Croatia. The area sown to wheat, the most important bread making cereal, fell to 22 per cent in 1998. Government incentives to increase oilseed production resulted in an 88 per cent increase in areas sown to sunflower, rapeseed and soybean over 1997.

Preliminary estimates of animal production indicate a continued fall in livestock numbers. Milk production increased by 14 per cent due to improved yields.

Structural adjustment policies

By 1997, privatisation was completed in more than 2 500 enterprises. By the end of 1998 the third auction phase of mass coupon privatisation was completed. The share of agriculture and food processing in these coupon privatisations is 9 per cent. The process of land privatisation is slow due to inconsistencies between land books and cadaster records. Farmland owned by physical persons accounts for 68 per cent of all farmland and can be let without time limits.

The main upstream industries in Croatia are at different stages of development and economic efficiency. In most cases, production efficiency is higher when the enterprise has been successfully privatised. In contrast, industries that remain under government control (*e.g.*, mineral fertilisers) are in an increasingly difficult position.

A rural financial system that would mobilise savings and improve access to credit is still at an early stage of development. The lack of short-term credit for working capital and investment finance is a major constraint on the agricultural sector. The banks, based on previous experience, are reluctant to lend to agriculture due to lack of collateral and low profitability. In 1998, the Ministry of Agriculture and Forestry started restructuring the Fund for Agriculture Development (FAD) financed from the state budget into a revolving fund for financing agriculture. The idea is to replace the undeveloped rural financial infrastructure by state funds for a transitional period.

Domestic support policies

The current system of support involves both price and trade policies and is characterised by guaranteed prices for wheat, rapeseed, sunflower, soyabeans, sugar beet and tobacco. In September 1998, the government lowered guaranteed prices for wheat and rapeseed for 1999 compared to 1998 level. The guaranteed price for rapeseed produced in 1999 is about 11 per cent less than in 1998. A part of this decrease will be compensated through a new system of payments based on unit of sown area.

Financial incentives and input subsidies are an important part of financial support to Croatian agriculture. According to initial estimates by the Ministry of Agriculture and Forestry, payments to producers in 1998 increased by 31 per cent compared to 1997. The most significant part of the subsidies (40 per cent) is for the support of milk production. Government supports animal production by a special credit programme, payments per head of cattle and a suckler cow premium.

As part of Croatia's rural development approach, in 1998 the government increased support for certain agricultural products produced in islands, mountainous regions and other specially targeted areas.

International policy environment

The sharp fall in imports in 1998 was influenced by the introduction of VAT, which has increased the transaction costs to importers. About 60 per cent of agricultural imports came from OECD countries, of which 43 per cent from the EU and 4 per cent from North America. Italy remains the main supplier with a 12.6 per cent share. CEECs (including OECD Members) shared 11 per cent in total Croatian imports of which the main share is from neighbouring Slovenia. Imports from Hungary fell by 42 per cent and from Germany by 32 per cent, undoubtedly influenced by the temporary import ban on live pigs and pork meat, which was in effect for about two months in the first half of 1998.

Almost 28 per cent of agricultural exports in 1998 went to OECD countries, of which 14 per cent to EU and 14.2 per cent to CEECs. Only 2.4 per cent went to NIS countries, a small decline, which illustrates the adverse impact of the Russian crisis on the Croatian economy. The most important export destination of agricultural products is Bosnia and Herzegovina, whose share increased by more than 10 per cent in 1998 compared to 1997. This is mainly due to preferential custom duties, which are applied both to ex-

ports and imports. The share of OECD and CEECs in Croatian exports decreased.

Croatia has signed free trade agreements with Macedonia, Slovenia and with the Federation of Bosnia and Herzegovina. Negotiations with CEFTA members have progressed moderately since 1997. It is expected that Croatia will complete multilateral and bilateral negotiations to join the WTO by end-1999. In preparation for accession to WTO, Croatia abolished export quotas in 1998. Import quotas had already been abolished in 1996. Croatia has not applied export subsidies and does not expect to introduce any in the future.

At the beginning of 1998, Croatia faced a surplus of about 10 000 live pigs. To assist domestic producers, the government imposed an import ban on live pigs and pork, and introduced state purchases. This temporary ban prompted adverse reactions by some importers and official representatives of some neighbouring countries. The ban was lifted by mid May and by the end of June the government increased specific duties for some categories of pork. Meanwhile, the onset of the Russian financial crisis brought new pressure on the domestic pig market by significantly lowering prices in the EU market and increased imports of subsidised EU pork diverted from the Russian market. To reduce the pressure on domestic producers, the government again increased specific duties for some categories of pork at the beginning of November 1998.

A large surplus (c 500 000 tonnes) of wheat in 1998 and a floor price that was much higher then the world price resulted in a temporary "Wheat Import Ban" introduced in July 1998, but superseded in October by a new specific customs duty.

Assessment and outlook

Introduction of the VAT system in 1998 was the most important economic policy initiative, bringing in revenues to the budget, although not solving the problems of high extra-budgetary expenditures or rising foreign debt. The government initiated some programmes to lower VAT rates on basic food products such as bread, milk, sugar and vegetable oil.

Trade policy included a few measures that contradict free trade principles. Extenuating circumstances led to temporary import bans on wheat, flour, pig and pork imports. This was because the share of imports in total consumption threatened to undermine domestic market stability. The bans were relatively short and had a beneficial effect in stabilising producer prices.

The exceptionally high budget expenditures in 1998, caused especially by the government purchase of domestic wheat, brought about proposals for a radical reform of the price support mechanism. In September 1998, a new System of Incentives in Agriculture was proposed and a new law reflecting this system is in Parliament.

Along with the proposed basic changes in the system of subsidies, a significant decrease in guaranteed prices, especially for wheat, was announced. If this system were to be accepted, it would represent a major shift in Croatian agricultural policy since independence. A part of the new system has already been approved for wheat and rapeseed. While government support will remain important in some areas, the market mechanism will gradually assume a more decisive role. Ongoing WTO negotiations have influenced the formation of the new support system in a significant way.

A decrease in border protection is expected to have an adverse short-term impact on agriculture, but will lead to a more viable, competitive agricultural sector over the medium to long-term. It would stimulate restructuring and productivity increases, which are essential for improving the competitive position of Croatian agriculture on the world market. Government economic policy is expected to remain unchanged in 1999 with the main focus on maintaining stability of the real exchange rate towards the Euro and on price stability in the domestic market. Tight monetary and fiscal policy will continue, while foreign borrowing is expected to moderate. Against the background of high trade and current account deficits, the main risks to the Croatian economy come from the crisis in the Balkan region, which may severely reduce critical revenues to both services and agriculture from tourism, as well as discourage badly needed FDI inflows.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	18.8	19.7	19.4
Gross agricultural product (US$ billions)	17.7	..	..
Gross domestic investment/GDP (%)	14.1	14.8	..
Population (millions)	4.67	4.49	4.50
GNP per capita (US$)	3 230	3 800	4 060
Share in GDP (%)			
Agriculture	9.5	9.2	9.3
Industry	20.2	20.3	..
Services	70.3	70.5	..
Population in rural area (% of total population)	44.2	43.8	43.4
Employment in agriculture (% of total employment)	13.02	12.40	11.30
Agro-food exports (% of total exports)	11.4	12.0	13.1
Agro-food imports (% of total imports)	12.1	11.5	10.9
Consumption			
Private consumption/cap. (annual growth %)	13.4	4.4	..

Domestic prices (% change from previous year)

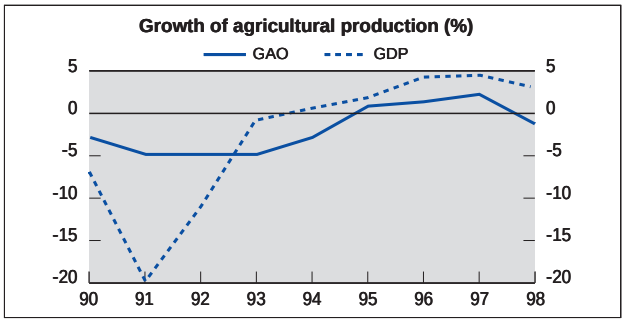
	1995	1996	1997
Implicit GDP deflator	8.0	5.1	..
Consumer price index	3.7	3.5	4.0
Agricultural commodity price index	2.4	3.3	3.8
Food price inflation	0.0	4.5	3.6

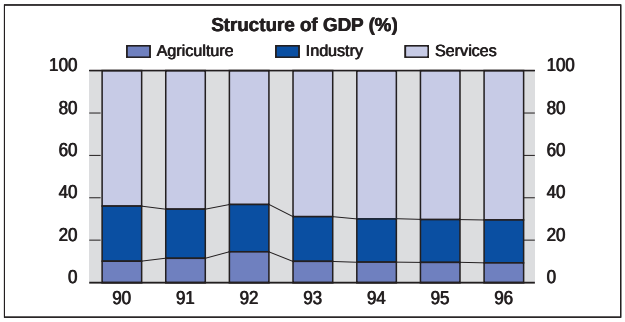
NATURAL RESOURCES AND ENVIRONMENT

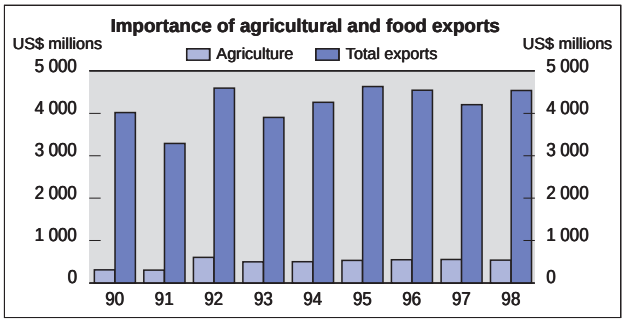
	1995	1996	1997
Total land (millions ha)	5.6	5.6	..
Arable land per capita (ha)	0.2	0.3	..

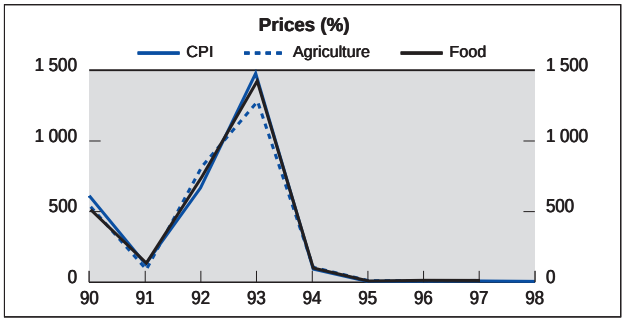
CAPITAL INFLOWS

	1995	1996	1997
Foreign Direct Investment (millions US$)	101	533	388
Portfolio Investment (millions US$)	5	27	173
Net aid flows (millions US$)	54.1	133.4	44.0









II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

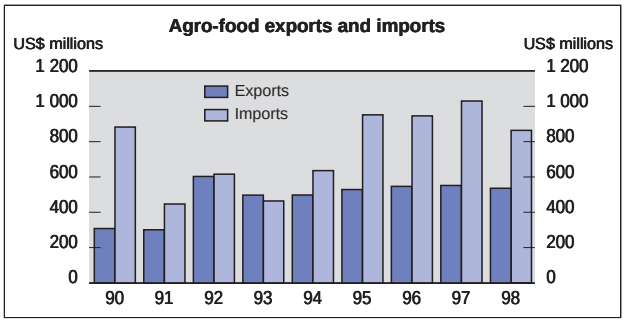
MERCHANDISE TRADE

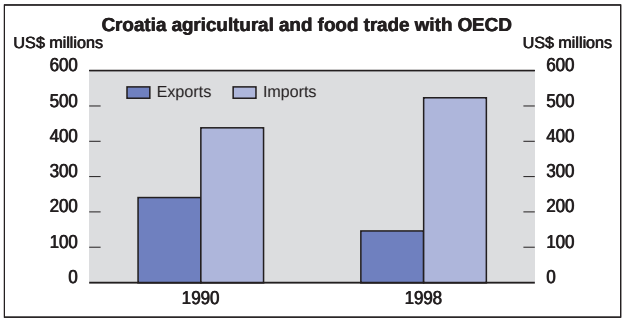
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	4 633	4 546	4 206
Agriculture and food exports	529	547	552
Non agricultural	4 104	3 999	3 654
Total imports (cif)	7 870	8 197	9 430
Agriculture and food imports	952	946	1 030
Non agricultural	6 918	7 251	8 400

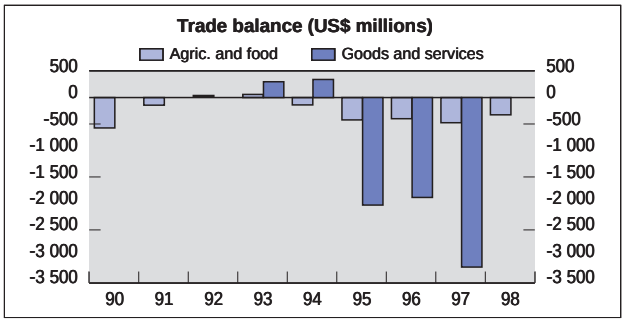
Regional trade blocks	1990	1993	1994	1995	1996	1997	1998
				Per cent			
Agricultural and food exports							
To OECD	89	36	32	33	29	26	21
To CEECs	9	39	30	28	28	34	22
To NIS	7	24	4	3	4	3	2
To others	6	5	37	39	42	40	56
Agricultural and food imports							
From OECD	57	46	55	57	56	52	54
From CEECs	23	34	27	23	24	24	22
From NIS	3	2	1	1	0	0	0
From others	24	20	19	21	22	26	28

BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	7 252	8 024	8 200
Imports of goods and services	9 282	9 911	11 402
Resource balance	–2 030	–1 887	–3 202
Balance of agro-food trade	–423	–399	–477
Current account balance	–1 284	–858	–2 434







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ESTONIA

Macroeconomic situation

Economic growth in Estonia fell from 11 per cent in 1997 to about 4 per cent in 1998. The financial turmoil in Russia and tight monetary policies dampening domestic demand were the main contributors to this decline in growth. At the end of 1998 a budget deficit of 0.5 per cent was recorded.

The rate of inflation fell from 12 per cent in 1997 to 6 per cent at the end of 1998. The Estonian exchange rate regime remained in place with the Kroon being tied to the Deutsche mark at a rate of EEK8:DM1. The financial sector registered falling profits in 1998 and many banks made losses due to stock-market corrections, higher interest rates and tighter capital-adequacy requirements as the Central Bank urged banks to expand their capital bases and restrict credit growth. Thus the consolidation in the banking sector continued with two mergers in the sector between the largest banks, bringing the number of local banks down to 5. The bank with the highest involvement in the agricultural sector, Maapank, went bankrupt, which caused financial difficulties for farmers.

Falling domestic demand and a surplus in the service sector resulted in a decline in the current account deficit to almost 9 per cent of GDP. In 1998, the current account deficit was estimated at US$600 million. Merchandise exports increased in 1998 by approximately 10 per cent compared to 17 per cent in 1997. Within this total, exports to Russia fell from 19 per cent in 1997 to about 13 per cent in 1998. As a result exports to both Finland and Sweden exceeded those to Russia, Estonia's biggest export destination in 1997. Merchandise imports rose by about 7 per cent compared with 16 per cent in 1997.

Despite higher capital inflows, the balance of payments remained negative in 1998. Foreign direct investments more than doubled, increasing from US$128 million in 1997 to US$548 million in 1998. The largest FDI inflows were directed to the banking and telecommunication sectors as well as manufacturing. Although increasing, foreign direct investments in the agricultural sector remained low and amounted to US$26 million in 1998.

The official rate of unemployment increased slightly to 5 per cent in 1998. However, regional unemployment, particularly in regions with a high trade exposure to Russia, continues to be substantially higher than the national average rate. Out of total rural population about 23 per cent is employed in the agricultural, forestry and fishery sector and 10 per cent are unemployed.

Agricultural and agro-food situation

Falling world market prices, bad weather, and a worsening credit situation for agricultural producers adversely affected the agricultural sector in 1998. Agriculture still accounts for 4 per cent of GDP. Combined with food and beverages, agriculture contributes 9 per cent of GDP. Gross agricultural output (GAO) remained at about the same level despite the sharp decline in crop production in 1998. This fall was a result of unfavourable weather conditions causing yields to fall by 20 to 30 per cent compared with 1997.

The livestock sector performed favourably in 1998. Total meat production increased by 8 per cent, with poultrymeat recording the highest growth of 85 per cent over 1997, albeit from a low base. In spite of declining cow numbers, milk production increased by 2 per cent, due to an increase in milk yields of 5 per cent over 1997.

Price developments in the agricultural sector were unfavourable as input prices rose and output prices declined. Milk and pork producers were most severely hit. The open trade regime and cheap meat imports caused farm gate prices to fall, with returns in many enterprises inadequate to cover costs. For example, the farm gate price of milk fell by 40 per cent (in the fourth quarter of 1998) compared with the same period the previous year.

The consumption of most products stabilised, but that of higher value items increased. Grain, meat and sugar consumption remained at the same level as in 1997, while that of dairy products, eggs and fruit rose. Consumption of cereal substitutes such as potatoes, declined. The structure of meat consumption changed slightly in favour of poultry and pork. In 1998, the average share of household income spent on food was estimated at 39 per cent.

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Structural adjustment policies

At the beginning of 1999, 464 thousand hectares (32 per cent of total agricultural land) had been registered in the land cadaster. Of this amount, approximately half is state-owned forest and the other half is private farming. In the land reform process, decisions have been made in practically all cases regarding land claimed through restitution and the compensation process was completed with privatisation bonds. In 1998, the registration of restituted land remained stable at about 20 000 parcels. The process of land privatisation continued, with registration doubling to 55 000 parcels. An amendment to the Land Reform Law, which was approved in March 1999, would accelerate the development of a functioning land market by simplifying procedures for land privatisation and long-term leasehold for agricultural land.

With the exception of the distillery industry privatisation of the food and beverage industry was completed in 1998. There are three major problems in the agro-food sector. First, agricultural producers still face increasing indebtedness to electricity and energy suppliers and the government in the form of rising tax liability. Second, the processing industry faces over-capacity, particularly in the dairy sector with two companies controlling 90 per cent of the Estonian market. Third, the fall in the share of exports of agro-food products to Russia worsened the financial situation particularly for milk and fish producers. The Russian crisis provoked agro-food industries to cut prices for raw materials, or to temporarily close facilities, such as one of the bigger dairy companies in Estonia. For example, milk producers lost up to EEK 65 million each month. In addition, the European Union imposed a ban on Estonian milk exports due to poor hygiene and quality standards. Efforts by Estonian agro-food enterprises to implement EU sanitary and phytosanitary regulations led the European Union to lift the ban at the beginning of 1999.

Further rationalisation is taking place in the food processing sector. In particular, producer groups expressed the need to create export oriented processing co-operatives. Rising efficiency and ongoing restructuring in the agro-food sector contributed to a slight decline in agriculture's share of total employment to 7 per cent in 1998. The high levels of hidden unemployment and underemployment continue to be a serious problem especially in rural areas. The incomes in the agro-food sector declined in 1998. The average rural family income fell to 75 per cent of the average urban family income.

Domestic support policies

Discussions concerning EU membership and the need to harmonise agricultural policies with the CAP are ongoing. At the end of 1998 the Estonian Government announced a major shift in agricultural policies. The number of farmers receiving direct aid subsidies increased in 1998 and EEK 190 million was allocated to direct per head and hectare payments. The products covered included dairy cows, cereals, oilseeds and flax.

While Estonia applied no market price support policies during 1998, there were several policies, which aimed to improve production efficiency and the structure of the industry. Other important support measures were: compensation payments for bad weather (EEK 227 million), input supports, in particular, compensation for the rise in fuel excise tax and subsidies for high quality seeds, and credit subsidies. The investment support scheme was expanded in 1998, with EEK 52 million allocated to encourage investment in buildings and machinery.

Two institutions are involved in credits to the agricultural sector. Through the Rural Life Credit Fund the government channelled about EEK 100 million to commercial banks for agricultural and rural credits, of which 70 per cent was directed to the agricultural sector. The other body is the Rural Life Credit Guarantee Fund (RLCGF), which provides credit guarantees for farmers in case of insufficient collateral. RLCGF came into operation in 1998 with financial support from the European Union. During 1998, 80 projects were evaluated, of which 74 per cent were approved, leading to the issue of EEK 47 million of guarantees.

The share of the state budget allocated to agriculture has been relatively low in Estonia, but increased to EEK 765 million, or 5 per cent of the total budget in 1998. The PSE estimate increased significantly from 5 per cent in 1997 to 16 per cent in 1998 as a result of the introduction of direct payments, increasing input support and a growing gap between domestic and world reference prices.

International policy environment

While the share of agro-food exports of total exports remained at about 16 per cent in 1998, their volume rose by 15 per cent. Despite the economic crisis in Russia, and the approximately 38 per cent fall in agro-food exports in the fourth quarter of 1998, overall exports actually rose by 6 per cent due to increasing demand from Latvia, Lithuania and Ukraine. Latvia turned into one of the major export destinations for

Estonian food products, accounting for 21 per cent of exports, of which 67 per cent consisted of meat products. Food exports to the European Union experienced a slight increase of about 2 per cent. Agro-food imports rose by 10 per cent in 1998 especially for high value added food products. The European Union continues to be the main source of food products, accounting for almost half of total imports. Given that agro-food imports continue to increase faster than exports the deficit in agro-food trade increased by 19 per cent to US$293 million.

As a result of the fall in Russian demand, exports of milk and milk products declined substantially towards the end of 1998. The overall fall in dairy exports was estimated at about 29 per cent over 1997. Milk powder exports amounted to only 55 per cent of the previous year's. On the other hand, exports of fresh and frozen fish rose by 45 per cent and processed fish and meat products, by 6 per cent. As regards the composition of agricultural imports, milk and dairy products account for almost 9 per cent, meat products about 7 per cent and beverages 12 per cent of total agro-food imports.

Estonia has maintained an open trading system with free trade for agricultural and food products. While no export subsidies are paid, limited export support was given for marketing and export credits. At the end of 1998, licensing was introduced for food importing companies to ensure proper handling and safety measures in order to protect consumers.

Negotiations regarding WTO membership advanced in 1998. In April 1999 Estonia concluded WTO negotiations and the agreement is now awaiting ratification by the Estonian parliament.

Assessment and outlook

The Russian economic crisis affected Estonia most severely in the fourth quarter of 1998 in the form of financial market instability and falling exports of leading export items, such as agro-food products, machinery, and textiles and clothing. However, increased exports before the Russian debt moratorium, significant foreign direct investments and increased revenues from the privatisation of state enterprises cushioned the impact of the Russian crisis. Growth prospects for 1999 will depend on the continuation of tight fiscal and monetary policies and the ability to reduce the external deficit. This will be difficult to achieve as the relative strength of the currency has reduced export competitiveness.

A number of factors contributed to relative stability in agriculture. These include high government support to agriculture, increased agricultural output, and the completion of privatisation. These factors also helped offset the impacts of falling world market prices, adverse weather conditions, and difficult credit conditions. The previous government decided in 1998 to increase expenditure on agriculture in 1999 and to respond to increased demand by stepping up funds to the investment support scheme. However, the newly formed government is discussing a reduction of the already accepted agricultural budget by EEK 60 million because of falling revenues in 1999.

Measures to support agricultural and rural enterprises were implemented in 1998. Against the background of extremely liberal trade policies in Estonia and the increasing agro-food trade deficit, the introduction of measures to protect the internal market were being discussed in 1998. While no agreement to introduce border measures was found in 1998, a decision on market protection remains on the policy agenda for 1999.

The gradual implementation of EU regulations will have to be undertaken in tandem with the commitments taken in the WTO accession process. In particular, this prohibits applications of certain measures, such as export subsidies, and limits market interventions.

Further restructuring in the agro-food processing industry is expected in order to solve the over-capacity problem. Primary production is also likely to become more concentrated even though the total number of farms is likely to remain high due to a large number of hobby and subsistence farms. At the same time the completion of land reform will cause changes in ownership and size of agricultural enterprises.

The continuing decline of agriculture in the overall economy brings about the need to revisit rural development policies. New policy initiatives will aim to increase rural employment opportunities and try to reinstate a more favourable territorial balance.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	4.8	4.4	4.7
Gross agricultural product (US$ millions)	338.3	294.6	292.9
Gross domestic investment/GDP (%)	26.7	27.8	29.8
Population (millions)	1.48	1.47	1.46
GNP per capita (US$)	3 060	3 210	3 360
Share in GDP (%)			
Agriculture	5.5	5.2	4.4
Industry	29.6	28.7	27.9
Services	64.8	66.1	67.7
Population in rural area (% of total population)	27.0	26.7	26.5
Employment in agriculture (% of total employment)	8.5	8.1	8.0
Gender structure of agricultural employment (%)			
Male	62.2	62.5	62.0
Female	37.8	37.5	38.0
Agro-food exports (% of total exports)	16.4	15.8	16.5
Agro-food imports (% of total imports)	14.2	15.5	16.4
Consumption			
Private consumption/cap. (annual growth %)	4.4	8.6	7.7
Share of household income spent on food (%)	33	33	39

Domestic prices (% change from previous year)

	1995	1996	1997
Implicit GDP deflator	29.0	23.9	11.4
Consumer price index	28.9	14.8	12.5
Agricultural commodity price index	7.0	31.0	–1.0
Food price inflation	16.0	18.0	6.0

ESTIMATES OF SUPPORT TO AGRICULTURE

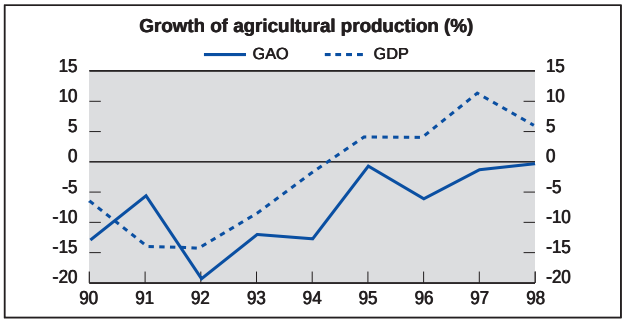
	1996	1997	1998
Producer Support Estimate (%)	7	5	16
Consumer Support Estimate (%)	–1	1	–5
Total Support Estimate as a share of GDP (%)	1.2	1.3	1.9

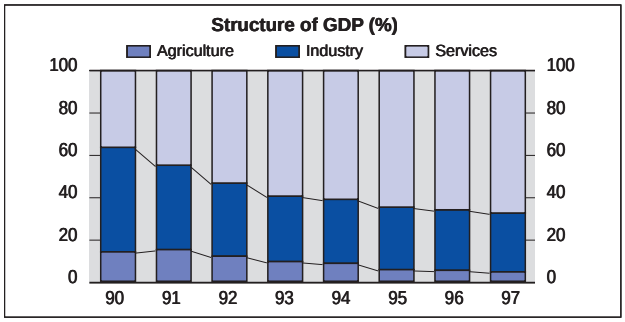
NATURAL RESOURCES AND ENVIRONMENT

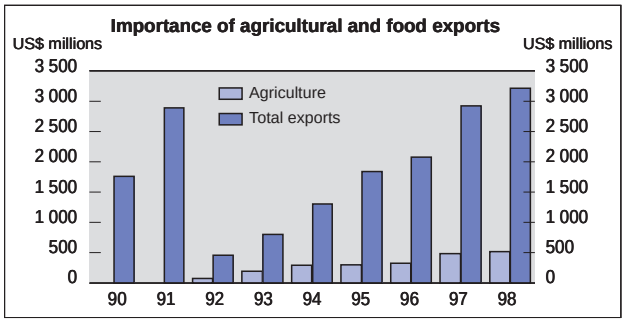
	1995	1996	1997
Total land (millions ha)	4.5	4.5	4.5
Agricultural land (millions ha)	1.45	1.45	1.45
Forestry (millions ha)	2.02	2.02	2.02
Arable land per capita (ha)	0.8	0.8	..
Water use (billion cu. m)	1.57	1.54	1.43
Agriculture (%)	0	0	0

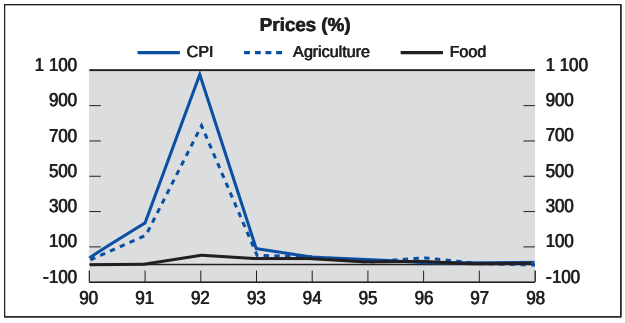
CAPITAL INFLOWS

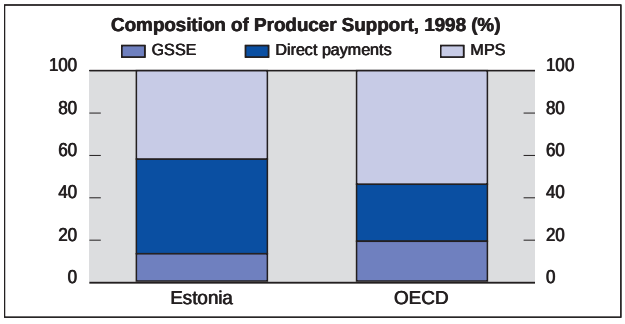
	1995	1996	1997
Foreign Direct Investment (millions US$)	202	150	266
Portfolio Investment (millions US$)	–22	145	263
Net aid flows (millions US$)	58.3	63.3	64.6







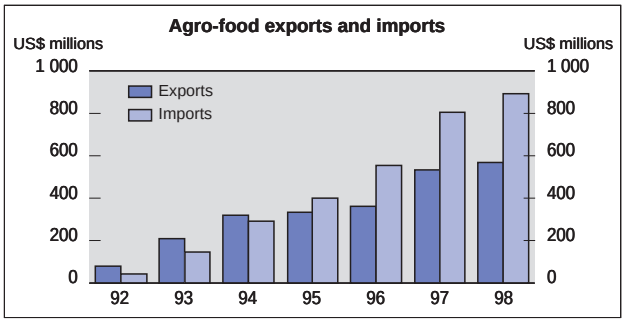




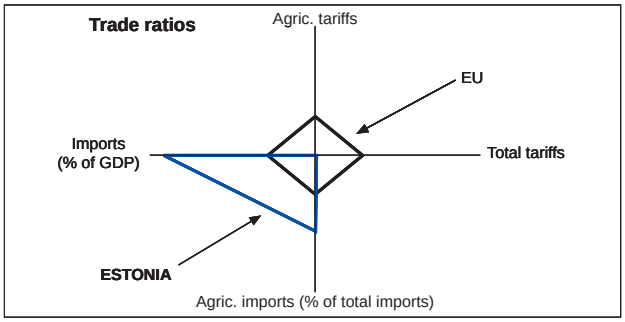
II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

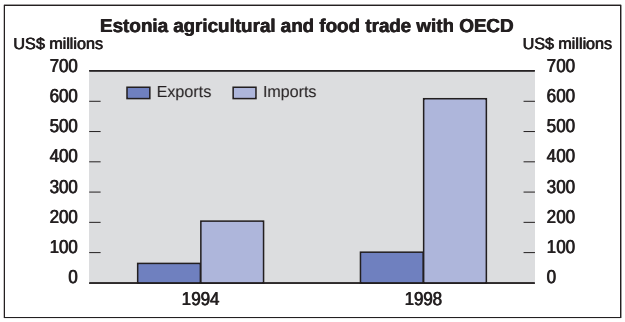
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	1 840	2 077	2 927
Food	297	325	476
Agricultural raw materials	20	15	27
Non agricultural	1 523	1 737	2 423
Total imports (cif)	2 546	3 224	4 434
Food	353	492	715
Agricultural raw materials	17	19	68
Non agricultural	2 176	2 713	3 651



Tariff barriers	Range	Average	Deviation	Mode
Total	[0 16]	0.1		
Agriculture	[0 0]	0		
Animal products (including. live)	[0 0]	0		
Vegetable products	[0 0]	0		
Animal and vegetable fats	[0 0]	0		
Processed food (including tobacco)	[0 0]	0		

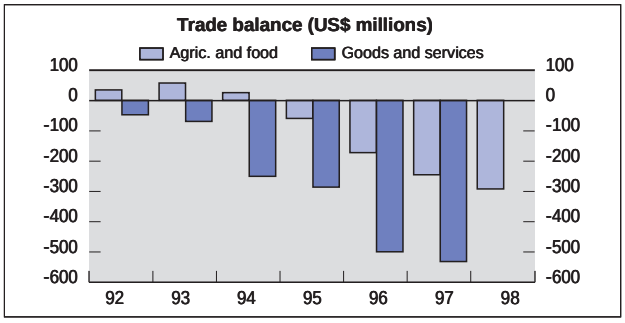


Regional trade blocks	1994	1995	1996	1997	1998
			Per cent		
Agricultural and food exports					
To OECD	23	30	23	19	20
To CEECs	20	14	15	16	18
To NIS	55	53	59	64	61
To others	2	2	2	2	1
Agricultural and food imports					
From OECD	78	77	72	67	72
From CEECs	6	11	12	8	10
From NIS	9	10	10	4	5
From others	7	2	6	21	13



BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	2 573	2 921	3 609
Imports of goods and services	2 860	3 421	4 142
Resource balance	–287	–501	–533
Balance of agro-food trade	–60	–173	–246
Current account balance	–158	–398	–562



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INDIA

Macroeconomic situation

Despite the economic crisis in Asia, India's GDP growth continued to be reasonably robust in 1998-99 with preliminary estimates indicating that the growth rate increased to 5.8 per cent. This impressive growth rate can be attributed to a strong performance of the service sector and to a lesser extent a recovery in agriculture. Substantial progress has been made in implementing economic reforms in the 1990s with the opening up of many sectors to foreign direct investment, deregulation of industry, elimination of controls on technology transfer, and the liberalisation of trade policy and capital markets. The service sector has grown particularly rapidly in recent years and now accounts for almost 40 per cent of GDP. However, India's economy remains rather isolated from the global economic system.

Inflows of FDI have grown steadily during the 1990s, but fell sharply in 1998-99 due to the imposition of sanctions (following the nuclear tests in May 1998), the downgrading of India's credit rating, and the general loss of confidence in emerging markets. In 1998 the rupee was devalued by almost 12 per cent relative to the US dollar, and stimulated exports to countries outside the region. However, exports have become less competitive in East Asian markets due to the appreciation of the rupee *vis-à-vis* other East Asian currencies.

The inflation rate remained in the 7-8 per cent range, despite the strong growth in the money supply, which has averaged 17 per cent in recent years. In an attempt to reduce the underlying inflationary pressures the government implemented several new measures in 1998 which are aimed at reforming the minimum support price system for agricultural products and reducing fertiliser subsidies. High real interest rates continue to hinder economic development in general, and development of the agricultural sector in particular. The general upward trend in both the fiscal and current account deficits, estimated at 6 per cent and 2.5 per cent of GDP respectively in 1998-99 are causes of increasing concern to policymakers. Moreover, the sluggishness in export markets resulted in the trade deficit rising to about 5 per cent of GDP in 1998-99.

Agricultural and agro-food situation

The agricultural sector still accounts for about 27 per cent of India's GDP, and almost 70 per cent of the population are dependent on agriculture. Almost three-fifths of India is classified as agricultural land, of which about one-third is irrigated. Most of the land is cultivated at subsistence level. Agricultural production is dominated by foodgrain production, especially rice and wheat; followed by oilseeeds, pulses, cotton, sugar and tea. Crop production accounts for about 75 per cent of gross agricultural output. During the 1990s, agricultural output increased steadily, but dropped by 1-2 per cent in 1997, mainly due to adverse weather conditions. Livestock and livestock products represent 25 per cent of agricultural output. The production of milk and meat products increased steadily during the 1990s, with India becoming the world's largest producer of milk in 1998. The agricultural sector showed a strong recovery in 1998-99, with preliminary estimates indicating that output rose by about 5 per cent.

In overall terms, cereal production increased steadily from 194 million tonnes in 1990 to 225 million tonnes in 1997. In 1998 total cereal production fell to about 219 million tonnes. The increase in cereal production during the 1990s has been largely due to an increase in rice and wheat output, which increased to 125 million tonnes and 66 million tonnes respectively in 1997. On the other hand, barley and maize production has remained fairly stable while sorghum production has fallen. Foodgrain production in 1998-99 is estimated at 201 million tonnes, a new record level of production. Preliminary estimates indicate that wheat production rose by over 5 per cent, while the production of coarse grains fell by almost 7 per cent. Production of commercial crops such as oilseeds grew by 10 per cent, while sugarcane, cotton and vegetable output also increased substantially. In general, the average level of productivity in agriculture is low, and per hectare yields for all the major crops are low.

Structural adjustment policies

The structure of land holdings closely reflects the historical, political and social developments in India since independence. Although land reform efforts have tended to limit the size of large holdings, a

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semi-feudal land tenure system persists in some regions. Farms are classified into five categories based on the size of holding, with the majority of holdings classified as marginal farms. There is no formal land market in India and most land is transferred through the hereditary system.

There were an estimated 107 million agricultural holdings in 1991; of which, 78 per cent were small and marginal farms, 20 per cent were semi-medium and medium, while large farms only constituted 2 per cent of the total. It is rather difficult to assess structural changes in agriculture, as data on farm structures are only available for about 20 years or so. However, from the data available, it would appear that the proportion of marginal farms is increasing, while the number of large farms continue to decline. For example, the share of marginal farms has increased from 9 per cent to 15 per cent of total land use, while the proportion of large farms has fallen from 31 per cent to about 17 per cent. The average size of farm holding has also declined from 2.3 hectares in 1970-71 to less than 1.5 hectares in 1998.

While the average farm size in India is quite small and is continuing to decline, nevertheless it varies substantially between the different States, with relatively large farms in the north and west. Moreover, many small farms are fragmented and landholders have poor access to agricultural inputs and farm credit.

Domestic support policies

A policy of food self-sufficiency has been the main driving force behind agricultural policies in India. This is particularly the case with respect to foodgrains. Since the mid-1970s, India has maintained a significant buffer stock of the major grains to protect against failed harvests and seasonal fluctuations. However, this policy has had an adverse effect on the production of some cash crops.

Most of the explicit subsidies are allocated to the food and fertiliser sectors which together account for over one per cent of GDP. Fertiliser subsidies are allocated partly to the fertiliser industry and partly to farmers. These subsidies have tended to impede adjustment in the sector by covering the costs of inefficient manufacturers as well as inefficiencies in the distribution system. Apart from the explicit subsidies, there are large indirect subsidies, which support the provision of many goods, especially those provided by the State. For example, there are substantial state subsidies on power, irrigation water and other agricultural inputs. Following the sharp increase in potato and onion prices in 1998, the Government introduced additional grants, subsidies and soft loans to encourage the private sector to build new storage facilities. An increase in storage facilities would allow for greater buffer stocks of these products to be maintained and would help to reduce market price volatility.

In 1998, a Pricing Policy Review Committee was established with several objectives: to identify methods of promoting a more balanced use of fertilisers; to deregulate the fertiliser industry; and, to re-evaluate agricultural subsidies and pricing policies.

International policy environment

Under the obligations emanating from its membership of the WTO, India is committed to phasing out trade restrictions on several products including consumer goods, fish and agricultural products. While quantitative restrictions are scheduled to be abolished by 2003, these products are still subject to tariffs, which have been reduced, but generally remain at a high level. For example, import duties have been reduced from a maximum rate of 150 per cent in 1992-93 to about 40 per cent in 1998.

Export licenses are still maintained for some products, while some items consumed domestically, such as tea are subject to export quota restrictions. A few items, such as tropical wood and beef are banned from export. Moreover, a ban was imposed on onion exports in the latter half of 1998, due to a sharp rise in domestic prices resulting from supply difficulties. However, this ban was removed in February 1999. In 1998, the sharp fall in tea exports to Russia, due to the financial crisis, caused severe problems in the industry and increased calls for greater protection of the sector. Russia accounts for about 50 per cent of India's total tea exports.

Following three successive years (1993-95) of agricultural export growth in the range from 18-20 per cent, export growth fell in 1997 and 1998. The fall in exports was largely due to a fall in demand in the main export markets in south East Asian countries as well as a loss in price competitiveness, due to the relative appreciation of the rupee. In 1998-99, the share of agricultural exports in total exports declined to less than 16 per cent from over 20 per cent in the early 1990s. Exports of wheat, non-basmati rice, floriculture, fruits and vegetables showed a modest recovery in 1998, while exports of dairy, meat products and oil meals continued to decline.

Assessment and outlook

India managed to sustain reasonably strong growth despite the ongoing economic crisis in the region. In 1998-99, GDP growth was estimated at 5.8 per cent, a slight increase over the previous year. Devaluation of the rupee by almost 12 per cent in 1998 gave a boost to exports, especially to countries outside the Region. The slowdown in industrial output, exports and capital inflows continued in 1998-99, but strong growth was recorded in the service sectors and agricultural output recovered. For 1999-2000, GDP growth is expected to remain at about 6 per cent. While the rate of inflation increased in 1998-99, mainly due to increases in food prices, there are some signs that inflationary pressures will ease during 1999, which in turn will exert some downward pressure on interest rates.

Growth in the agricultural sector resumed in 1998-99, with output increasing by about 5 per cent, following a decline the previous year. While production of foodgrains increased by a modest 3.9 per cent, the production of cash crops increased more strongly. Livestock production also increased especially milk. Forecasts for 1999-2000 indicate that the strong growth in agricultural output recorded in 1998 will continue, with output expected to rise by about 5-6 per cent. However, growth and development in the agricultural sector continues to be constrained by several factors including the lack of market infrastructure as well as imperfections in agricultural credit markets and lack of investment. Public sector investment in agriculture has fallen from 28 per cent of total investment in 1993 to about 21 per cent in 1998, while private investment in the sector has been rather sluggish. One area of increasing concern to policymakers in India relates to the environmental impacts of agricultural production and the need to focus more on sustainable development of agriculture.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1975	1995	1996	1997
GDP (US$ billions)	91.1	334.4	359.7	381.6
Gross agricultural product (US$ billions)	33.3	82.7	87.3	87.5
Gross domestic investment/GDP (%)	20.8	27.3	25.2	24.0
Population (millions)	613.5	916.0	939.4	955.2
GNP per capita (US$)	160	320	350	370
Share in GDP (%)				
Agriculture	40.5	27.5	27.0	28.0
Industry	23.7	30.3	30.0	27.4
Services	35.7	42.1	43.0	44.6
Population in rural area (% of total population)	78.7	73.2	72.9	72.6
Employment in agriculture (% of total employment)	6.0	5.2	..	..
Agro-food exports (% of total exports)	41.7	17.6	17.3	14.5
Agro-food imports (% of total imports)	27.8	5.9	5.0	6.6
Consumption				
Private consumption/cap. (annual growth %)	3.4	3.5	4.0	17.0

Domestic prices
(% change from previous year)

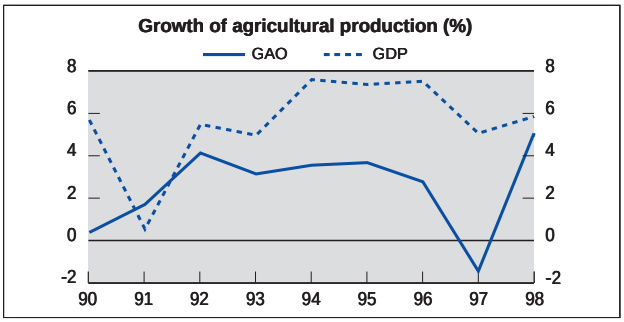
	1975	1995	1996	1997
Implicit GDP deflator	–1.5	8.2	6.3	5.5
Consumer price index	5.7	10.2	9.0	7.2
Agricultural commodity price index	..	10.1	3.8	6.5
Food price inflation	..	11.8	8.5	5.8

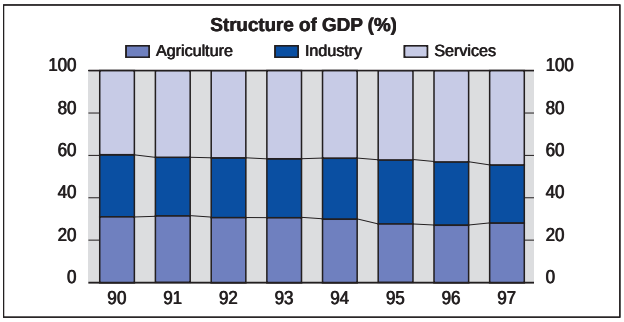
NATURAL RESOURCES AND ENVIRONMENT

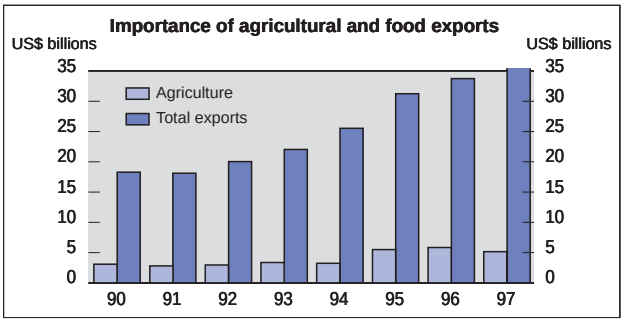
	1975	1995	1996	1997
Total land (millions ha)	297.3	297.3	297.3	297.3
Agricultural land (millions ha)	180.8	181.0	..	..
Forestry (millions ha)	..	65	..	..
Arable land per capita (ha)	0.3	0.2	0.2	..
Water use (billion cu. m)	380	..	..	..
Agriculture (1987 in %)	93	..	..	..

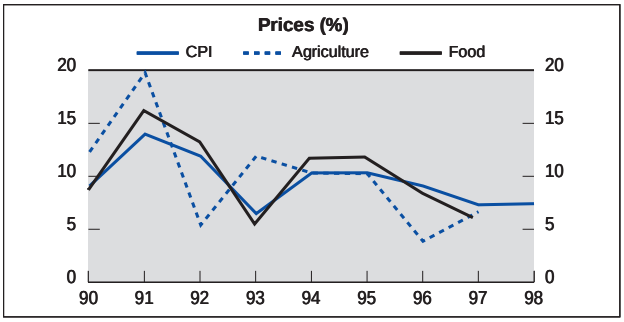
CAPITAL INFLOWS

	1975	1995	1996	1997
Foreign Direct Investment (millions US$)	85	2 144	2 426	3 351
Portfolio Investment (millions US$)	0	1 590	3 958	2 543
Net aid flows (millions US$)	1 578	1 746	1 936	1 678









II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

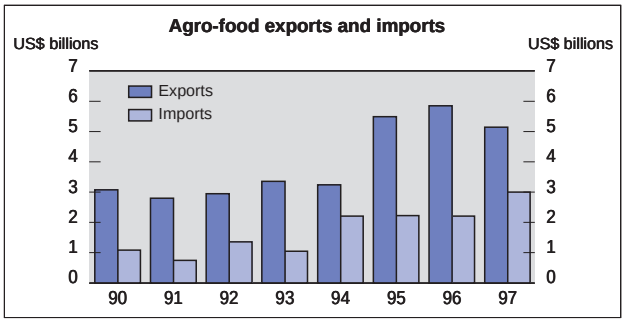
MERCHANDISE TRADE

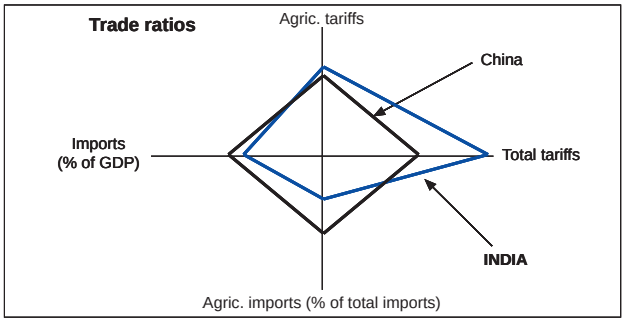
	1975	1995	1996	1997
	(US$ millions)			
Total exports (fob)	4 355	31 239	33 737	35 381
Food	1 644	5 912	6 193	..
Agricultural raw materials	173	410	846	..
Non agricultural	2 538	24 917	26 698	..
Total imports (fob)	6 290	37 957	43 789	45 730
Food	1 621	1 553	1 810	..
Agricultural raw materials	129	1 450	1 224	..
Non agricultural	4 539	34 954	40 755	..

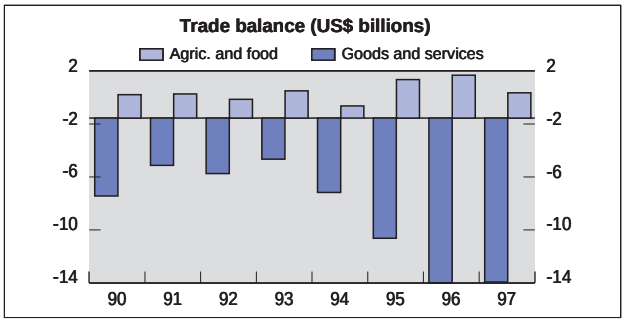
1998 Tariff barriers	Range	Average	Deviation	Mode
Total	[0 260]	30.1		
Agriculture	[0 260]	28.7	26.3	10.0
Animal products (including. live)	[0 40]	14.4	11.7	10.0
Vegetable products	[0 125]	22.5	16.0	10.0
Animal and vegetable fats	[10 40]	30.9	0.3	..
Processed food (including tobacco)	[0 260]	50.6	35.0	31.8

BALANCE OF PAYMENTS

	1975	1995	1996	1997
	(US$ millions)			
Exports of goods and services	5 507	38 014	40 975	44 245
Imports of goods and services	6 006	48 225	54 960	58 173
Resource balance	–499	–10 211	–13 985	–13 928
Balance of agro-food trade	66	3 269	3 644	2 146
Current account balance	–148	–5 563	–5 956	..







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KAZAKHSTAN

Macroeconomic situation

A two-year period of economic growth in Kazakhstan was interrupted in 1998, with GDP falling by 2.5 per cent. A contraction of export revenues that suffered from a sharp drop in prices for Kazakhstan's major exportables (oil and metals) and the slump of trade with Russia towards the end of the year largely contributed to this decline. Preliminary estimates point at a substantial growth in both trade and current account deficits. An almost 50 per cent fall in FDI inflows from the high levels of the previous two years posed problems in balancing the current account and led to an accumulation of external debt.

The tenge, which was relatively stable throughout the first half of the year, experienced strong pressures with the Russian rouble devaluation. The exchange rate was supported by interventions on the currency market, but the dwindling gold and currency reserves forced the Kazakh government to let the tenge float in the beginning of April 1999. Following this, the tenge depreciated dramatically.

A high degree of fiscal instability characterised the macroeconomic situation in 1998. The economic downturn brought actual budgetary revenues far below projected levels necessitating extraordinary measures to balance the state budget. Further recourse to the financial markets having become unaffordable, the Kazakh government eventually resorted to a 14 per cent cut in the planned budget expenditures. This helped to hold the consolidated budget deficit at around 3.6 per cent of GDP in 1998.

The year-end CPI grew by 2 per cent in 1998 compared to 11 per cent in 1997 owing largely to the significant reduction in commodity prices transmitted from world markets. Restrained devaluation of the tenge during 1998 and budgetary cuts also contributed to the reduction in inflation. However, with the sharp fall in the exchange rate in 1999 inflation is expected to increase substantially.

Kazakhstan has made substantial progress in privatisation. Private enterprises account for 80 per cent of the total number of economic entities, contributing nearly 75 per cent to GDP. Nevertheless, a large part of the real sector needs fundamental restructuring to further the formal privatisation which has been implemented so far. In 1998, inter-enterprise arrears continued escalating and the number of loss-making entities grew. The government was, however reluctant to push bankruptcies in order to avoid an upsurge in unemployment and further aggravation of social tensions, which were already mounting due to wage and pension arrears.

Agricultural and agro-food situation

The contribution of agriculture to GDP declined dramatically from 34 per cent in 1990 to about 9 per cent in 1998. The sector's share in total employment was approximately 20 per cent, exceeding its contribution to GDP more than two-fold.

The agricultural performance in 1998 was dominated by an exceptionally low grain harvest. Only 6.4 million tonnes of grain were harvested (55 per cent of the preceding five-year average), which largely explains a 30 per cent fall in total crop output in 1998. The situation of the livestock sector was more favourable as evidenced by a slower decline in output and inventories. Also, egg production grew for the second consecutive year. However, total livestock output fell by 5 per cent in 1998. Combined with a sharp decline in the crop sector, this resulted in an overall contraction of GAO by 19 per cent. Adverse trends in animal productivity and yields persisted, reflecting growing constraints in fertiliser and fuel use, poor seed quality and underinvestment.

During the transition a considerable decline in output of collective agricultural enterprises (CAEs, former *kolkhozes* and *sovkhozes*) took place. At the same time household production tended to grow. This resulted in a strong rise in households' share in the total production. Currently, 88 per cent of total milk, 85 per cent of potato and 81 per cent of total meat output in Kazakhstan come from 2 million households, with the remainder produced by CAEs and individual farms. Production of grain, fodder and industrial crops continues to be concentrated in CAEs.

The largest agricultural enterprises (with an area of over 10 000 hectares) currently manage about 93 per cent of agricultural land in Kazakhstan; nearly 6 per cent are run by medium-size units (with an area between 500 and 10 000 hectares); "small" production units (occupying less than 500 hectares) account for 0.23 per cent; and tiny household plots, for only 0.19 per cent.

In 1998, households spent about 44 per cent of their income on food. During the transition, food con-

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sumption shifted to cereal products, while the importance of livestock and other crop products diminished. Cereal foodstuffs make up 26 per cent of the food basket, while meat and meat products account for 21 per cent and milk and milk products, for 9 per cent.

Structural adjustment policies

Private land ownership is recognised in Kazakhstan only for household plots and plots for the construction of houses. Agricultural land used by CAEs and individual farms so far remains state property. The draft law introducing private ownership of agricultural land is expected to be enacted in 1999. But, initially it envisages private ownership only of land used by individual farmers.

The current legislation recognises individual land rights in the form of inherited renewable leases that are freely transferable and tradable. Between 1993 and 1996, land used by each state farm (*sovkhoz)* and collective farm (*kolkhoz)* had to be allocated to current and former workers and farm management. Formally, land shares allotted to each person could be used to establish an individual farm or pooled with those of others for collective production. In practice, not many farm workers were willing to claim their shares seeing few incentives in independent operations, given the difficulties with the start-up capital and poor agricultural income prospects.

With regard to non-land assets, only those of *sovkhozes* were due to be privatised. Non-land assets of *kolkhozses* have not been eligible for privatisation, as they were considered collectively owned. The privatisation of *sovkhozes* was virtually completed in 1996. In several cases this process implied substantial changes in the structure of property and management. For example, about 20 *sovkhozes* were sold at closed auctions to restricted groups (mainly farm management, input suppliers and foreign investors) and another 33 *sovkhozes* were taken over by their directors who received 51 per cent of farm assets. In the process of privatisation some *sovkhozes* were split up, and some farm workers opted to form individual private farms.

There were no major changes in structural policies in 1998. According to the re-registration process that started in 1997 and continued in 1998, all collective farming enterprises are required to re-register under one of the legal forms stipulated by the Kazakh Civil Code. At the beginning of 1999 there were 5 558 collective agricultural enterprises in Kazakhstan (limited partnerships, joint stock companies and production co-operatives) and 88 *sovkhozes*. Additionally, there existed 78 949 individual private farms.

The financial situation of CAEs remained poor. Over 80 per cent of them reported losses in 1998, with bad debts mounting to an estimated US$1.6 billion, which equals about 55 per cent of total agricultural production value. The major share of CAE output is delivered to creditors (mainly input suppliers); the rest is used for payments in-kind to farm workers; and only an insignificant part is left for cash-generating sales.

The indebtedness of CAEs nevertheless stimulated changes in their ownership and management. An important feature of the past few years is that input suppliers and grain traders are gaining control over the assets of the agricultural enterprises. This is done usually either through a purchase of rights to use the farm's land, or rights to manage it, both options foreseen by the Kazakh legislation. In some cases this happens without any formal arrangements, when creditors establish *de facto* control over an indebted farm. Nine companies were reported to own land use rights for 641 000 hectares and management rights for 591 000 hectares in 1998. Notably, among these, a single grain trading company held use and management rights for 518 000 hectares. The bankruptcies of CAEs also spurred an increase in the number of individual farms. In 1998 alone, the number of individual farms augmented by 21 435. These new units emerged mainly in place of bankrupt CAEs.

Another peculiar feature observed over the past few years is a growth in the number of CAEs whose managers control the majority share. Managers were apparently the only feasible buyers of shares from the ethnic Russians and Germans leaving Kazakhstan, and also from other holders who needed to exchange shares for cash. Another common practice is the voluntary surrender of management rights from the farm workers to managers.

Privatisation of the downstream sector started in 1993 and in its first phase implied the transformation of enterprises into joint stock companies with the state holding controlling stock. In 1996, and particularly in 1997, almost all state shares were sold at open cash auctions, in which foreign investors were allowed to participate. Some financially sound farms acquired several elevators and flourmills, but input companies bought most of the state stock in grain elevators. Privatisation in milk and meat processing was slower due to poor business prospects in these sectors.

Domestic support policies

Market price support in 1998 was only applied for wool. The previously existing minimum guarantee price system for grains was abolished in 1997. In

October 1998, in order to support grain producers, the government announced a procurement of 1 million tonnes of grain at US$80 per tonne, a level that exceeded the prevailing farm gate price of US$40-60 per tonne. This measure had a limited effect. The Food Contracting Corporation entitled to implement this procurement managed to buy only half of the targeted quantity by the deadline, as most of the grain had already been sold out by producers at prices much lower than the state purchasing price.

The total amount of budgetary support to the agricultural sector in 1998 is estimated at about US$306 million. The lion's share of this was channelled to the Agricultural Support Fund for the management of bad debts of large-scale farms. Debt forgiveness serves as an implicit subsidy and is currently the major type of support to agriculture in Kazakhstan. Administrative obligation for input companies to supply large farms with fuel and fertilisers is another basic element of support.

Direct support measures are insignificant and hardly have any impact on the situation of the sector. In 1998 such measures included only a limited support of wool prices, aids to producers of elite seeds and purchase of chemicals for use in emergency cases.

Additional indirect support is provided through tax concessions. Before 1998, agricultural producers had to pay only a 10 per cent tax on profits instead of the general 30 per cent rate. As of 1998, they pay only land tax.

International policy environment

For the 12 months of 1998 the agro-food trade balance remained positive, but the value of agro-food exports and imports declined sharply. Exports of wheat, Kazakhstan's basic agro-food tradable, amounted to 2.5 million tonnes, with about 82 per cent of this volume destined for NIS, predominantly for Russia. The main import item was sugar. Tobacco and meat were the next largest importables.

The Russian crisis had an immediate impact on trade flows between Kazakhstan and Russia. The devaluation of the Russian rouble practically blocked traditional Kazakh grain and meat exports to Russia. At the same time, food price controls (particularly for grain) applied shortly after the crisis, depressed domestic prices in Russia and made Russian exports to Kazakhstan profitable. Trade flows reversed. In December 1998 the two governments signed an agreement on a 6-month ban of agro-food exports from Russia to Kazakhstan. The ban related to 21 items, including wheat, maize, rice, flour, meat, milk and eggs. The Kazakh government was seeking to prevent a "dumping" effect of Russian exports, while the Russian government was concerned about the food outflow from the country. However, with the subsequent rise in grain and meat prices in Russia, and a sharp devaluation of the tenge, the traditional Kazakh export flows started resuming.

Since 1995, Kazakhstan has been a member of the customs union agreement together with Russia, Belarus and Kyrgyzstan. The agreement provides for tariff-free trade between its members and the application of a common tariff regime to trade with third countries. So far, only Russia and Belarus have eliminated their inter-state customs borders. The Integration Committee set up in 1997 in order to implement the harmonisation of trade regime between all four member countries continued its activities in 1998. Nevertheless, the progress achieved is still limited, especially in terms of practical application.

Assessment and outlook

In 1998 the macroeconomic situation in Kazakhstan worsened, reflecting the substantial deterioration of export opportunities, fiscal instability, and slow progress in enterprise restructuring. Stabilisation measures undertaken by the Kazakh government in 1998 helped to avoid serious setbacks. Nevertheless, the risk of economic collapse exists, given the government's retreat from support of the national currency, inflationary pressures associated with this and growing external debt.

For the agricultural sector this means more demand constraints, deterioration of terms of trade and reduction in explicit and implicit government support. The number of unprofitable agricultural enterprises will grow, increasing the need for substantial restructuring and policies to stimulate the inflow of capital from non-agricultural sectors. Changes in CAE ownership and management were taking place, but so far this had little impact on the improvement of the overall performance of the sector.

A dramatic rise in importance of small-scale operations has occurred, including the rapid increase in the number of individual small-scale farms and transformation of households into main producers of meat, milk, potato and vegetables. This creates a significant challenge of establishing input supply, marketing and information systems targeted to this group of producers.

The devaluation of the tenge created better prospects for the recovery of exports. However, the response to improved external demand is likely to be limited due to serious financial constraints in the agricultural sector. A major contraction in 1998 of grain production, the main Kazakh agro-food exportable, further reduces the possible gains from the restored import competitiveness.

OECD 1999

I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	19.9	21.0	22.2
Gross agricultural product (US$ billions)	2.5	2.6	2.5
Gross domestic investment/GDP (%)	23.3	16.1	15.6
Population (millions)	16.07	15.92	16.83
GNP per capita (US$)	1 260	1 270	1 350
Share in GDP (%)			
Agriculture	12.3	12.2	11.5
Industry	35.6	31.7	32.6
Services	52.1	56.1	55.9
Population in rural area (% of total population)	40.4	40.0	39.6
Employment in agriculture (% of total employment)	21.3	20.1	23.6
Gender structure of agricultural employment (%)			
Male	71.3	72.8	77.2
Female	28.7	27.2	22.8
Agro-food exports (% of total exports)	10.3	12.1	12.6
Agro-food imports (% of total imports)	10.5	13.2	14.1
Consumption			
Private consumption/cap. (annual growth %)	–16.3	–6.5	1.6
Share of household income spent on food (%)	47	49	45

Domestic prices (% change from previous year)

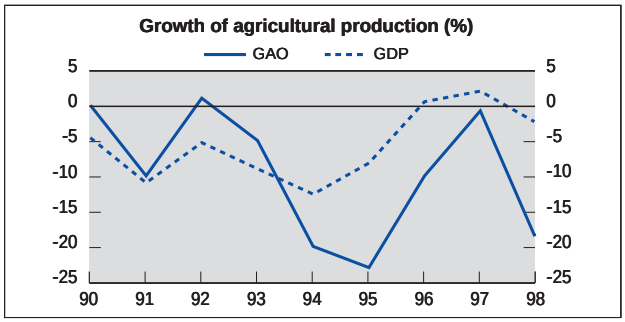
	1995	1996	1997
Implicit GDP deflator	160.9	38.9	16.1
Consumer price index	60.3	28.8	11.3
Agricultural commodity price index	157.0	61.0	10.0
Food price inflation	59.0	16.0	6.0

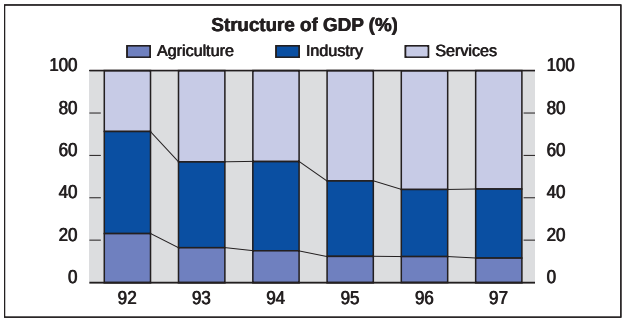
NATURAL RESOURCES AND ENVIRONMENT

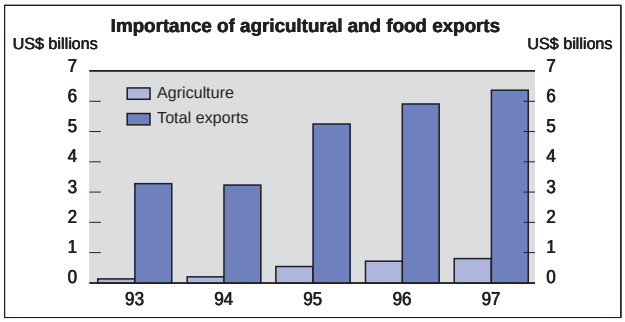
	1995	1996	1997
Total land (millions ha)	267.1	267.1	267.1
Agricultural land (millions ha)	222.2	220.4	220.3
Arable land per capita (ha)	19.7	18.7	16.8
Water use (billion cu. m)	23.4	21.7	19.5
Agriculture (%)	16.5	15.8	14.1

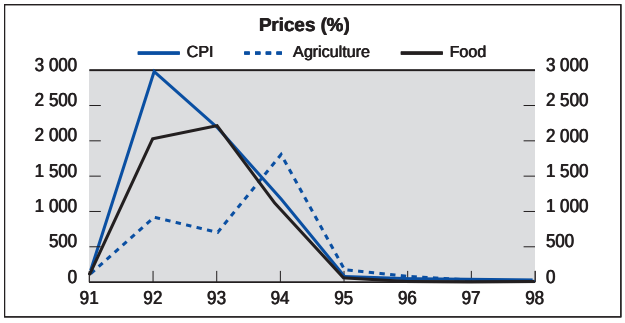
CAPITAL INFLOWS

	1995	1996	1997
Foreign Direct Investment (millions US$)	964	1 137	1 321
Portfolio Investment (millions US$)	7	224	404
Net aid flows (millions US$)	65.5	124.9	132.2





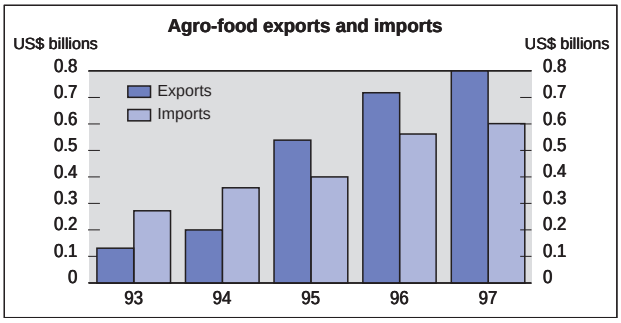




II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

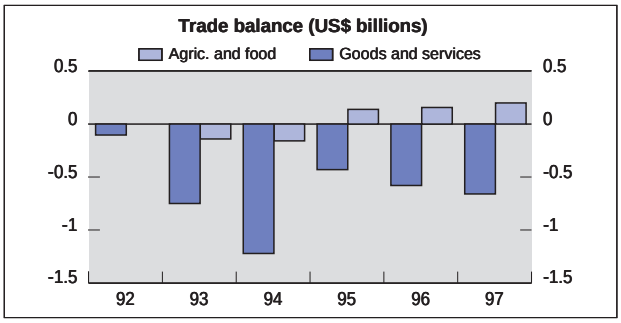
MERCHANDISE TRADE

	1995	1996	1997
	(US$ millions)		
Total exports (fob)	5 250	5 911	6 366
Food	165	194	213
Agricultural raw materials	509	683	762
Non agricultural	4 576	5 034	5 391
Total imports (cif)	3 807	4 241	4 275
Food	347	477	510
Agricultural raw materials	35	26	22
Non agricultural	3 425	3 738	3 743



BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	5 699	6 966	7 610
Imports of goods and services	6 130	7 555	8 278
Resource balance	–430	–589	–668
Balance of agro-food trade	138	156	198
Current account balance	–518	–750	–909



OECD 1999

LATVIA

Macroeconomic situation

Economic growth slowed to about 4 per cent in 1998 from 6 per cent in 1997. This fall was partly caused by falling domestic demand; especially a sharp contraction in the last quarter due to the Russian financial crisis. The overall impact of the Russian crisis on the Latvian economy was limited as a result of tight monetary and fiscal policies as well as increasing output in the processing industry (11 per cent) and forestry (25 per cent). After the fiscal surplus of 1.2 per cent of GDP in 1997, the government maintained a non-deficit state budget in 1998. The annual average inflation rate declined to 3 per cent in 1998.

In 1998, the merchandise trade deficit continued to grow in absolute terms and relative to GDP, rising to US$1.3 billion, or about 5 per cent of GDP. Exports and imports increased by 8 per cent and 17 per cent respectively. As a result of falling demand in Russia, exports to the NIS fell to 37 per cent of the previous year's level. The European Union is now the major trading partner, absorbing 59 per cent of Latvia's exports and accounting for over one half of its imports. Latvia's exports are dominated by commodities, such as timber and timber products, and food products.

The balance of payments continued to be negative in 1998 and amounted to US$272 million in the last quarter. In 1998, the current account deficit amounted to 11 per cent of GDP, or US$300 million. Foreign investments slowed considerably in 1998, with preliminary estimates indicating that FDI increased by US$94 million, or 21 per cent compared to 60 per cent in 1997. Consequently, FDI inflows did not offset the negative impact of the trade deficit on the current account balance.

The Russian crisis also affected the banking sector substantially, where total losses amounted to about US$100 million. These losses were a result of investments in Russian state bonds, where the total assets decreased by 10 per cent in the second half of 1998, and losses linked to companies trading with Russia. The economic slow down and losses in the banking sector led to an increase in interest rates for credits issued by the commercial banks. For example, average interest rates for long-term credits increased to 16 per cent at the end of 1998. The exchange rate regime remained in place with the Lat being tied to a special drawing right (SDR). The annual average exchange rate per US$ increased slightly to 0.59:1.

The rate of unemployment remained at about 7 per cent during the first half of 1998. Estimates indicate that the rate of unemployment rose towards the end of the year to 9 per cent. Long term unemployment, continues to be a serious problem in Latvia, and accounts for over 40 per cent of registered unemployed. Differences in regional unemployment rates vary widely and have been estimated at about four times the national average in some eastern industrial towns.

Agricultural and agro-food situation

Agriculture's share of GDP continued to decline, falling to 5 per cent in 1998 compared with 7 per cent in 1997. Whereas agriculture's share of total employment remained stable at 17 per cent, the number of employed people in the agricultural sector decreased by 2 per cent. In 1998, agricultural output declined by 4 per cent due to falling output in crop and livestock production by 8 per cent and 2 per cent respectively.

Total meat production remained stable at about 70 000 tonnes in 1998. After falling continuously since 1990, beef production stabilised at 26 000 tonnes in 1998, but poultry and pigmeat production fell slightly. The downward trend in livestock numbers continued in 1998, for the ninth consecutive year. Although, milk production volume decreased, the volume sold to processing companies rose by about 5 per cent in 1998, as individual milk producers increased sales to commercial producers.

The total area sown remained the same in 1998, but production of all crops, except sugar beet, decreased by 8 per cent to 970 million tonnes due to bad weather conditions. As a result of a bumper harvest sugar beet yields increased by 47 per cent in 1998. For the first time locally produced raw sugar met the local demand. This created problems since the processing capacities were not able to process the large volume in the short period, generating losses in the sector.

Farm gate prices for all products declined in 1998, especially for beef and pig meat producers. Agricultural output prices fell by 4 per cent and input prices

OECD 1999

increased by 2 per cent resulting in a decline in incomes for many producers, especially small-scale farms.

The proportion of household expenditure allocated to food decreased from 47 per cent in 1997 to 44 per cent in 1998. The fall in per capita food consumption continued in 1998, despite the modest rise in food prices by 0.7 per cent compared to almost 3 per cent in 1997. While the consumption of sugar, egg, bread and potatoes fell the most, consumption of meat, butter and cheese increased.

Structural adjustment policies

Land privatisation has been completed and has led to fundamental changes in ownership and land use patterns. With the on-going restructuring of the agricultural sector, the number and average size of family farms increased to 24 hectares. In 1998, about 95 per cent of agricultural land was operated by families and 3.8 per cent by private companies. All land requested by private individuals was mainly distributed through restitution, but also through issuing of land use rights with the possibility to privatise it either by vouchers or cash. The low profitability in the agricultural sector and limited employment opportunities in rural areas continue to hinder the development of a land market.

In the down stream sector a large number of processing enterprises have been taken over by producers' associations or processing co-operatives. One of the major problems facing agro-food processors is the lack of investment for modernising and improving production technology as well as the lack of management and marketing skills to compete in an open market. Substantial over-capacity in many processing enterprises remains a serious problem, and further rationalisation is likely to occur over the next few years.

In 1998, measures were introduced to enable the agricultural sector to comply with environmental requirements and rural development policies of the European Union. These include legislation on veterinary, phytosanitary, quality and health related standards. In 1998, 43 per cent of the agricultural budget was targeted at structural and rural development policies. These policies are geared at improving productivity and marketing, diversifying farmers' income sources, developing rural tourism and non-traditional agricultural production, and providing credit guarantees.

Domestic support policies

Latvia doubled its budgetary expenditures for agricultural support in 1998 to LVL 27 million. The bulk of farm support was targeted at direct payments (LVL 6 million), education, research and development (LVL 4 million), and input support (LVL 15 million), including investment co-financing in crop production, purchase of insemination material and reimbursement of excise tax on fuel.

Several initiatives attempt to improve the availability of credits for the agricultural sector. A World Bank Rural Development project started in 1998 and it provides loans for small businesses in rural areas. The credit line for agriculture amounted to US$10 million. A number of credit and saving co-operatives have been established with the assistance of the EU. To facilitate investments in the agricultural sector co-financing was introduced with a rate between 20 per cent and 40 per cent, depending on farm location, the age of farmer and type of investment. The Latvian government also developed the Credit Guarantee Fund, which was integrated in the State Support programme in 1998.

The PSE increased significantly from 4 per cent in 1997 to about 10 per cent in 1998. This increase in support was primarily due to a substantial rise in market price support and input support. A substantial growth in producer support was observed in the crop sector.

International policy environment

The share of agro-food products in total exports and imports fell in 1998 to 11 per cent and 13 per cent respectively. Not only did agro-food exports decline in relative terms, but also the volume fell. Agricultural exports were heavily affected by the Russian crisis, which resulted in a decrease of exports to the NIS by US$69 million. In 1998, agro-food exports to the NIS accounted for about 47 per cent of Latvia's total food exports, compared to 67 per cent in 1997. Falling demand from the NIS was partly offset by rising agro-food exports to the EU and the CEECs, which increased by about 41 per cent and 14 per cent respectively. As regards Latvia's agro-food imports, the EU supplied about 50 per cent and the CEECs about 30 per cent in 1998, which represents a slight increase over 1997. The volume of imports continued to increase, increasing the agro-food trade deficit, which almost doubled in 1998 to US$228 million.

The composition of agro-food exports and imports remained relatively stable in 1998, except for fish products. The Latvian fish industry was seriously affected by falling demand in the NIS resulting in exports declining by as much as 15 per cent. The trend in the composition of exports shows an increas-

ing role for processed food. Latvia regained access to the EU market for its dairy products from 1 January 1998, following the tightening of health and hygiene regulations to meet EU standards. The EU has authorised six dairies to export milk and milk products. However, as of July 1998, no slaughterhouses have received the authorisation for exports to the EU.

Latvia applies a tariff protection on selected commodities, which is consistent with those of the European Union. Domestically produced commodities are protected with tariff rates ranging from 25 per cent for wheat to 60 per cent for refined sugar.

In October 1998 Latvia's application to join the WTO was approved, and in February 1999 the agreement came into force. Membership in the WTO is unlikely to result in major changes in agricultural trade policies as Latvia has relatively liberal trade policies. During the transition period import tariffs for a basic group of agricultural goods will be maintained at the rate of MTN.

Assessment and outlook

Overall macro-economic growth remained positive in 1998 due to increased output in the processing industry and forestry as well as tight fiscal and monetary policies. These factors limited the impact of the Russian crisis on the Latvian economy. For 1999, GDP growth is forecasted to stabilise at a level of 4 per cent and estimates indicate that the rate of unemployment will remain at a high level of about 10 per cent.

The fall in Russian demand caused agro-food exports to Russia to decrease by 20 per cent. There are no real signs of reversing the trend of an increasing agro-food trade deficit, which has been deepened by the Russian crisis. It will be necessary for the agro-food processing industry to improve quality and marketing of its products to take advantage of trade opportunities established by the EU free trade agreement. This also implies measures such as strengthening plant protection services, veterinary and phytosanitary border control, and improving the national food quality system, safety and packaging.

The downward trend in agricultural output continued in 1998, with GAO falling by 4 per cent and decreasing farm gate prices for all agricultural products. While the decline in livestock production continued, the decline in the dairy and pig sectors is bottoming out. Unfavourable weather conditions caused the production of grains to fall. As a result of low world grain prices, the prospects for further increase in Latvian grain production are limited.

The government augmented agricultural support substantially, mainly for investments in the form of co-financing and credit guaranties, and introduced an intervention scheme on the grain market. Market price support through the implementation of tariffs on agricultural and food imports remained relatively low.

In view of the EU accession Latvia is likely to reinforce measures on structural and rural development. This should help Latvia to address increasing regional disparities like higher unemployment in rural areas, poverty, and the need to improve infrastructure.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	6.2	5.1	5.5
Gross agricultural product (US$ million)	584.3	403.1	356.9
Gross domestic investment/GDP (%)	15.2	10.7	9.6
Population (millions)	2.51	2.49	2.47
GNP per capita (US$)	2 340	2 370	2 430
Share of GDP (%)			
Agriculture	8.9	7.6	6.9
Industry	22.6	21.1	21.3
Services	68.5	71.3	71.8
Population in rural area (% of total population)	27.2	26.9	26.6
Employment in agriculture (% of total employment)	18.0	17.8	16.6
Gender structure of agricultural employment (%)			
Male	56.2	57.8	53.8
Female	43.8	42.2	46.2
Agro-food exports (% of total exports)	16.6	16.9	14.5
Agro-food imports (% of total imports)	10.4	13.4	13.9
Consumption			
Private consumption/cap. (annual growth %)	–18.3	1.3	6.9
Share of household income spent on food (%)	44	51	47

Domestic prices (% change from previous year)

	1995	1996	1997
Implicit GDP deflator	16.0	16.5	6.5
Consumer price index	23.1	13.1	7.0
Agricultural commodity price index	15.0	13.0	–11.0
Food price inflation	16.0	13.0	2.0

ESTIMATES OF SUPPORT TO AGRICULTURE

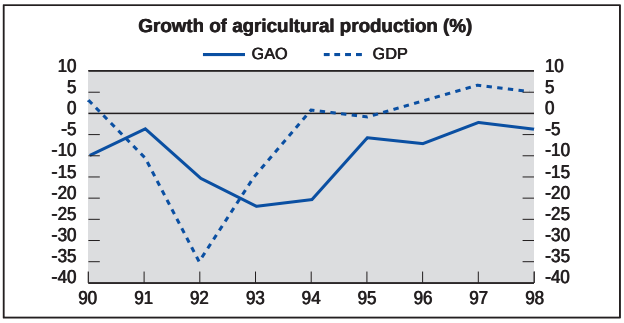
	1996	1997	1998
Producer Support Estimate (%)	3	4	10
Consumer Support Estimate (%)	–4	–5	–2
Total Support Estimate as a share of GDP (%)	0.6	0.8	1.2

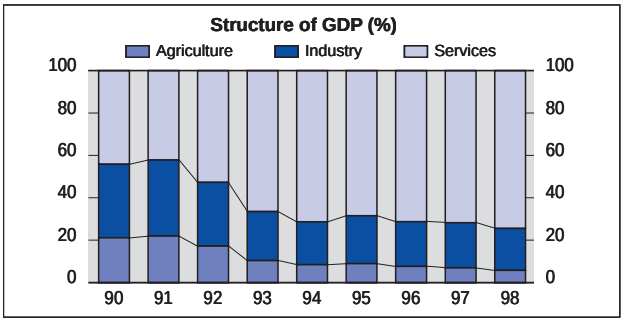
NATURAL RESOURCES AND ENVIRONMENT

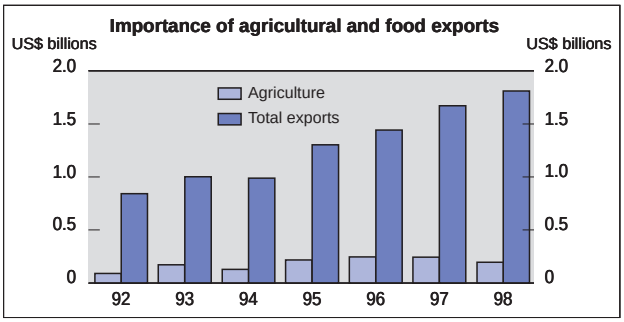
	1995	1996	1997
Total land (millions ha)	6.2	6.2	6.2
Agricultural land (millions ha)	2.5	2.5	..
Arable land per capita (ha)	0.7	0.7	..

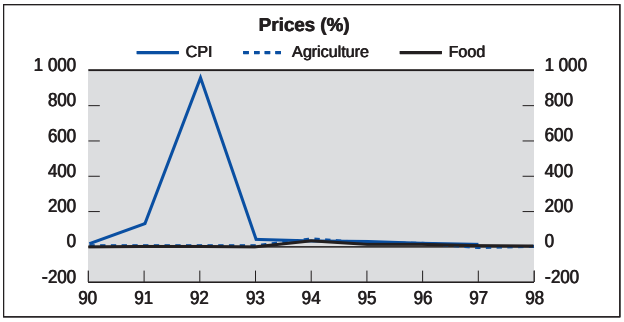
CAPITAL INFLOWS

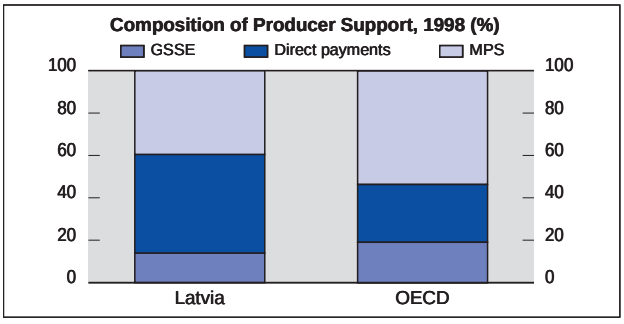
	1995	1996	1997
Foreign Direct Investment (millions US$)	180	382	521
Portfolio Investment (millions US$)	–37	–141	–571
Net aid flows (millions US$)	63.6	79.6	80.8











II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

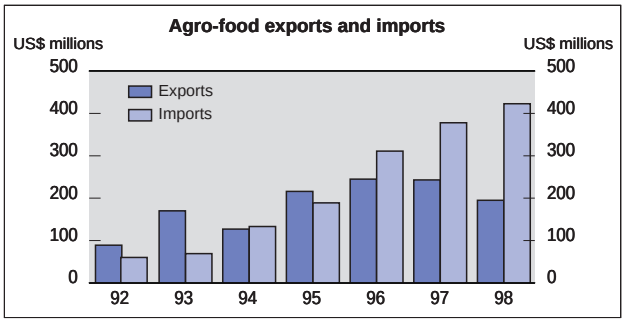
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	1 304	1 443	1 672
Agriculture and food exports	216	245	243
Non agricultural	1 088	1 198	1 429
Total imports (cif)	1 812	2 320	2 724
Agriculture and food imports	189	311	378
Non agricultural	1 623	2 009	2 346

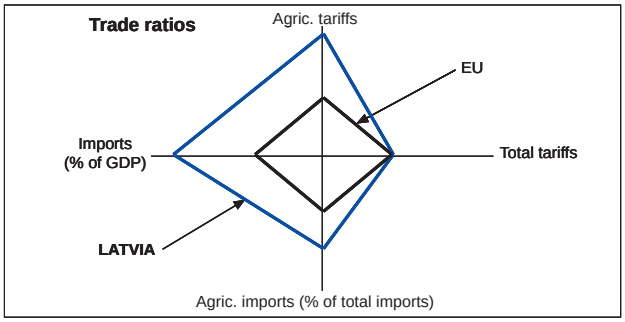
1998 Tariff barriers	Range	Average	Deviation	Mode
Total	[0 75]	4.9		
Agriculture	[0 45]	14.0	7.8	12.9
Animal products (including. live)	[0 75]	16.2	8.8	..
Vegetable products	[0 75]	14.6	7.9	0.6
Animal and vegetable fats	[0 75]	6.0	5.7	..
Processed food (including tobacco)	[0 75]	14.7	6.8	8.8

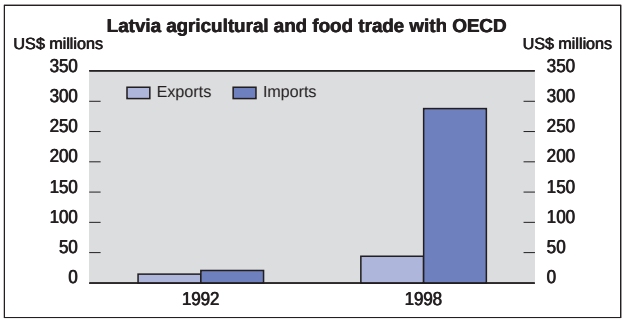
Regional trade blocks	1992	1993	1994	1995	1996	1997	1998
				Per cent			
Agricultural and food exports							
To OECD	17	14	12	12	16	12	21
To CEECs	20	20	13	10	11	16	22
To NIS	59	66	75	76	72	66	47
To others	4	1	0	2	2	6	9
Agricultural and food imports							
From OECD	35	47	50	64	57	63	59
From CEECs	7	17	20	14	18	25	29
From NIS	47	25	11	8	12	3	4
From others	10	10	19	13	12	8	8

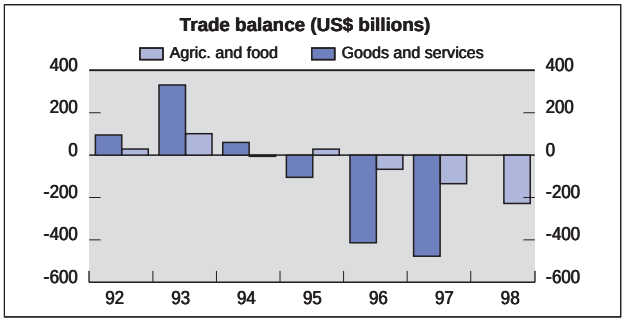
BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	2 088	2 614	2 871
Imports of goods and services	2 193	3 028	3 348
Resource balance	–105	–414	–477
Balance of agro-food trade	28	–67	–135
Current account balance	–16	–280	–345









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LITHUANIA

Macroeconomic situation

After four years of strong economic expansion GDP fell to 4 per cent in 1998. Factors like rising state expenditures, falling consumer demand and increasing trade deficit due to the Russian crisis, contributed to the economic slow-down. While trade between Lithuania and Russia has resumed, the volumes are significantly lower than prior to the crisis. The European Union, and especially Germany, is now the major trading partner absorbing about 38 per cent of Lithuania's exports and accounting for almost one half of its imports. As imports increased by almost 3 per cent and exports decreased by 4 per cent the trade deficit deteriorated further in 1998 to slightly over US$2 billion. The agricultural sector and the textile and fur industry were severely hit by the drop in Russian demand; others, such as the light engineering industry experienced a 10 per cent increase in exports.

The government budget deficit fell slightly in 1998 to 1.6 per cent of GDP, compared with 1.8 per cent in 1997. Despite higher capital inflows in 1998, the current account deficit increased to about 12 per cent of GDP, or around US$1 billion. While foreign direct investments are low compared with Estonia and Latvia, they nearly doubled to US$1.4 billion in 1998. Out of the total amount of FDI, about 9 per cent was directed to the agro-food sector.

The downward trend in the inflation rate continued in 1998, with inflation falling to 2 per cent compared with 8 per cent in 1997. The exchange rate regime remained in place with fixed exchange rates and the lita tied to the US dollar at a rate of 4:1. The dollar's strength and falling inflation rates have contributed to the appreciation of the lita relative to other European currencies. The Central Bank lending rate declined to 8.5 per cent. During recent years the number of banks has halved. At the end of 1998, eleven banks were operating in Lithuania. The Agricultural Bank, which is scheduled for privatisation, remains one of the main providers of agricultural loans. For the period 1995-1998, the share of agricultural loans remained constant at 0.4 per cent of total bank loans.

Registered unemployment remained almost unchanged in 1998 at about 7 per cent. Hidden unemployment continues to be a serious cause for concern.

Agricultural and agro-food situation

Agriculture's share of GDP decreased from 12 per cent in 1997 to 10 per cent in 1998. Agriculture and the food industry together accounted for about 34 per cent of GDP. The share of agriculture in total employment remained stable at about 21 per cent in 1998. The high proportion of labour employed in agriculture relative to its share of GDP was due to the restitutional nature of the land reform process, which prevented a sizeable reduction of the agricultural labour force when new farms were created. Gross agricultural output (GAO) fell by 3 per cent due to a fall in both crop and livestock production.

The 1998 crop harvest of 2.8 million tonnes is a reduction of 9 per cent compared with 1997. This decline was primarily caused by the fall in production of wheat (9 per cent), barley (8 per cent) and sugar beet (6 per cent). The drop in grain and sugar beet production can be attributed to unfavourable weather conditions and reduced crop area. In 1998, a slight increase in the production of potatoes, rye and vegetables was observed. While crop yield productivity rose in agricultural enterprises, it declined on individual farms. In relation to total production, individual farms accounted for about 76 per cent of grain output and 99 per cent of potato production.

The downward trend in the livestock sector continued for the tenth consecutive year, declining by about 4 per cent in 1998. After a slight increase in 1997 the downward trend in meat production continued in 1998, and output fell by 7 per cent. While beef and veal production increased moderately, pig, sheep and poultrymeat production fell slightly. Milk production increased by 13 per cent due to higher productivity.

The financial position of agricultural producers deteriorated in 1998 as farm gate prices fell for main agricultural products and input prices rose. The largest price falls occurred for grains and sugar beet. However, due to new support policies the income remained stable for the latter. Fixed minimum farm gate prices were applied for livestock and milk, as prices fell for the latter on neighbouring markets.

The average share of household income spent on food fell for the fifth consecutive year to 48 per cent in 1998. While overall meat and egg consumption continues to decline, beef consumption increased. The

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trend towards increasing consumption of dairy products and potato continued in 1998.

Structural adjustment policies

In 1998, minor amendments were made to the laws regulating land restitution, compensation and land lease. For instance, the maximum land area, including forest and water, allowed under restitution should not exceed 150 hectares. While discussions on whether foreign legal persons should be granted the right to agricultural land ownership are still ongoing, they have obtained the right to acquire non-agricultural land. Economic agents wishing to change the use of agricultural land still encounter complex administrative procedures and high costs.

Regarding farm structure, the number of individual private farms increased by 8 per cent, while the number of household plots and agricultural partnerships declined by 10 per cent and 6 per cent, respectively. The average size of registered private family farms was 11.8 hectares.

No major changes took place in the privatisation of upstream and downstream industries, with the exception of the sugar industry. The latter was fully privatised in 1998 with remaining government shares sold to a Danish sugar company. The lowest level of privatisation is in the processing industry for canned fruit and vegetables. These industries experienced a critical situation in 1998 as the majority of enterprises went bankrupt. The share of assets privatised in the dairy industry is 81 per cent, meat industry 87 per cent, and grains industry 96 per cent. Privatisation of the upstream industry, of which the state holds less than 8 per cent of the shares, is almost completed. Favourable terms for the acquisition of shares in processing enterprises, which were offered to agricultural producers in previous years, were abolished in 1998.

The process of restructuring the downstream sector, except for breweries, confectionery and sugar industry, has so far been slow. This is a result of poor economic performance due to inadequate management, outdated equipment and over-capacity. The establishment of many small processing plants, particularly in the meat industry, has improved competition and worsened the traditional plant's performance. As the latter faces difficulties in selling its products, banks are extremely cautious in extending credit lines for investments.

Domestic support policies

Support to agricultural and rural development is extended through the Rural Support Fund, which is administered mainly by the Ministry of Agriculture and partly by local agricultural authorities. In 1998, the initial amount allocated from the agricultural budget decreased slightly from LTL 373 million in 1997 to LTL 372.5 million in 1998. However, additional allocations from the privatisation fund and other sources brought it up to LTL 500 million, or 10 per cent of the state budget. About 44 per cent of the total assets of the Rural Support Fund were allocated to agro-food market regulation and export support. Other important support measures were investment schemes, research, training and advisory services, and a loan guarantee scheme. The Lithuanian Government intends to change the use of financial means administered by the Rural Support Fund by allocating smaller amounts to subsidies and increasing direct payments and capital to investment projects.

In 1998, the Agricultural Loan Guarantee Fund expanded considerably (LTL 19 million). The main part of loans was granted to farmers for acquiring new agricultural machinery, milk refrigeration equipment, and milking equipment.

An Agricultural and Food Products Market Regulation Agency was established in 1998 in order to implement market regulations and export promotion. The Agency can purchase meat and dairy products and has a budget of LTL 105 million.

A special programme was launched to create off-farm activities in rural areas and to promote alternative sources of income in 1998. The programme was financed from the Rural Support Fund and focuses on *(1)* the production, processing and sale of non-traditional agro-food products; *(2)* the promotion of crafts, services and other businesses; and *(3)* agro-tourism development.

Preliminary estimates indicate that the PSE increased to 14 per cent in 1998 compared to 7 per cent in 1997. This rise is mainly attributed to a considerable increase in measured market price support. Rising direct payments and input support also contributed to the upward shift in the PSE. In 1998, the PSE for crops was estimated at 17 per cent compared with 14 per cent for livestock.

International policy environment

The share of agro-food exports of total exports declined from 16 per cent in 1997 to 14 per cent in 1998. Total exports of agricultural products and foodstuffs shrank by 16 per cent and imports grew by 4 per cent in 1998. Thus the agro-food trade deficit continued to increase with imports exceeding exports by US$129 million compared with US$7.3 million in 1997.

Lithuania maintained strong trade links to Russia and Ukraine. The falling demand in the NIS caused severe export losses for the Lithuanian agro-food sector. A preliminary estimate indicates that export prices of agricultural products fell by 15-20 per cent in the fourth quarter of 1998. The losses suffered by agro-food enterprises are estimated to be around LTL 40 million. As regards the geographic structure of agro-food trade, both the EU's and NIS' value of Lithuanian food exports declined by 2 per cent and 33 per cent, respectively. This fall was partly offset by a significant increase in agro-food exports to the Czech Republic, Hungary and Poland by 78 per cent. While the value of agro-food imports from the CEECs and the EU increased by 30 per cent and 7 per cent respectively, it fell by almost 19 per cent for the NIS. Agro-food trade with Estonia and Latvia increased, with exports growing by 14 per cent and imports by 9 per cent in 1998.

An Agreement with the European Union officially came into effect on 1 February 1998, after ratification through the European Parliament and its 15 member countries. Negotiations with the WTO are underway as additional issues related to market access and export subsidies remain to be resolved. The free trade agreement with Ukraine is currently under review to take account of WTO provisions and EU requirements.

The Rural Support Fund increased export subsidies in 1998 by almost LTL 16 million to LTL 46 million. Additional allocations have been made through the Agricultural and Food Market Regulation Agency to cover the gap between prices of domestic purchases and exports. The object of this measure is to improve agro-food trade, particularly of dairy products to the Russian market. The main instruments used to regulate food imports are tariffs, mostly levied on an ad valorem basis. These tariffs are consistent with those of the European Union. In 1998, tariffs on the main agro-food imports from the European Union were increased. The Lithuanian government announced in April 1999 that it would lift regulations stipulating minimum prices for imports of agricultural goods from Estonia and Latvia.

Assessment and outlook

Lithuania experienced a slow-down in economic activity in 1998. The Russian crisis, falling consumer demand and rising expenditures contributed to the fall in GDP. The current account position remained more favourable due to increased foreign direct investments. Given the large trade exposure of Lithuanian enterprises to the NIS, exports of agro-food and textile products fell significantly in the fourth quarter of 1998.

The agricultural sector experienced a slight fall in output as well as a fall in farm prices and incomes. This was mainly due to increasing supply of agricultural products on the domestic market and falling agro-food exports. The agricultural sector has to adjust to conditions created by the collapse of the Russian market and future EU accession. These include farm restructuring, increasing the competitiveness of the agro-food processing sector, and implementing EU regulations linked to quality standards and product certification. Provided that the agro-food industry undertakes measures to improve competitiveness, WTO membership will open up new export possibilities.

As the processes of land restitution, privatisation and legal registration are still underway, the following structural trends are likely to continue: an increase in the number of individual (family) farms; a fall in the number of household plots due to the process of restructuring them into farms; and a decline in the number of agricultural enterprises. The land market remained depressed in 1998 due to uncertainties and low level of profitability in the sector.

In 1998, the Lithuanian government increased support to rural development by expanding a programme to foster off-farm activities. This programme addresses problems faced by the agro-food sector and rural areas, such as the significant level of unemployment in rural areas, the surplus of agricultural production, the depressed domestic and external market situation, and relatively low incomes for agricultural producers. In consideration of pressures to consolidate the state budget and limit the quite substantial support to agricultural producers, this programme is likely to increase its importance.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	6.9	7.9	9.6
Gross agricultural product (US$ millions)	735.4	883.2	1 076.3
Gross domestic investment/GDP (%)	24.7	24.5	26.5
Population (millions)	3.71	3.71	3.71
GNP per capita (US$)	1 730	1 970	2 260
Share in GDP (%)			
Agriculture	8.5	11.8	12.0
Industry	34.0	33.4	31.8
Services	57.5	54.8	56.2
Population in rural area (% of total population)	32.0	32.2	31.6
Employment in agriculture (% of total employment)	22.8	22.5	21.5
Gender structure of agricultural employment (%)			
Male	67.6	64.6	62.7
Female	32.4	35.4	37.3
Agro-food exports (% of total exports)	18.3	17.1	16.0
Agro-food imports (% of total imports)	13.4	13.1	11.1
Consumption			
Share of household income spent on food (%)	57	55	52

Domestic prices (% change from previous year)

	1995	1996	1997
Implicit GDP deflator	38.0	25.0	14.9
Consumer price index	35.7	13.1	8.4
Agricultural commodity price index	50.0	24.0	–5.0
Food price inflation	40.0	28.0	6.0

ESTIMATES OF SUPPORT TO AGRICULTURE

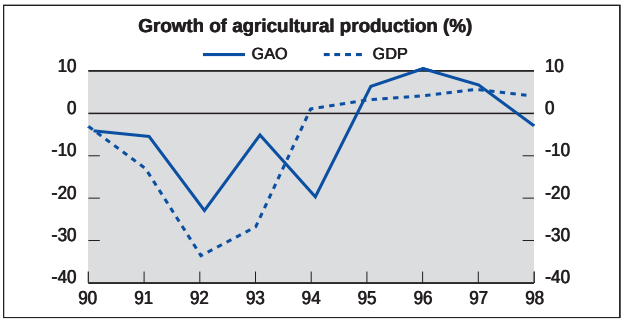
	1996	1997	1998
Producer Support Estimate (%)	5	7	14
Consumer Support Estimate (%)	–3	–6	–10
Total Support Estimate as a share of GDP (%)	1.6	2.0	2.9

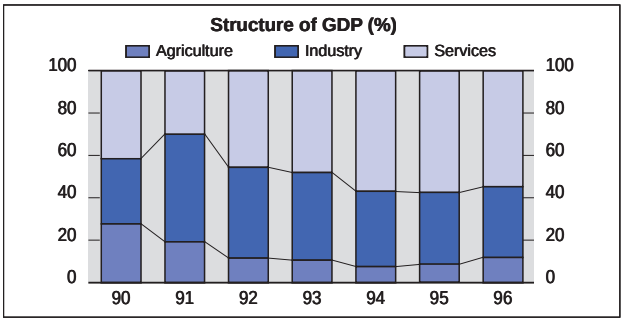
NATURAL RESOURCES AND ENVIRONMENT

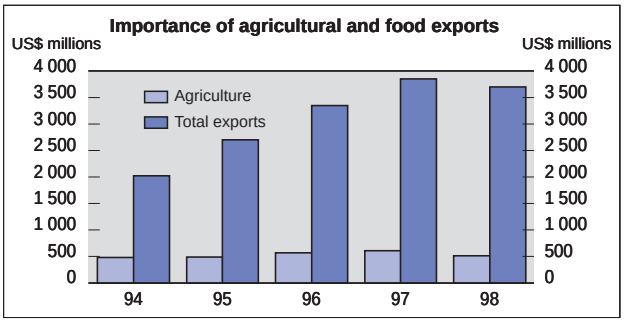
	1995	1996	1997
Total land (millions ha)	6.5	6.5	6.5
Agricultural land (millions ha)	3.5	..	..
Arable land per capita (ha)	0.8	0.8	..

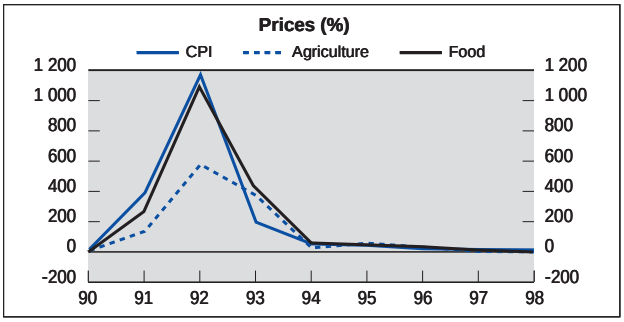
CAPITAL INFLOWS

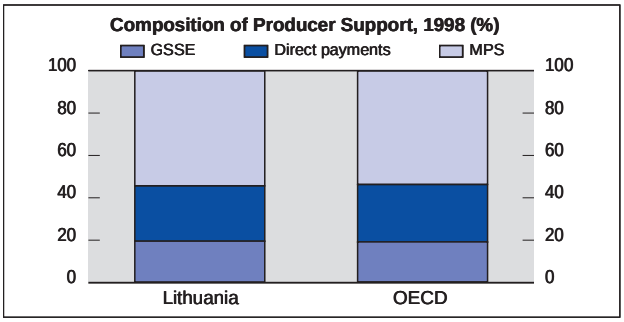
	1995	1996	1997
Foreign Direct Investment (millions US$)	73	152	355
Portfolio Investment (millions US$)	16	63	188
Net aid flows (millions US$)	179.8	92.5	101.8







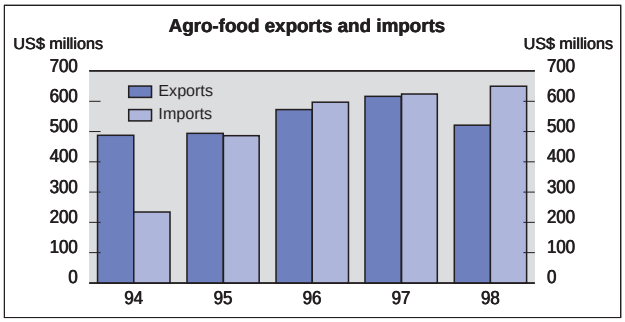




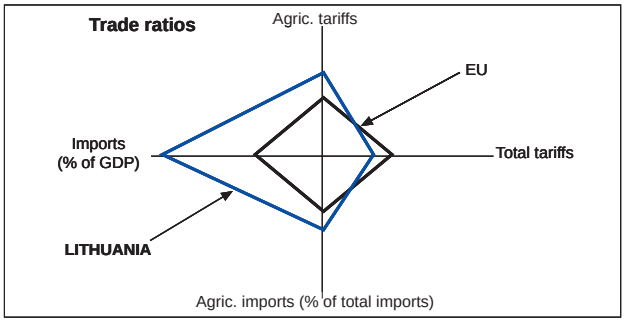
II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

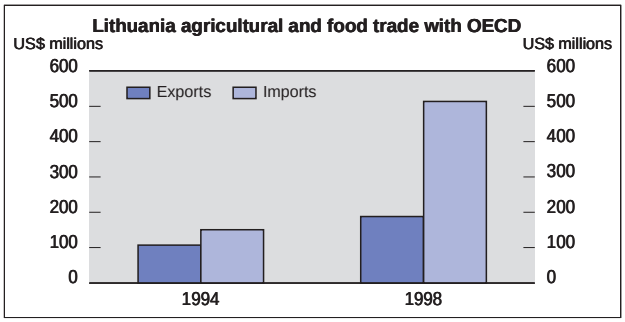
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	2 706	3 356	3 862
Agriculture and food exports	496	574	618
Non agricultural	2 210	2 782	3 244
Total imports (cif)	3 648	4 559	5 643
Agriculture and food imports	488	598	625
Non agricultural	3 160	3 961	5 018



1998 Tariff barriers	Range	Average	Deviation	Mode
Total	[0 87]	3.5		
Agriculture	[0 87]	9.5	9.5	13.6
Animal products (including. live)	[0 45]	13.6	12.0	..
Vegetable products	[0 50]	5.0	2.6	1.1
Animal and vegetable fats	[0 30]	1.5	1.4	..
Processed food (including tobacco)	[0 87]	14.5	9.4	13.6

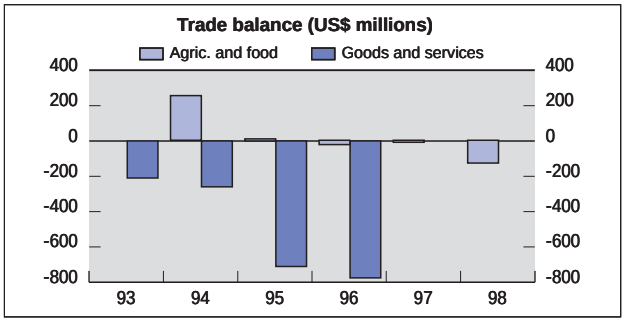


Regional trade blocks	1994	1995	1996	1997	1998
			Per cent		
Agricultural and food exports					
To OECD	21	29	22	27	34
To CEECs	13	11	12	12	17
To NIS	64	59	63	59	47
To others	2	2	3	3	2
Agricultural and food imports					
From OECD	64	54	58	65	65
From CEECs	18	15	17	22	25
From NIS	15	21	21	10	8
From others	4	9	3	3	2



BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	3 191	4 211	5 224
Imports of goods and services	3 902	4 986	6 237
Resource balance	–711	–775	–1 013
Balance of agro-food trade	8	–24	–7
Current account balance	–614	–723	–981



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ROMANIA

Macroeconomic situation

Following the adjustment shock of 1997, tight monetary policies helped to achieve progress in macroeconomic stabilisation in 1998, notably with the inflation rate (CPI) falling from 151 per cent to 41 per cent. However, the Romanian economy contracted for the second consecutive year with GDP falling by 5.5 per cent in 1998. The budget deficit increased to 5 per cent of GDP. The rate of unemployment increased to 10.3 per cent with the rates ranging from 4 per cent in Bucharest to 18 per cent in counties dominated by heavy industry. Bad debts and undercapitalisation of banks remain serious problems in Romania.

Privatisation continued, albeit slowly, and the lack of restructuring of the real economy leaves many enterprises strongly indebted, overstaffed, and run without regard to market conditions. As a result, Romania lacks goods that are competitive on the international markets. This has contributed to an increase in the foreign trade deficit to about 8 per cent of GDP in 1998.

Agricultural and agro-food situation

Agriculture is one of the most important sectors in the Romanian economy with the share in total employment at 36 per cent (one of the highest in Europe) and the contribution to GDP at 19 per cent.

Farm output fell by 7.6 per cent in 1998. Both crop and livestock production declined, with cereal production falling from a record 20 million tonnes in 1997 to 15 million in 1998. The grain harvest was affected by adverse weather conditions and by a 9 per cent reduction in sowing area. Sugar beet production shrank by 13 per cent, mostly due to a fall in yields. Only oilseed, vegetable and potato production increased. Meat production fell by 11 per cent and Romanian meat processors are working at only half-capacity. Milk production fell moderately by 3 per cent, after a continuous rise since 1992, mostly on small-scale farms for household consumption.

The share of household expenditures for food during the July 1997-July 1998 period remained high at 59 per cent reflecting low real incomes. The latest available data on food consumption relate to the first half of 1998 and indicate a low and still declining consumption of meat and meat products and relatively high and stable consumption of cereal products. Consumption of milk, milk products and eggs was at or close to the 1997 levels.

While domestic food industry output declined again, agro-food exports fell by 27 per cent and imports grew by 32 per cent. As a result, in 1998 Romania had a net deficit in agro-food trade of US$482 million. Traditional exports of live animals and livestock products as well as of vegetal and animal oils fell sharply. Despite the significant decline in grain production, volumes produced exceeded domestic demand by about 1.5 million tonnes leaving substantial surplus for exports. However, grain exports from Romania are hindered by fragmented farm structures and inefficiencies in the marketing system. Quality of grains is uneven, so that buyers are reluctant to pay high prices. Moreover, grain exports are impeded by the small capacity of the port in Constanta. As a result, despite the large reserves of grains on the farms, Romanian millers are quite often finding Hungarian wheat more attractive.

Structural adjustment policies

Following the 1990/1991 legislation, land was distributed in part to former owners and their heirs and in part to workers in the former co-operatives. By mid-1998 about 72 per cent of agricultural land was in the hands of more than 4 million private owners. The remaining 28 per cent was publicly owned and operated to a large extent by the former State farms. By November 1998, almost 75 per cent of land owners had received ownership titles.

Privatisation and redistribution of agricultural land resulted in extreme fragmentation of land ownership with the average private farm size less than 3 hectares. Only 0.2 per cent of private land owners have more than 10 hectares and they own slightly more than 2 per cent of total privately owned land.

Land use, as opposed to ownership, is less fragmented due to a relatively active lease market, dominated by informal arrangements. The amended Land Lease Law adopted in 1998 removed some previous constraints, such as the minimum length of contract, but did not allow subleasing or land leasing to foreigners and introduced the obligation for the would

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be lessee to have undertaken formal training in agriculture. Besides independent small-scale farmers operating on about 60 per cent of agricultural land, there are various forms of medium and large-scale agricultural units operating on about 40 per cent of agricultural land. The latter take the form of legally constituted agricultural societies, grouping a relatively large number of land owners (not less than 10); family associations (with no legal status) assembling several family farms; and the non-privatised State farms. Their average size varies from 125 hectares for informal family associations to about 3 000 hectares for the State farms.

The 1997 amendment to the Land Law aimed at speeding up and rationalising the return of farmland to former owners. In total 1.24 million hectares were made available for the new wave of redistribution. The amendment allowed former land owners to apply for up to 50 hectares of land per family compared to 10 hectares previously. The bill was heavily oversubscribed by the extended deadline of the beginning April 1998 with a total of more than 862 000 applications wishing to reclaim 1.86 million hectares of state-owned land, 0.62 million hectares more than originally foreseen for the redistribution. The legitimacy of the applications, particularly the extent of the area claimed, is under question.

The Land Circulation Bill took effect in June 1998. The Bill finally legalised free land transactions between individuals, removed the state's pre-emption purchase rights and raised the upper limit of the area that can be purchased by a family from 100 to 200 hectares. However, land ownership by foreigners is forbidden. The Bill stimulated land transactions in the second half of the year, but both the number of transactions registered and the land prices were low.

A large part of mechanisation services and food processing is still dominated by state-owned enterprises, despite some progress made in 1998. By the beginning of 1999, about one-third of agricultural machinery stations (Agromec) was state-owned and out of 70 companies dealing with grain collection, storage and trade ("Comcereals" and "Cerealcoms") operating as local monopsonies, only two were privatised. At the same time, 237 out of 500 state-owned food processing enterprises were privatised representing about one half of the total capital in this industry.

Domestic support policies

The system of direct price controls and administered prices was discontinued at the beginning of 1997. Market price support is provided through import tariffs, which became the main instrument for protecting domestic agro-food producers.

Total budgetary support for agriculture increased from Lei 3538 billion (about US$440 million) in 1997 to Lei 4644 billion (about US$546 million) in 1998. The most important programme financed by the budget was a vouchers-for-inputs scheme that accounted for about 60 per cent of the total. Other schemes included interest subsidies on short-term credits (15 per cent); premia for wheat purchases for domestic consumption and a maize export subsidy (8 per cent); subsidies for land reclamation and irrigation systems (8 per cent); a price subsidy for certified seeds (4 per cent); and a subsidy for storage costs of wheat (4 per cent).

In order to ease the impact of the liberalisation of prices and to support small-scale private farmers in purchasing inputs, the Ministry of Agriculture and Food (MAF) initiated a vouchers-for-inputs scheme in 1997 which was continued in 1998 and will go on in spring 1999. Vouchers were distributed for free to all land owners, according to the owned area size, up to a maximum of 10 hectares (6 hectares in 1997). The value of the voucher covers about 10 per cent of the running production costs for one hectare of land. The vouchers were used by agricultural producers for input purchases (mainly fertilisers and fuel, but also certified seeds and sowing material, pesticides, and machinery services) and converted into money by input suppliers at several commercial banks accepted by the MAF. Under the price subsidy for certified seeds, agricultural producers could purchase certified seeds (wheat, sunflower, soybean and sugar beet) at 63 per cent of their market prices and the remaining 37 per cent was a subsidy paid to licensed seed traders.

In 1998 the government set up a special fund to support the farming sector with short-term preferential credits over the period 1998-2000. The fund is used by the MAF to grant credits, via commercial banks, to both private and state-run farms with no current repayment defaults. If credits are repaid in due time, the beneficiary receives 70 per cent of the interest rate as a subsidy. A new line of subsidised credits was introduced in October 1998 for animal husbandry and purchases of live animals.

International policy environment

Following substantial cuts on import tariffs in 1997, the Romanian government introduced minimum import price for poultry in 1998 and contemplated

increases in import tariffs on other food products. This led to a disagreement with the World Bank over whether Romania's actions violated the conditions of the agreement on the Agriculture Sector Adjustment Loan (ASAL) and put a US$160 million loan in jeopardy. After intensive talks, a second phase of import liberalisation took place at the end of 1998 with the production weighted average declining to 22 per cent at the beginning of 1999 (27 per cent in 1997). The maximum tariff rate was reduced to 45 per cent (60 per cent in 1997) for sensitive products such as meat and meat products, poultrymeat, and dairy products and to below 40 per cent for all other products.

Bumper maize crops in 1997 and a decline in domestic demand due to a fall in pig and poultry production left Romania with substantial maize surpluses. This led the government to introduce export subsidies of Lei 150/kg (about US$18/tonne) for maize exported over the period December 1997-August 1998. On the other hand, "speculative" increases in pork prices at the end of 1997 led the government to reduce import tariffs on pork to zero during the period mid-December 1997-mid-February 1998. In addition, following a sharp decline in sunflower seed production in 1997, import tariffs on sunflower seeds were temporarily reduced to zero in 1998.

In July 1997, Romania became a CEFTA member considering this an important step in its national strategy for joining the EU. For one set of products, Romania accepted the already existing customs tariffs in CEFTA with zero or very low rates. For other products of mutual interest, bilateral concessions were concluded with each CEFTA member. In summer 1998, claiming that wheat imports from Hungary were disruptive for its domestic market, Romania applied the safeguard clause against Hungary and unilaterally raised import tariffs on Hungarian wheat and wheat flour. The additional tariffs on wheat were abolished in March 1999, but on wheat flour, remained. As an emergency measure to alleviate oversupply on the domestic market caused, among others, by cheap imports from Hungary the government announced in March 1999 that it was to allocate subsidies on pork and poultry exports. Export bonuses of Lei 4.3 million per tonne (about US$290) were granted for pork, up to 20 000 tonnes, and for poultry at Lei 5.5 million per tonne (about US$370), up to 10 000 tonnes.

Assessment and outlook

Progress in macroeconomic stabilisation and, in particular, in restructuring programmes is still far from creating a conducive environment for the development of Romanian agriculture. The prospects are uncertain, particularly given the continued delays in structural reforms, the high current account deficit, and an expected peak in external debt servicing in 1999. Moreover, there is a risk that renewed government instability will block further reforms and lead to a loss of foreign confidence as evidenced by a series of credit downgrades by rating agencies in 1998.

Agricultural production declined in 1998, but Romania is still one of the very few countries in transition in which total production is close to the pre-reform levels. The existing production and export potential of Romanian agriculture is not exploited mostly due to inefficient downstream and upstream sectors. The restructuring in these sectors continued in 1998, but at a slow pace. Another obstacle is the excessive fragmentation of land ownership. The amended land lease and land circulation laws may stimulate land market transactions which should help to create more viable farms. On the other hand, privatisation of state farms is still pending and depends to a large extent on the progress made in the implementation of land legislation.

Excessive fragmentation of agricultural production in Romania also generates substantial problems in the agro-food chain, since collecting and handling produce from a multitude of farmers are difficult and costly. Similarly, monitoring the quality of supplies and differentiating payment according to quality criteria are difficult. Few agro-processing firms in Romania are able to meet EU quality standards. In particular the many small-scale dairies and meat processors producing for local markets try to reduce costs by cutting back on hygiene expenditures and quality controls. However, increased exposure to competition from international markets as a result of trade liberalisation and the preparations for EU membership should lead to the adoption of higher food quality and safety standards.

OECD 1999

I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	32.8	31.2	34.8
Gross agricultural product (US$ billions)	6.2	5.6	6.3
Gross domestic investment/GDP (%)	24.3	24.7	21.5
Population (millions)	22.7	22.6	22.6
GNP per capita (US$)	1 400	1 450	1 410
Share in GDP (%)			
Agriculture	19.4	18.7	18.5
Industry	44.9	46.0	47.6
Services	35.7	35.3	33.9
Population in rural area (% of total population)	44.1	43.6	43.2
Employment in agriculture (% of total employment)	33.6	37.3	39.7
Gender structure of agricultural employment (%)			
Male	50.5	48.7	47.8
Female	49.5	51.3	52.2
Agro-food exports (% of total exports)	6.7	8.4	7.1
Agro-food imports (% of total imports)	9.4	7.2	6.7
Consumption			
Private consumption/cap. (annual growth %)	13.2	11.2	–6.0
Share of household income spent on food (%)	57	58	59

Domestic prices (% change from previous year)

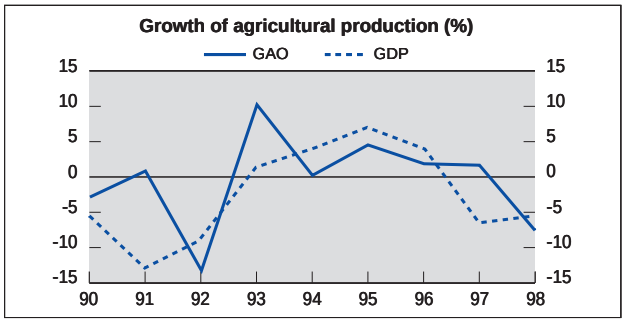
	1995	1996	1997
Implicit GDP deflator	35.3	44.6	146.7
Consumer price index	27.8	56.9	151.0
Agricultural commodity price index	28.0	55.0	90.0
Food price inflation	32.0	36.0	146.0

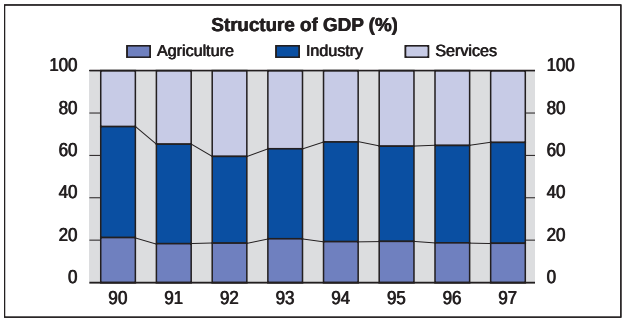
NATURAL RESOURCES AND ENVIRONMENT

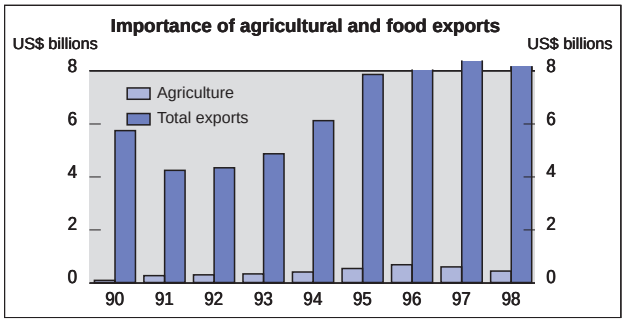
	1995	1996	1997
Total land (millions ha)	23.8	23.8	23.8
Agricultural land (millions ha)	14.8	14.8	14.8
Forestry (millions ha)	..	..	6.7
Arable land per capita (ha)	0.4	0.4	0.4

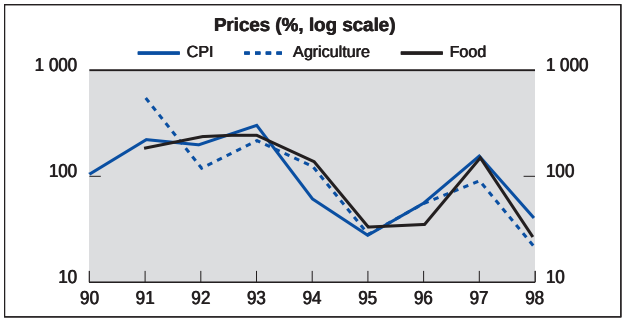
CAPITAL INFLOWS

	1995	1996	1997
Foreign Direct Investment (millions US$)	419	263	1 215
Portfolio Investment (millions US$)	32	193	534
Net aid flows (millions US$)	299.8	245.5	203.4









II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

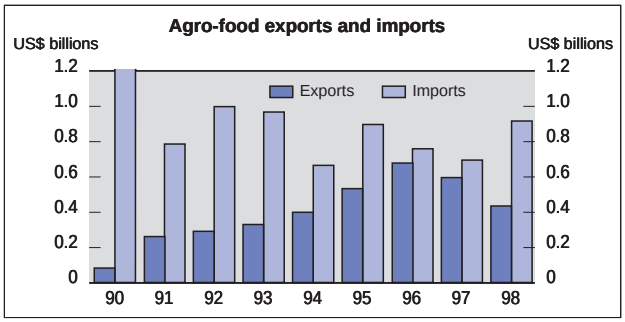
MERCHANDISE TRADE

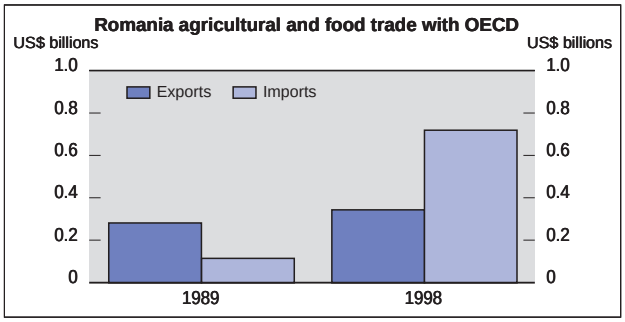
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	7 910	8 084	8 431
Agriculture and food exports	532	677	595
Non agricultural	7 378	7 407	7 836
Total imports (cif)	9 487	10 555	10 411
Agriculture and food imports	896	758	694
Non agricultural	8 591	9 797	9 717

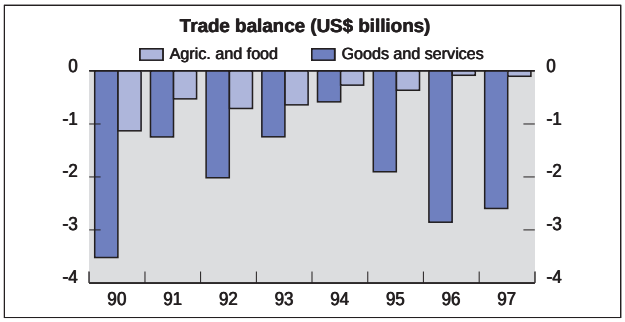
Regional trade blocks	1989	1993	1994	1995	1996	1997	1998
				Per cent			
Agricultural and food exports							
To OECD	56	50	43	45	36	44	75
To CEECs	7	8	12	8	10	9	7
To NIS	23	19	19	12	18	21	5
To others	15	23	26	35	37	26	14
Agricultural and food imports							
From OECD	33	67	58	55	54	52	57
From CEECs	12	8	11	12	6	14	23
From NIS	7	1	7	9	5	7	4
From others	47	22	24	24	35	27	16

BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	9 404	9 648	9 853
Imports of goods and services	11 306	12 503	12 448
Resource balance	–1 902	–2 855	–2 595
Balance of agro-food trade	–364	–81	–100
Current account balance	–1 774	–2 571	–2 137







OECD 1999

RUSSIA

Macroeconomic situation

The deterioration of the current account balance, together with a growing budget deficit and short-term debt spiral, set the context for the instability on Russian financial markets since the fall of 1997 and led into a full-scale financial crisis by mid-1998. The approval of an international aid package in July 1998, worth more than US$22 billion, proved insufficient to restore confidence and bring interest rates down. On 17 August 1998, the Russian government and Central Bank surrendered to escalating financial pressure and rapidly declining reserves allowing the depreciation of the rouble, default on domestic debt, and the introduction of various restrictions on foreign payments and capital movements. Financial markets have virtually collapsed and the commercial banking sector is severely distressed and requires reconstruction.

During the first half of 1998, the real economy had been partly isolated from the financial crisis, reflecting a rather low dependence of most Russian firms on the financial markets. However, a fall in consumer expenditure, disruption of the payment system, low liquidity, and the overall chaotic environment contributed to a decline in GDP by 4.6 per cent in 1998 and added to a cumulative fall of 43 per cent since 1990. By the end of the year the rate of unemployment rose to 11.3 per cent. Since mid-August, price and exchange rate movements have become very unstable. The monthly rate of inflation accelerated from 0.6 per cent on average in the first half of the year to almost 40 per cent in September. By December the year-on-year rate of inflation grew to 84.4 per cent. The rouble lost more than half of its value by mid-September and continued to depreciate through the beginning of 1999. Inflation continued to lag behind the nominal depreciation leading to the real depreciation of the rouble. Although this has negative consequences for importers, domestic producers and exporters have gained some competitive edge.

Agricultural and agro-food situation

In 1998, the share of agriculture in total employment fell to 12.7 per cent and in GDP to 6.7 per cent. Agricultural terms of trade improved in 1998, in particular in the second half of the year, with output prices rising by 41 per cent and input prices by 18 per cent in December 1998 compared to December 1997. The improvement in terms of trade did not however change the adverse financial situation of the sector. According to official figures, the share of large, loss-making agricultural enterprises increased to 89 per cent.

After a slight rise in the GAO in 1997, for the first time since the transition started, the GAO fell by 12.3 per cent in 1998, with crop production falling by 23.5 per cent and livestock production by 0.9 per cent. Crop production was strongly affected by the disastrous drought bringing grain output down to 47.8 million tonnes in 1998 from 88.6 million in 1997. The 1998 grain crop was the worst in 40 years. Changes in livestock production were more mixed with meat and milk production declining by 5 per cent and 3 per cent respectively and egg production rising by 1 per cent. The fall in production on household plots was much smaller than on other types of farms, bringing the share of the former in total production to above 50 per cent. The share of large agricultural enterprises fell to about 47 per cent and the share of family farms remained at 2 per cent.

Preliminary food consumption data show a modest fall in consumption of meat, potatoes and vegetables and some increase in consumption of bread and bakery product and eggs. Taking into account that the fall was concentrated in the post-crisis period, its impact on consumption was much stronger in the second half of the year and will continue in 1999.

The reaction of agro-food industry to the crisis has been rather mixed. Some industries relying on imported raw materials, such as a large part of the meat industry and processing of raw cane sugar, recorded declines in the second half of the year. However, the sharp fall in the processing of raw cane sugar in the second half of the year followed massive imports of raw cane sugar in the first half, resulting in a 42 per cent rise in white sugar production from cane over the whole year. Production of such commodities as vegetable oils, margarine, cheeses, groats, which rely more on domestically produced raw materials, demonstrated signs of recovery in the post-August period. Also, production of alcoholic and non-alcoholic beverages increased strongly in 1998.

The financial and economic crisis resulted in a sharp reduction in food imports into Russia. The

OECD 1999

strong devaluation of the rouble made imports much less competitive; the decline in real incomes induced a squeeze in demand for income elastic products such as meat and milk; the collapse of the banking sector in Russia exacerbated payment problems for imports and price and mark-up controls at the regional level made sales of imported products unprofitable. According to preliminary data (without unofficial trade), agro-food imports declined from US$12.7 billion in 1997 to US$9.8 billion in 1998. While agro-food imports increased by 17 per cent in the first half of the year, they fell by more than 50 per cent in the second. Despite some fall in agro-food exports, Russia's deficit in agro-food trade shrank from US$11.3 billion in 1997 to about US$8.9 billion in 1998.

Structural adjustment policies

In 1998 there were no major changes in the agricultural land use pattern in Russia with about 80 per cent of land operated by large farms of varying legal status; 9 per cent by local administrations; 6 per cent by individual farms and 5 per cent by household plots. However, there was some decline in the amount of land used by large farms and an increase in the amount of land operated by the other three categories of land users.

The discussion on the Land Code has not made any progress in 1998. The latest draft of the Code, which was adopted by the State Duma in April and by the Federation Council in June, would establish a legal framework which would prevent the creation of a free market in land. The draft was vetoed by the President. In his view, the provisions were unconstitutional and failed to meet the compromise tentatively agreed between different parties in December 1997 allowing for land sales except to foreigners and non-farmers.

The law on insolvency, effective from 1 March 1998, provided some possibilities for restructuring of large agricultural enterprises. In clear cases of insolvency the enforcement of the law could lead to the break-up of nonviable enterprises into smaller production units, some of which could be liquidated. According to some statements by the MAF officials at least 20 per cent of large-scale enterprises could qualify for bankruptcy. However, by the end of the year no practical steps had been taken.

Domestic support policies

The financial crisis led to a sharp reduction in the federal budget support provided for agriculture in 1998. According to preliminary data the fall was above 70 per cent in nominal terms and about 80 per cent in real terms. The fall in the support provided by regional budgets was much smaller and, consequently, the share of regional budgets in total budgetary support increased from about two-thirds in 1997 to about 80 per cent in 1998, which resulted in further regionalisation of agricultural policies in Russia. The amounts actually spent by the federal budget amounted to 27 per cent of the planned allocations to agriculture compared with an average of 64 per cent spent for the federal budget on the whole. As a result, the share of agriculture in the consolidated budget fell from 3.6 per cent in 1997 to 2.3 per cent in 1998.

In 1998, the Soft Credit Fund for the agro-food sector continued to extend loans to farmers at a quarter of the Central Bank of Russia refinancing rate. Loans were distributed by 12 banks which won the tender at the end of 1997. However, five banks distributed 86 per cent of actually extended credits and two-thirds of local administrations co-operated with one or two banks only. Thus, competition among banks which had been the main objective of the tender in 1997 was not achieved. Moreover, due to the high indebtedness of the agricultural enterprises, the banks extended the loans not directly to farms but to processors, procurement agencies, input suppliers or even to the local administrations. As a result, according to surveys in several provinces, farms got only between 12 and 30 per cent of the total amount of loans actually extended. The repayment of 1998 loans was slow with only a third of the total repaid by the end of the year.

Following the outbreak of the crisis, the practice of imposing administrative barriers on interregional trade combined with price and mark-up controls on food products became widespread. Cereals are the product most regulated by regional authorities. This has contributed to the fall in cereal prices by the end of the year despite very low output in 1998. In February-March 1999, the government announced several policy measures, including the "Resolution on Pricing Policy in Agro-industrial Production" which, if implemented, would mean stronger administrative control over the agro-food sector in Russia.

Between 1994 and 1997, in Russia there was a substantial increase in the level of support measured by the Producer Support Estimates (PSEs) to 32 per cent in 1997. This reflected the strong real appreciation of the Rouble, particularly in 1994, the repeal of export taxes and the introduction of border protection against imports of many agricultural products. In 1998, as a result of the strong devaluation of the Rou-

ble in August 1998, substantial cuts on budgetary support for agriculture and some reduction in charges on food imports (see below), the PSEs fell to 19 per cent, compared to the OECD average of 37 per cent.

International policy environment

Just before the crisis, the Russian government introduced new border measures which included an additional 3 per cent import tax on food imports charged in excess of the effective import duties. Moreover, additional charges on imports of sugar from non-NIS countries were introduced.

Following the crisis, in order to avoid sharp increases in food prices and to secure food reserves, the government temporarily reduced charges on food imports, asked for food aid and engaged in barter arrangements with several neighbouring countries. In the second half of October 1998 the government decided to repeal the extra 3 per cent duty on imports; temporarily reduce VAT on imports of all principal agro-food products (from 20 to 10 per cent); and temporarily cut import duties by 5 percentage points on selected unprocessed or semi-processed agricultural products.

In December 1998 food aid deals were agreed with the US and the EU. The US will give Russia a donation of 1.5 million tonnes of US wheat and of 100 000 tonnes of other foodstuffs. Moreover, a credit line of US$600 million has been agreed to buy 1.5 million tonnes of US food products. The EU will grant grain, meat and dairy aid valued at ECU400 million, including 1.55 million tonnes of grains, 250 000 tonnes of meat, and 50 000 tonnes of milk powder. Moreover, Ukraine, Belarus and Moldova proposed food shipments to Russia in exchange for clearance of payments arrears for Russian energy.

Assessment and outlook

Russia's GDP is predicted to fall again and the rate of inflation to remain high in 1999 before some improvements appear in 2000. High potential for instability exists, but prospects for 1999 and the medium term depend on the government's policy choices. However, developments in the first four months of 1999 suggest that responsible financial policies will prevail, providing the basis for achieving some degree of stability in 1999.

The Rouble devaluation, leading to a drastic decline in import competitiveness, will have only moderate positive impact on domestic production. So far, the devaluation has led to a faster growth in producer prices than in input prices, resulting in a lessening of the cost-price squeeze for agricultural producers, but it is rather unlikely that this trend will continue in 1999. The financial crisis contributed to a jump in interest rates, the reduction in budgetary resources available for state support, and the re-establishment of administrative barriers on interregional trade. In addition, food aid will partly close the gap between the supply and demand and may have a dumping effect on producer prices. Moreover, the reliance of the urban economies in Russia on food imports has tended to separate them from regions. This makes the process of building domestic marketing links more lengthy. Altogether, these factors dilute the positive impact of the devaluation on producers, and it does not seem that the overall conditions could induce a sustainable recovery in domestic agricultural production in 1999. Livestock production will be negatively affected by the insufficient availability of feed grains, but there is some anecdotal evidence, supported by substantial rises in farm gate prices for the majority of the livestock products, that cuts on imports have caused domestic meat processors to seek local suppliers. Moreover, some increase may take place in crop production, but from exceptionally low levels in 1998 affected by the disastrous drought.

OECD 1999

I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	347.7	429.6	447.0
Gross agricultural product (US$ billions)	24.7	29.6	33.6
Gross domestic investment/GDP (%)	22.5	22.6	21.9
Population (millions)	148.2	147.7	147.1
GNP per capita (US$)	2 270	2 390	2 680
Share in GDP (%)			
Agriculture	7.6	7.3	7.2
Industry	43.4	39.1	36.7
Services	49.0	53.6	55.3
Population in rural area (% of total population)	27.0	26.9	26.9
Employment in agriculture (% of total employment)	14.7	14.0	13.3
Gender structure of agricultural employment (%)			
Male	62.0	66.0	66.0
Female	38.0	34.0	34.0
Agro-food exports (% of total exports)	3.3	3.7	2.9
Agro-food imports (% of total imports)	28.2	25.0	26.3
Consumption			
Private consumption/cap. (annual growth %)	–0.5	11.8	3.5
Share of household income spent on food (%)	49	50	46

Domestic prices (% change from previous year)

	1995	1996	1997
Implicit GDP deflator	170.7	43.8	16.6
Consumer price index	131.0	22.0	11.0
Agricultural commodity price index	230.0	44.0	9.0
Food price inflation	120.0	18.0	9.0

ESTIMATES OF SUPPORT TO AGRICULTURE

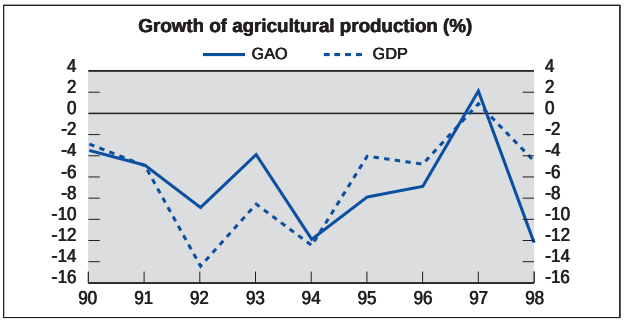
	1996	1997	1998
Producer Support Estimate (%)	26	32	19
Consumer Support Estimate (%)	–17	–31	–9
Total Support Estimate as a share of GDP	3.1	3.9	2.0

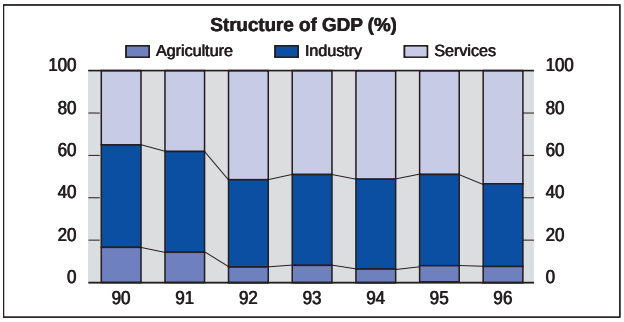
NATURAL RESOURCES AND ENVIRONMENT

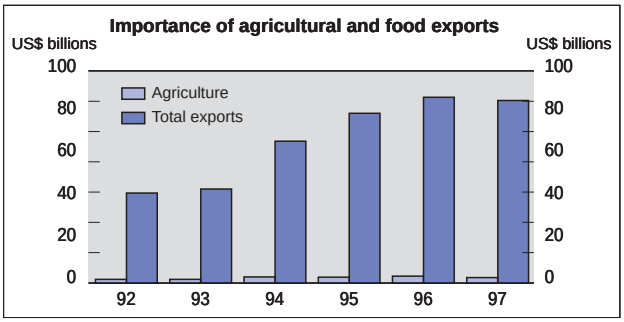
	1995	1996	1997
Total land (millions ha)	1 707.5	1 707.5	1 707.5
Agricultural land (millions ha)	209.6	208.4	206.2
Forestry (millions ha)	766.9	767.3	..
Arable land per capita (ha)	0.9	0.9	0.8
Water use (billion cu. m)	86.6	81.7	81.3
Agriculture (%)	19	19	17

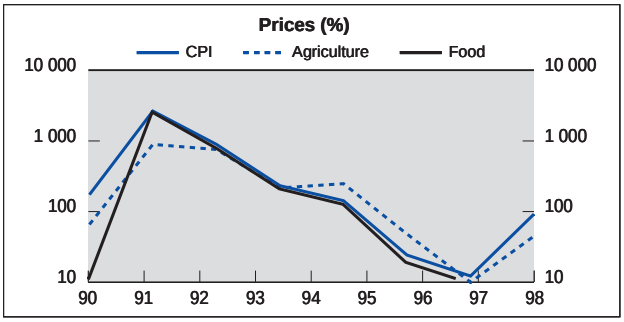
CAPITAL INFLOWS

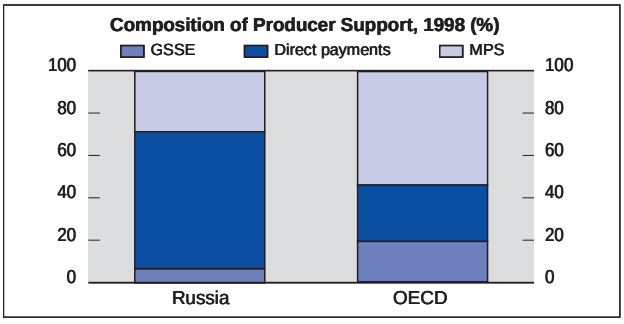
	1995	1996	1997
Foreign Direct Investment (millions US$)	2 017	2 479	6 241
Portfolio Investment (millions US$)	–1 622	9 744	17 240
Net aid flows (millions US$)	1 612.9	1 245.8	719.0











II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

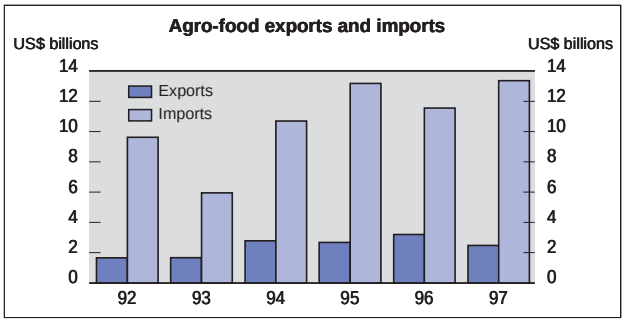
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	80 067	87 629	86 078
Agriculture and food exports	2 673	3 202	2 475
Non agricultural	77 394	84 427	83 603
Total imports (cif)	46 710	46 355	52 919
Agriculture and food imports	13 182	11 558	13 363
Non agricultural	33 528	34 797	39 556

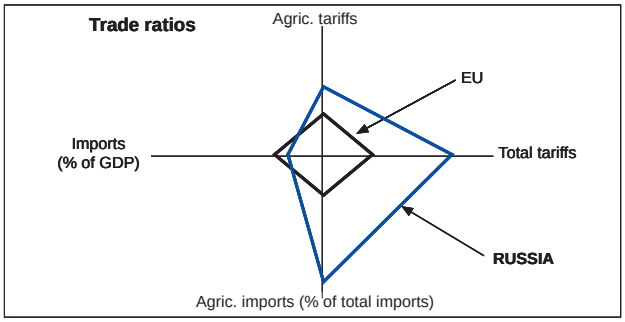
1998 Tariff barriers	Range	Average	Deviation	Mode
Total	[0 100]	12.6		
Agriculture	[0 100]	11.0	5.2	5.0
Animal products (including. live)	[0 30]	11.7	4.7	..
Vegetable products	[0 25]	9.4	3.0	..
Animal and vegetable fats	[0 15]	7.8	3.8	..
Processed food (including tobacco)	[0 100]	13.9	6.4	..

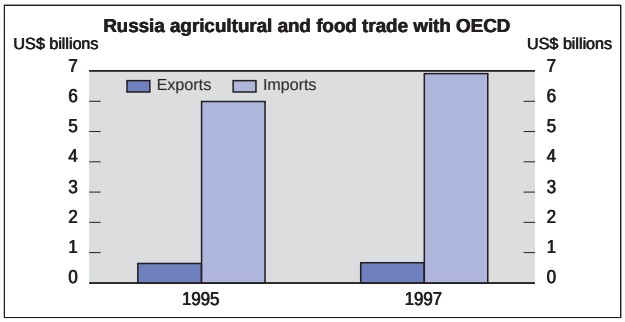
Regional trade blocks	1995	1996	1997
	Per cent		
Agricultural and food exports			
To OECD	48	52	47
To CEECs	16	13	21
To NIS	27	29	26
To others	9	10	9
Agricultural and food imports			
From OECD	46	47	55
From CEECs	13	8	10
From NIS	25	30	21
From others	15	20	22

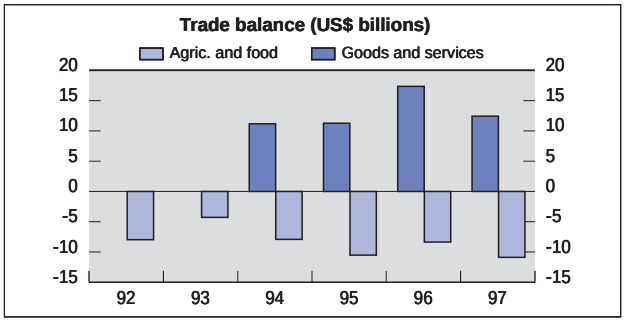
BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	93 184	103 511	102 825
Imports of goods and services	81 917	86 155	90 386
Resource balance	11 267	17 356	12 439
Balance of agro-food trade	–10 509	–8 356	–10 888
Current account balance	9 978	11 400	3 336









OECD 1999

THE SLOVAK REPUBLIC

Macroeconomic situation

The economic situation in the Slovak Republic became increasingly precarious in 1998, although this was not fully reflected in summary economic indicators. Real GDP grew by 4.4 per cent, while inflation was kept to 5.6 per cent – a low figure by regional standards. Since 1995, real income growth has been underpinned by large-scale public investment in infrastructure. Although this strategy worked temporarily, it did so at the expense of spiralling government and current account deficits. In 1998, the government's deficit accounted for 4.0 per cent of GDP, while the current account deficit reached 10 per cent of GDP.

In October, the government yielded to exchange rate pressure. The koruna had been fixed at a weighted average of the US dollar and the deutsche mark (the weights being 40 per cent and 60 per cent respectively) and allowed to fluctuate within +/–7 per cent of this rate. In practice, the exchange rate was kept within a much tighter band. The decision to float the currency led to depreciations against the deutsche mark and the Czech koruna. Foreign creditors' unease over the pace of expansion also led to a downgrading of the Slovak debt rating on international markets.

Although investment accounted for 40 per cent of GDP – a rate not paralleled in any other transition economies – little of this was devoted to plant or export-orientated industries. Such crowding out has undermined the economy's capacity to sustain the rates of growth necessary to pay off an accumulated debt that now stands at 30 per cent of GDP.

The balance of payments situation would have been worse but for an improvement in the Slovak Republic's terms of trade. Manufactured products tended to command higher prices while the cost of imported fuel and raw materials fell. The growth in merchandise exports (17 per cent in dollar terms) was nevertheless slightly outpaced by increases in merchandise imports (19 per cent).

There was a significant change in the pattern of trade, with exports to the Czech Republic falling by an estimated 10 per cent and exports to Russia, the rest of the CIS and to other CEFTA countries all down. Against this, exports to the EU rose by 38 per cent, thereby accounting for 56 per cent of all Slovak exports.

Recognising the importance of structural reforms, the incoming government announced measures to make bankruptcy procedures more effective and began to prepare for privatisation of part of the state-owned banking sector.

Unemployment has failed to respond to high growth rates, and, at 15.6 per cent, remains significantly higher than the levels recorded in neighbouring countries. The upward trend apparent since the end of 1996 is likely to continue as subsidies to loss-making firms are curtailed.

Agricultural and agro-food situation

Cereal production was more or less flat in 1998, as a 4.4 per cent increase in sown acreage was largely offset by a 3.9 per cent decline in yields. The decline in yields was largely attributable to poor weather. On balance, the output of agricultural products fell. Production of maize, sugar beets and potatoes were all down, although there was a large increase in the output of sunflower, which rose by 57 per cent. The output of animal products was more uneven. Production of both beef and pork fell, while poultry and milk production rose. The latter resulted from an 11 per cent improvement in yields, with herd numbers actually down on 1997. The overall result of these impacts was a 3.1 per cent decline in GAO.

On average, agricultural prices were down by 5.6 per cent, with the declines being sharper for crops (11.8 per cent) than for animal products (2.5 per cent). The substantial increase in acreage sown to cereals suggests that price expectations at planting time were excessively bullish. With continued growth in other sectors, agriculture's overall contribution to the economy declined to 4.0 per cent. This contrasts with a share of 6.6 per cent in 1993.

The demand for agricultural products declined slightly in 1998. Consumption of food commodities showed little change, but there were significant drops in the demand for feed-wheat and sugar used for industrial purposes. With output down and demand flat, the Slovak Republic's balance of trade for agricultural and food products deteriorated again in 1998. The net balance in agro-food trade has been negative in each year

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since the Slovak Republic became an independent republic in 1993. The fall in the koruna increased the import bill, so that a 3 per cent swing in volume translated into a 20 per cent change in koruna terms. With time, the response of supply and demand quantities to a lower exchange rate should counteract this effect.

Exports of cereals at 460 000 tonnes were their highest since 1995, while sugar exports reached an all-time high of 56 000 tonnes. The collapse in vegetable exports continued, with just 91 000 tonnes being exported, compared with 1.7 million tonnes in 1995. The overall increase in exports was offset by higher imports of live animals and meat, which increased from 5 800 to 21 500 tonnes (measured according to carcass weight). This figure, another historical high, was boosted by inflows of subsidised EU pork in the second half of the year.

The Slovak Republic's trade in food and agricultural products is dominated by the Czech Republic, other members of CEFTA and the EU. In 1998, the Czech Republic took 40 per cent of Slovakian exports, while the rest of CEFTA and the EU each accounted for 20 per cent. By contrast the respective shares of Slovakian imports were 33 per cent, 9 per cent and 38 per cent. The tendency for the Slovak Republic to have surpluses with CEFTA countries and deficits with the EU was reinforced in 1998 by increased import demand from the CEECs, together with restrictions on cereal and sugar exports into the EU. The country's net trade balance with the EU deteriorated sharply, with agricultural exports up 3 per cent and agricultural imports down 12 per cent. This pattern contrasts starkly with developments in the aggregate trade pattern. Exports to the NIS, which had grown for four consecutive years, fell by 62 per cent in the wake of the Russian economic crisis.

Structural adjustment policies

The privatisation of state enterprises in the agro-food sector is more or less complete. Although the incoming government decided to revisit some controversial privatisations, following revelations that a number of sales were made at prices below book value, few of these cases are likely to be within the agro-food sector.

The establishment of a viable private sector is proving more difficult to accomplish. In general, the privatised state farms and agribusiness companies have broken down into smaller private farms and agribusiness companies. The proliferation of smaller technical support companies has been especially notable. The process of restructuring co-operatives has been accomplished by transforming property certificates into tradable equity shares. By 1998, this had been done for more than half of co-operatives, although only 5 per cent of these shares had been traded.

Restructuring of the farm sector has involved the liquidation of a number of state farms. An amendment to the bankruptcy law was passed in 1998. The intention of this amendment was to speed up the process of restructuring by forcing insolvent companies to file for bankruptcy and by simplifying the process of dispute settlement. However, state banks are reluctant to initiate bankruptcy proceedings and the speed of reform is constrained by the limited capacity of the courts.

Although co-operative farms continue to dominate Slovak agriculture, both in terms of output and acreage, the number of active co-operatives declined by 15 per cent between 1995 and 1998. The average size of co-operative increased by 2 per cent over the same period, suggesting that the downsizing induced by privatisation is now beginning to be offset by mergers and take-overs of collapsed co-operatives. By the end of 1998, an estimated 23 per cent of all agricultural co-operatives were no longer active, so the actual scale of profitable operations is difficult to infer. Commercial enterprises, which already dominate the food and agricultural service sectors, account for 40 per cent of all farms and are responsible for an increasing share of area and production.

Farmers' usual difficulties in obtaining credit were compounded by the effects of macroeconomic stabilisation, which pushed commercial interest rates above rates of return to agriculture. The State Support Fund of Agriculture and the Food Industry provided the majority of finance, disbursing SK 1.9 billion in loans to the agro-food sector at subsidised interest rates.

Domestic support policies

The majority of market support is concentrated on the dairy sector. The administered price of milk was raised from SK 7.3 per litre to SK 7.75 per litre. The quality premia remained unchanged and payable within the same national quota of 900 million litres. The total value of support amounted to 911 million SK – a 1.4 per cent increase on 1997 levels. The export subsidy required to sell surplus dairy products on the world market was SK 293 million, representing two-thirds of all export subsidies.

The basic mechanisms of support for other sectors remained unchanged in 1998. These consist of intervention purchases by the State Market Regulation Fund (SMRF). In some cases (wheat, cattle and hogs) these operate in the form of a commitment by

the SMRF to buy at a specified intervention price; although in most cases the government simply supports prices through ad hoc purchases.

With lower world prices for most agricultural commodities, the export subsidies implied by a sustained rate of government intervention have increased. In the case of beef, 4 300 tonnes of exports were subsidised in 1998, compared with 1 500 tonnes in 1997. The total value of the refund was SK 37.5 million, compared with 13.3 m SK in 1997.

Direct budgetary outlays were reduced by 2 per cent to SK 8.36 billion. Most of the cuts came from the bigger items. Least Favoured Area (LFA) payments, which account for 37 per cent of all outlays were reduced by 6 per cent; input subsidies (17 per cent share) were cut by 5 per cent and investment in agricultural plant and machinery was cut by 4 per cent. Payments for a number of smaller items (including irrigation, environmental services and animal health) increased.

A new grain storage and trading regime was established based on the US system of warehouse receipts. The principal aims of the scheme are that it serves as collateral for the receipt of credit, and lubricates the market by establishing a strategic level of reserves and improving stability. However, banks remain reluctant to accept warehouse receipts in return for credit, mainly because of concerns that prices may decline in the future. The government has responded by subsidising banks' interest rates on loans based on these receipts.

The Slovak Republic's PSE increased to 23 per cent, compared with 14 per cent in 1997. With policy mechanisms basically unchanged, most of this increase came from a much bigger wedge between domestic farm prices and international prices, which fell sharply. Input subsidies were more or less unchanged, but the increase in overall support meant that they accounted for 30 per cent of the PSE, compared with 50 per cent in 1997. The increase in transfers from consumers was reflected in a sharp change in the CSE, which reached –9 per cent, compared with +1 per cent in 1997.

International policy environment

In 1998, the Slovak Republic continued to broker regional trade deals. Having signed free trade agreements with Israel and the three Baltic countries in 1997, it added agreements with Bulgaria and Turkey and opened negotiations with Morocco in 1998.

The scope of CEFTA has been expanded gradually since its inception in 1994. Approximately 80 per cent of the Slovak Republic's agro-food trade with CEFTA countries is conducted within the terms of the agreement. In a number of controversial cases, however, bilateral deals have been used to circumvent the agreement. In 1998, restrictions were imposed on cheap wheat imports from Hungary. By way of compensation, the Slovak government increased Hungary's wine quota and offered a preferential tariff.

Trade with the Czech Republic, which is governed by a customs union, was also impeded in some areas. Notably, quotas were retained of imports of beer and soft drinks from the Czech Republic. In 1998, the customs union's governing council monitored trade in a number of so-called "sensitive" products, notably processed foods, but compromises (including agreements between producers from both countries) meant that no formal sanctions were imposed.

In the long-term, the Slovak Republic's trading relationships are likely to be governed increasingly by its links with the EU. Politically, the new government enjoys warmer relations than the previous administration. This improvement may lead to some acceleration of the process of accession to the Union.

Assessment and outlook

In 1998, the performance of the Slovak Republic's agricultural sector was determined chiefly by sector-specific factors. The value of agricultural output contracted by 0.5 per cent mainly because of weak crop prices and poor yields, the effect being mitigated by increased plantings before the onset of major price declines. In 1999, the sector's performance is likely to be conditioned to a greater extent by macroeconomic circumstances. GDP growth is expected to weaken as the government tackles the twin government and foreign deficits. This is likely to stifle demand, although, as this year's data demonstrate, food expenditures are not generally responsive to income changes.

The bigger impacts are likely to come on the supply side. Export opportunities should improve as the koruna, freed from its links to the deutsche mark and the dollar, depreciates in line with pressures from the foreign exchange market. At the same time, however, input prices are likely to rise in local currency terms, pushing up farmers' costs. There is also a danger that farm incomes could be adversely affected by the inflationary consequences of devaluation.

Much will depend on the government's response to these circumstances. The new government has pledged to reduce the fiscal deficit to 2 per cent of GDP. This commitment is likely to require a contraction of farm level support in real terms. If banks reduce liquidity in the agricultural sector by carrying out their threats to reclaim outstanding farm debt, or

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if agriculture's terms of trade continue to deteriorate, then the demands for more support are likely to be substantial. Unfortunately, the costs to farmers of fiscal restraint are immediate, whereas the benefits are likely to be more long-term in nature. Aside from the broader gains from macroeconomic stability, the agricultural sector stands to benefit from an accelerated restructuring of loss-making farm co-operatives. A more stable agricultural environment might also attract much needed foreign investment.

I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	17.4	18.8	19.5
Gross agricultural product (US$ millions)	968.7	972.4	941.8
Gross domestic investment/GDP (%)	28.4	33.4	35.5
Population (millions)	5.36	5.37	5.38
GNP per capita (US$)	2 940	3 390	3 680
Share in GDP (%)			
Agriculture	5.1	4.7	4.4
Industry	37.3	35.3	34.3
Services	57.6	60.0	61.7
Population in rural area (% of total population)	41.2	40.8	40.3
Employment in agriculture (% of total employment)	9.4	9.0	8.9
Gender structure of agricultural employment (%)			
Male	63.6	68.0	66.0
Female	36.4	32.0	34.0
Agro-food exports (% of total exports)	6.3	4.8	5.0
Agro-food imports (% of total imports)	8.5	7.4	8.1
Consumption			
Private consumption/cap. (annual growth %)	3.7	6.9	..
Share of household income spent on food (%)	37	37	37

Domestic prices (% change from previous year)

	1995	1996	1997
Implicit GDP deflator	9.7	4.5	6.7
Consumer price index	7.2	5.4	6.4
Agricultural commodity price index	3.0	5.0	6.0
Food price inflation	12.0	4.0	3.0

ESTIMATES OF SUPPORT TO AGRICULTURE

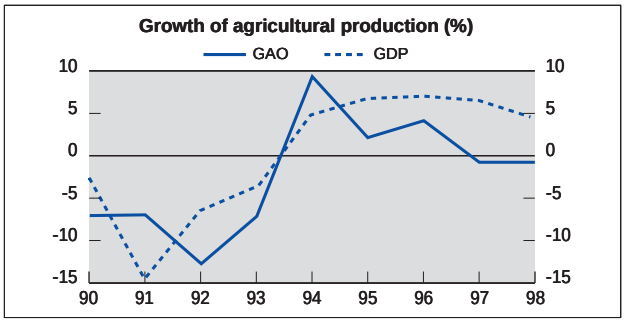
	1996	1997	1998
Producer Support Estimate (%)	11	14	23
Consumer Support Estimate (%)	2	1	–9
Total Support Estimate as a share of GDP (%)	1.6	1.8	2.5

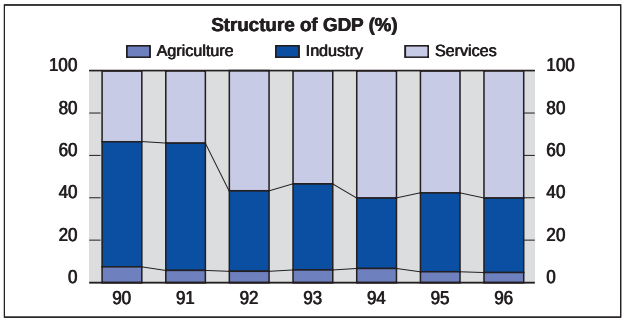
NATURAL RESOURCES AND ENVIRONMENT

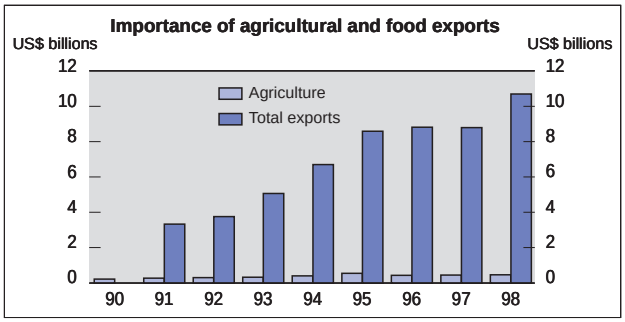
	1995	1996	1997
Total land (millions ha)	4.9	4.9	4.9
Agricultural land (millions ha)	2.4	2.4	2.4
Forestry (millions ha)	1.9	1.9	1.9
Arable land per capita (ha)	0.3	0.3	0.3
Water use (billion cu. m)	531.4	490.3	464.3
Agriculture (%)	3.1	3.2	3.2

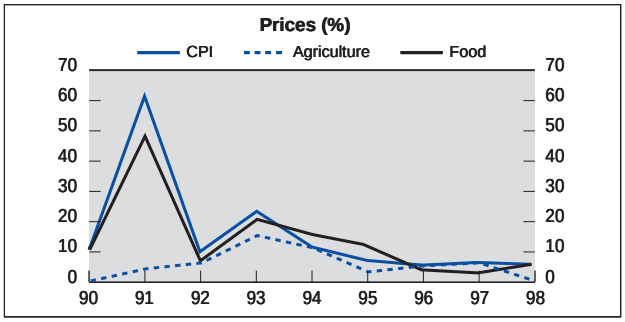
CAPITAL INFLOWS

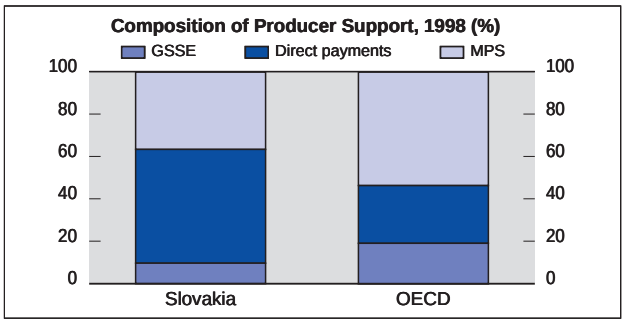
	1995	1996	1997
Foreign Direct Investment (millions US$)	183	281	165
Portfolio Investment (millions US$)	210	17	13
Net aid flows (millions US$)	98.4	145.3	67.4











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II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

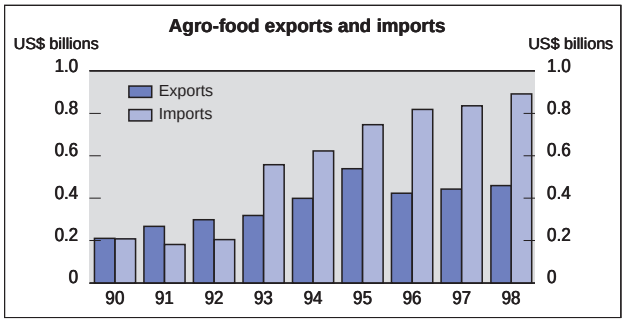
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	8 589	8 845	9 185
Food	516	408	208
Agricultural raw materials	..	..	244
Non agricultural	8 073	8 437	9 185
Total imports (cif)	8 781	11 141	11 671
Food	719	812	462
Agricultural raw materials	..	..	385
Non agricultural	8 162	10 329	10 826

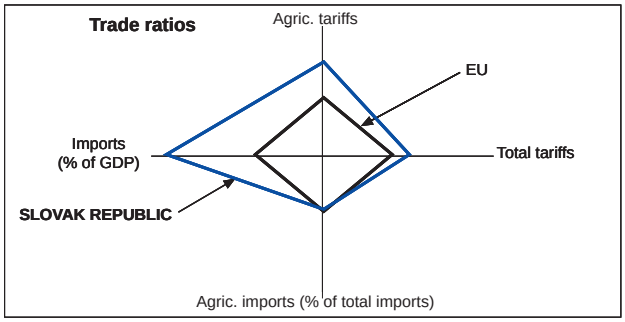
1998 Tariff barriers	Range	Average	Deviation	Mode
Total		6.00		
Agriculture	[0 168.1]	10.73	12.52	0
Animal products (including. live)	[0 168.1]	15.69	16.71	0
Vegetable products	[0 22.0]	6.14	7.19	0
Animal and vegetable fats	[0 38.7]	7.05	7.61	0
Processed food (including tobacco)	[0 82.8]	17.61	16.70	0

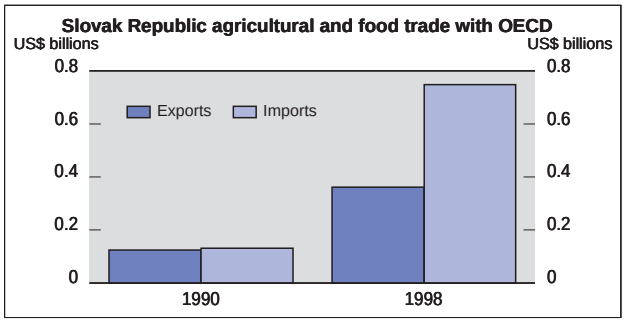
Regional trade blocks	1991	1993	1994	1995	1996	1997	1998
				Per cent			
Agricultural and food exports							
To OECD	47	23	18	20	18	22	20
To CEECs	35	57	61	57	56	51	61
To NIS	4	13	14	15	18	20	11
To others	14	7	7	8	7	7	7
Agricultural and food imports							
From OECD	48	35	37	38	40	40	41
From CEECs	24	51	43	43	43	40	43
From NIS	9	1	1	1	1	4	0
From others	18	14	19	18	17	16	15

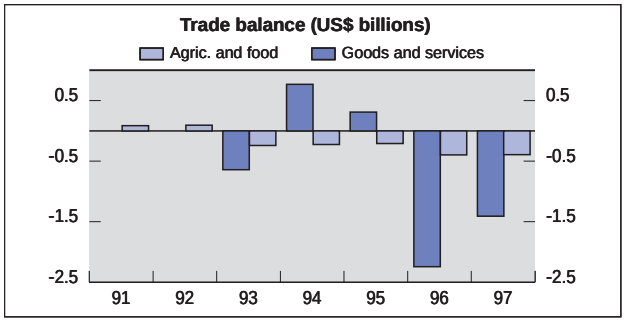
BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	10 969	10 890	10 958
Imports of goods and services	10 658	13 133	12 366
Resource balance	311	–2 243	–1 408
Balance of agro-food trade	–209	–396	–393
Current account balance	390	–2 090	–1 359









SLOVENIA

Macroeconomic situation

Real GDP grew by 4 per cent in 1998 largely on the basis of a substantial recovery in machinery and transport equipment production, Slovenia's leading export sectors. After a 3-year stagnation, merchandise exports have gone up by 8.4 per cent in dollar terms, reflecting the sizeable increase in demand from major EU trade partners. Thus, despite even more dynamic growth in imports (by 10.4 per cent), the merchandise trade deficit remained at about the same level as in 1997, amounting to US$772 million. A surplus in services balanced the negative merchandise trade balance, leaving the current account with a minor deficit of US$6 million.

The tolar, weakened in the first quarter of 1998, steadily strengthened against the US$ throughout the rest of the year.

Increases in government-controlled prices and taxes largely contributed to inflation in 1998, which nevertheless slowed substantially through the second half of the year. The tolar appreciation, wage rise restrictions and increased import competition had a dampening impact on domestic prices. This helped to hold inflation within the government's initial target, with the consumer prices rising by 6.5 per cent by the end of the year.

Interest rates were substantially reduced, leading to an increase in investment in fixed capital and improved prospects for long-term growth, particularly in the industrial sector. Supporting this, imports of capital goods grew rapidly in 1998, at rates far outpacing the increase in imports of intermediate and consumer goods. The inflow of FDI, nevertheless, was low, reflecting the diminished trust of potential investors in emerging markets.

Slovenia's economic policy was largely shaped by the preparations for entry to the European Union. In March 1998, accession negotiations started and on 1 February 1999 the European Agreement came into force replacing the previous Interim Agreement between Slovenia and the European Union.

Agricultural and agro-food situation

In 1998, Slovenian agriculture contributed about 3.6 per cent to the GDP and 5.6 per cent to total employment, both shares declining slightly over the last decade. About 55 per cent of GAO is generated in the livestock sector, and 45 per cent in the crop sector.

Due to a substantial revision of the statistical series in Slovenia, the information on the performance of agricultural sector in 1998 is delayed. However, preliminary estimates indicate a growth in GAO. Grain output increased by 2.5 per cent, owing to good crops of wheat and rye, and sugar beet output grew by 34.3 per cent. Continued recovery in poultry production also contributed to the upward move in GAO.

However, the general economic situation of the sector has worsened, mainly reflecting the slow progress in structural reform and in adjustment to the growing competition on domestic and external markets. The cost-price squeeze likely worsened in 1998, particularly in feed grain, grape and fruit production. Depressed markets for pork, maize and wine induced serious financial setbacks in these sectors. The situation in milk, wheat and sugar beet production was somewhat more favourable, but this was largely due to significant state support.

Structural adjustment policies

Of the 130 643 hectares of Slovenia's utilised agricultural area claimed for restitution, 36 475 hectares (about 28 per cent of the claimed area) had been returned by 1 April 1999. Over 80 per cent of this land was returned physically, while the remainder was restituted in the form of shares of the various enterprises. Until 1998, two important categories of land were exempt from this process.

The first one was the land to be returned to large landowners (over 200 hectares). A 3-year moratorium on restitution of such parcels expired at end of 1998. The National Assembly attempted to replace this moratorium with a complete ban on the return of large "feudal" holdings, and included this provision in the new Law on Changes and Amendments to the Restitution Law. After long hearings, the provision was eventually repealed by the Constitutional Court, thus allowing for the return of land to large landowners.

The second category of land previously exempted from restitution was land cultivated by agricultural companies. A 7-year moratorium on the return of this land expired at the end of 1998. The agricultural companies are required to give up around 40 per cent of their cultivated agricultural land, now formally under the management of the Fund of Agricultural Land and

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Forests (FALF), established in 1993 to administer the previous "social" land assets and to implement restitution. It is difficult to predict how actively FALF will carry out restitution of this land, but agricultural companies will probably try to defend their investments in the land, meaning that this process will become involved in long court procedures.

An important change introduced in the restitution procedures in 1998 is expected to speed up the process. The original legislation prohibited the partial return of individual parcels that were parts of large fields. Only the whole field could be restituted to all possible claimants, who had to agree to become "co-owners" of this land. This substantially impeded land restitution. Parts of large fields can now be returned to individual owners.

The Slovenian farm structure continues to be dominated by over 90 thousand small and mostly part-time private farms that own or lease about 92 per cent of agricultural land, and account for about three quarters of total agricultural output. About 219 agricultural companies (former "social sector farms") operate the remaining 8 per cent of agricultural land, but produce about one quarter of the total agricultural output. Privatisation of their non-land assets that started in 1993 involved the distribution of the majority of stocks among employees. By the end of 1998, the privatisation of former "social sector farms" was completed and most of them were transformed into joint-stock companies. Nevertheless, the continuing privatisation process and uncertainties over the status of the land (due to the ongoing restitution) impeded the longer-term adjustment of these farms. Their investment activity has been weak and the profits generated are spent primarily for consumption.

The privatisation of the downstream sector was nearly completed in 1998. Out of 70 downstream enterprises assigned for privatisation in 1992, privatisation of 66 has been completed, two were liquidated, and only one bread making enterprise and one non-alcoholic beverage plant were not privatised.

Domestic support policies

The Slovenian government has continued to fix producer prices for wheat combining this with controls over flour prices. The Commodity Reserve Fund (CRF), previously the sole agency buying and selling wheat on the domestic and foreign markets, implements this policy. However, in 1997 this monopoly was split and commercial mills were allowed to import wheat independently. Prices continued to be fixed also for sugar beet and white sugar. In the milk sector, price regulation was limited in 1998 to assuring a basic producer price, with consumer price controls no longer applied. Prices for other products (livestock and meat, permanent crops and vegetables, other grains) are free from controls.

The price supports and strong border protection have ensured traditionally high levels of producer prices in Slovenia, comparable with those of the European Union. In 1998, Slovenian price support policies had to absorb a number of shocks affecting domestic markets. The wheat market was flooded with cheap imports following the introduction of new CEFTA tariffs. Domestic millers that were allowed to buy grain from alternative sources practically stopped purchases of domestic wheat from the CRF. A good crop forecast and large carryover stocks in the CRF exerted additional pressure. Finally, in June 1998, the newly introduced wheat tariff (15 per cent) for trade within the CEFTA was replaced by the previously applied tariff of 4.9 per cent with a special levy of ECU 89 per tonne, and further wheat imports (particularly from Hungary), were blocked. In order to ease the effects of increased maize inflows (particularly from Hungary) on domestic producers, a deficiency payment of US$19 per tonne was introduced for maize.

The situation on domestic markets was also complicated by the increased activity of EU exporters seeking alternative options to compensate for the partial loss of the Russian markets. As a result, for the first time since 1990, the government had to resort to intervention purchases of pigs. An intervention purchase of wine was also effected in 1998 as a way to reduce the accumulation of surpluses.

The amount of direct budgetary support provided to agriculture in Slovenia has grown. The total agricultural budget support through MAFF and other ministries had nearly doubled since 1993, reaching US$164 million in 1998. This is expected to increase further by 13 per cent in nominal terms in 1999. Over the last years the largest share of the agricultural budget was spent on general services (nearly 25 per cent), supplementary payments for agricultural production in less-favoured areas (over 15 per cent), input subsidies, social insurance support, and export subsidies (each accounting for about 10 per cent). Since independence, the composition of support has shifted more towards structural policies (support of less-favoured areas, the rural development program CRPOV, and the provision of general services), while the importance of input subsidies has declined. This trend reflects the intention to transform domestic policies in line with the CAP reform principles.

In October 1998, the Slovenian government adopted the Programme of Agricultural Policy Reform in Slovenia (1999-2002). This addresses the most sensitive agricultural issues as they are seen by the Slovenian government (low agricultural productivity and incomes, loss of agricultural land, and a lack of international competitiveness) and at the same time serves as a framework for the harmonisation of domestic and EU policies. The basic reform proposals are established as the following four pillars. The market and price policy "pillar" will provide for the gradual reduction of trade protection and price regulation, including *i)* the break-up of the state monopoly in the bread cereals market; *ii)* a partial liberalisation of the milk and dairy products market; and *iii)* the establishment of intervention mechanisms compatible with those applied in the EU. The Programme for Environmental and Landscape Assistance for Agriculture will introduce various decoupled per hectare payments, which are mainly consistent with the CAP environmental and less favoured area support programmes. The Agro-Food Modernisation Programme contains measures for the improvement of efficiency and competitiveness of Slovenian food industry, particularly in EU markets. The Rural Development Programme foresees the transformation of various ongoing rural development projects into an integrated rural development programme based on an EU-comparable approach.

International policy environment

After the peak of agro-food imports in 1995, a traditionally negative Slovenian agro-food trade balance has been steadily reduced, due to a decline in the value of imports as well as an upward trend in the value of exports. The latter reflects partly a structural shift to higher value-added products. The agro-food trade deficit shrank by about 10 per cent in 1998, largely owing to an increase in EU exports. The European Union and countries of the former Yugoslavia continue to be Slovenia's main trading partners accounting for over 85 per cent of its agro-food exports and more than 60 per cent of agro-food imports.

On 1 April 1998, the CEFTA agreement came into effect, introducing duty-free and quota-free trade in breeding animals, durum wheat, oilseeds, sheep and goats, and also reciprocal preferential tariffs for wheat, barley, flour, pastry, poultrymeat and selected vegetables and fruits.

Advances in the formal procedure of Slovenia's accession to the European Union imply a speed-up in the harmonisation of the Slovenian foreign trade regime. Slovenia also maintained intensive economic relations with the countries that emerged on the territory of the former Yugoslavia, with which the European Union has no special trade agreements. In its accession negotiations with the European Union, Slovenia requested a ten-year transition period with regard to the trade regime with these countries.

Assessment and outlook

Slovenia has made substantial progress in market liberalisation and privatisation. Successful macroeconomic stabilisation has ensured a favourable environment for sustained economic growth. Future development will be largely determined by the EU integration process, with the EU markets serving as one of the major driving forces for the Slovenian economy. Nevertheless, with the expected slowdown in economic growth of major EU partners, the rising EU demand enjoyed by Slovenia in 1998 is unlikely to continue in 1999. Moreover, the speed-up of enterprise restructuring, and the reform of the tax and pension systems as part of the Slovenia's EU accession commitments will have a restraining impact on domestic demand. Reduced macroeconomic stability together with demand constraints may affect the performance of the Slovenian economy, and the agricultural sector in particular.

In 1998, Slovenian producers experienced strong pressure from competing imports, in part due to scheduled tariff reductions. Producers' demands for more protection were temporarily met. Nevertheless, Slovenia has to follow its multiple external commitments (WTO, the EU pre-accession, the CEFTA) to limit domestic price interventions and border protection, thus increasing exposure of domestic producers to competition from international markets. Slovenia has reached the point at which reconciling its market liberalisation and agricultural income support goals has become the central policy task.

A greater effort is needed to implement policies, which improve the efficiency of domestic production and its international competitiveness. Faster structural adjustment of the agricultural sector, currently dominated by small-scale, part time farms, is of particular importance. Such changes were articulated conceptually in the 1998 policy reform proposals. However, financial constraints and the lack of an adequate institutional framework complicate their implementation.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	18.7	18.8	18.2
Gross agricultural product (US$ millions)	738.0	729.9	717.4
Gross domestic investment/GDP (%)	23.2	23.4	24.0
Population (millions)	1.99	1.99	1.99
GNP per capita (US$)	8 300	9 280	9 840
Share in GDP (%)			
Agriculture	4.0	3.9	3.7
Industry	38.5	38.5	38.9
Services	57.6	57.6	57.4
Population in rural area (% of total population)	48.7	48.4	48.2
Employment in agriculture (% of total employment)	6.4	5.8	5.6
Gender structure of agricultural employment (%)			
Male	51.1	54.7	51.4
Female	48.9	45.3	48.6
Agro-food exports (% of total exports)	5.1	5.3	5.2
Agro-food imports (% of total imports)	10.2	10.0	9.7
Consumption			
Private consumption/cap. (annual growth %)	8.8	–2.6	2.8
Share of household income spent on food (%)	23	23	23

Domestic prices (% change from previous year)

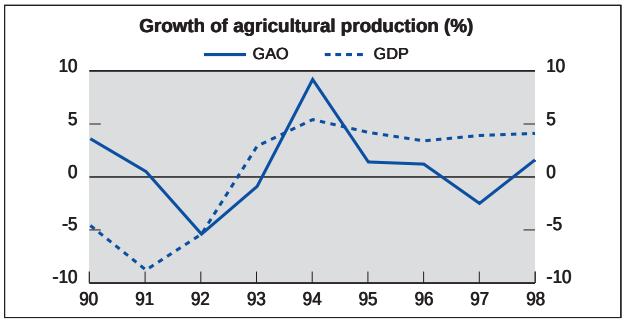
	1995	1996	1997
Implicit GDP deflator	15.2	11.5	9.7
Consumer price index	8.6	8.8	9.4
Agricultural commodity price index	13.0	11.0	7.0
Food price inflation	16.0	9.0	9.0

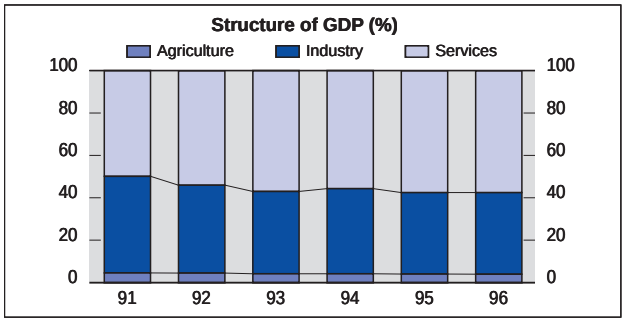
NATURAL RESOURCES AND ENVIRONMENT

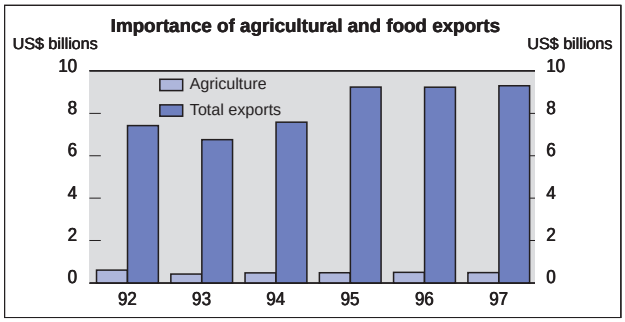
	1995	1996	1997
Total land (millions ha)	2.0	2.0	2.0
Agricultural land (millions ha)	0.8	..	..
Arable land per capita (ha)	0.1	0.1	..

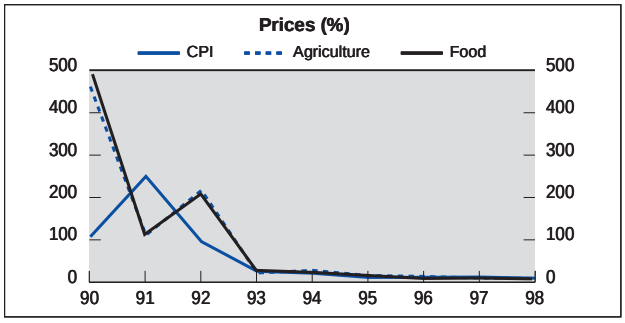
CAPITAL INFLOWS

	1995	1996	1997
Foreign Direct Investment (millions US$)	176	185	321
Portfolio Investment (millions US$)	–13	637	236
Net aid flows (millions US$)	52.6	82.1	96.8





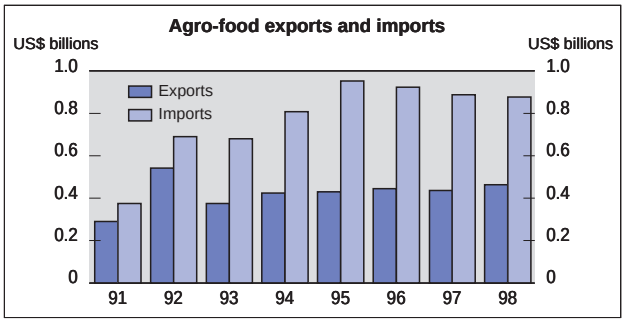




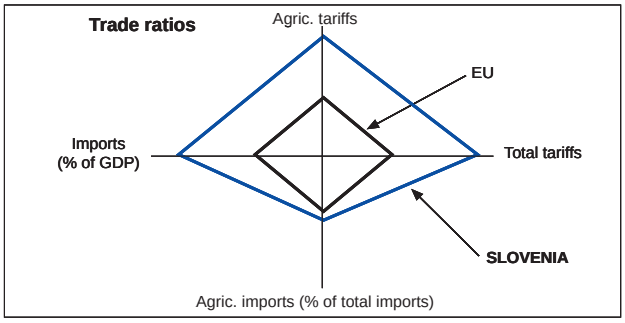
II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

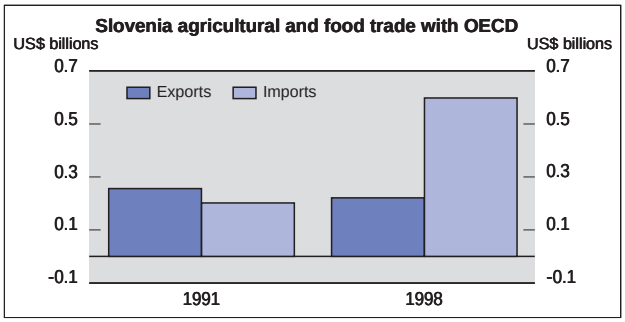
	1995	1996	1997
	(US$ millions)		
Total exports (fob)	8 316	8 312	8 372
Agriculture and food exports	430	445	436
Non agricultural	7 886	7 867	7 936
Total imports (cif)	9 492	9 423	9 357
Agriculture and food imports	953	924	888
Non agricultural	8 539	8 499	8 469



1998 Tariff barriers	Range	Average	Deviation	Mode
Total	[0-57.5]	10.8	7.53	
Agriculture	[0-57.5]	13.7	11.65	5.0
Animal products (including. live)	[0-57.6]	8.8	13.68	2.0
Vegetable products	[0-57.7]	9.3	9.89	5.0
Animal and vegetable fats	[0-27.0]	5.1	5.48	5.0
Processed food (including tobacco)	[0-57.5]	15.5	11.43	14.0

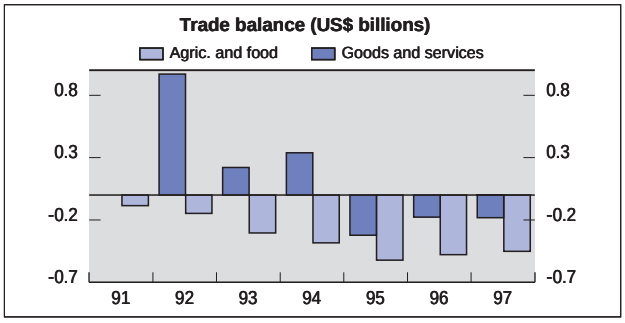


Regional trade blocks	1991	1993	1994	1995	1996	1997	1998
				Per cent			
Agricultural and food exports							
To OECD	88	48	43	42	36	39	46
To CEECs	2	2	3	3	3	3	3
To NIS	3	5	4	4	4	4	3
To others	6	45	50	51	57	53	48
Agricultural and food imports							
From OECD	54	51	57	56	54	54	57
From CEECs	13	11	13	15	14	16	13
From NIS	9	2	2	2	2	2	2
From others	24	36	28	27	29	28	28



BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	10 373	10 497	10 450
Imports of goods and services	10 697	10 675	10 631
Resource balance	–323	–177	–182
Balance of agro-food trade	–523	–479	–452
Current account balance	–23	39	37



OECD 1999

SOUTH AFRICA

Macroeconomic situation

South Africa's government inherited an economy that had gone through a long period of slow growth and stagnation due to *apartheid* and the consequent socio-economic instability. In 1994, the new government introduced a policy document called the Reconstruction and Development Programme (RDP) whose main objectives were redistribution and the provision of basic needs to all South Africans through economic growth. In 1996, a new macroeconomic strategy called GEAR (Growth, Employment and Redistribution), further articulated the broad economic objectives as the creation of a competitive, fast-growing economy to generate jobs; income redistribution with increased opportunities for the poor; and increasing productivity and social stability. An underlying concern was that the 3 per cent growth rate that had persisted in the past three years was not reversing the unemployment crisis or generating sufficient resources to expand the delivery of social services.

In the last two years, the economy has also been affected by the financial crisis in emerging economies. This was felt through the sharp depreciation of the rand. The real effective exchange rate depreciated by 8 per cent in 1996 and then recovered slightly in 1997. However, between April and August 1998 the rand depreciated sharply by 20 per cent. Although the currency has stabilised considerably, the Department of Finance fears that exchange rate volatility remains a risk in the current international financial environment.

Considerable success has been achieved in containing inflation through tight monetary policy. The consumer price index fell from 16.6 per cent in 1992 to 7.4 per cent in 1996. However, it rose to 9.9 per cent in April 1997 due to the combined effect of the depreciation of the rand and the increase in interest rates on mortgages. Nonetheless the rand depreciation had only a passing effect so that the consumer price index fell to 5 per cent in April 1998 and 5.2 per cent in June 1998.

The inability of the economy to create jobs remains one of the biggest challenges for South African policymakers. In 1994, 31.5 per cent of the South African labour force was unemployed, but the figure is higher among Black workers. By 1997 the unemployment rate had increased to 37.6 per cent. Against this backdrop, labour legislation has been introduced that aims to protect the rights of workers without discouraging labour utilisation.

A second major concern for policymakers is the inability of the economy to generate domestic savings. In the 1980s, South Africa's gross domestic saving had an average annual rate of 24.5 per cent of the GDP. This ratio decreased to 18 per cent in 1993, 17 per cent in 1996 and 15 per cent in 1998. From the middle of 1994, gross domestic saving fell short of total gross domestic investment. This has increased the economy's dependence on foreign savings.

Agricultural and agro-food situation

The contribution of primary agriculture to the GDP declined from a level of 12 per cent in 1960 to approximately 5 per cent in 1990. Since 1994, this contribution has varied between 4 and 5 per cent of GDP. This relative decline in the nominal contribution to GDP does not imply that the agricultural GDP has declined in real terms, but that there was a faster growth in other sectors. This is borne out by the fact that the average growth in total GDP at current prices was on average 3.8 per cent between 1960 and 1995 as opposed to 2.4 per cent in the case of agriculture. In 1998, the contribution of primary agriculture to the GDP amounted to R23 762 million, which represented 4.1 per cent of GDP. It should be added that with strong backward and forward linkages into the rest of the economy, the "agro-industrial" complex is thought to contribute at least 15 per cent of GDP (some calculations go much higher).

During 1998 the estimated volume of agricultural production was 4.8 per cent less than in 1997. The volume of field crop production decreased by 13 per cent compared to the previous year. Horticultural production decreased by 3 per cent, while animal production increased by 5.7 per cent.

For the year ended 31 December 1998, producer prices were on average 2.2 per cent higher than in 1997, compared to an increase of 6.6 per cent in the previous year. Field crop prices were 4.7 per cent higher, with the prices of maize and wheat decreasing by 3.7 per cent and 1.6 per cent respectively, and the prices of sugar cane, groundnuts and sunflower seed

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increasing by 2.1 per cent, 97.0 per cent and 36.0 per cent respectively. Producer prices of horticultural products were on average 8.7 per cent higher than in the previous year while producer prices of animal products were 2.3 per cent lower in 1998 than in 1997.

Net farm income decreased by 7.8 per cent during 1998 and amounted to R11 719 million. Depreciation increased by 10.5 per cent during 1998 mainly as a result of relatively high levels of investment in machinery, implements and tractors in 1996 and 1997. Payments for salaries and wages as well as interest, which represent 19.2 and 13.8 per cent of the total farm expenditure, amounted to R5 701 million and R4 097 million respectively.

South Africa is a net exporter of agricultural products. In the period 1994 to 1998 the agricultural contribution to total export values was in the order of 8 to 10 per cent. The agricultural share in total imports varied between 6 and 7 per cent during the same period. Exports exceeded the value of imports during this period by percentages which varied between 19 per cent (1995) and more than 60 per cent (1998).

Policy changes occurring since 1994 have led to changes in the production structure of the agricultural sector and significant changes to the structure of exports. Although sugar and maize have remained the two most important commodities in the last five years, the fastest growing exports are, fruits (especially oranges and grapes) and wines. The growth of high value commodity export indicates a supply response to relative prices.

The European Union remains the single most important destination for South African exports. However, African, Middle Eastern and Asian countries have become very important markets for South Africa with faster growth rates than the EU. South Africa's main suppliers of agricultural imports in recent years have been the United Kingdom, Belgium, Italy, Germany and Japan. However, these countries are gradually losing their share in South Africa's agricultural import bill to countries like Kenya, which increased its imports to South Africa by 182 per cent from an annual average of R120 million in the 1994-1996 period to R339.2 million per annum in 1998.

Structural adjustment policies

The challenge to government is to increase access to resources in rural areas, and to increase the productivity of agricultural production in the homelands. Throughout the economy there is a drive to increase employment, and agriculture has a major role to play. There is a land reform underway, and some 60 000 households have moved to new land, under an accelerating and very flexible programme that allows a government subsidy to beneficiaries in a wide variety of different schemes, including share-equity, group and individual schemes. New legislation to increase the security of tenure in the homelands is about to be released for public comment. This will affect many more households, and will allow local determination of tenure type. Many small farm households are expected to opt for individualised ownership which they can use for collateral. It is government's policy to support diversity of farm sizes and farm enterprises.

Provincial agricultural budgets have been cut in all provinces, and the country's aggregate agricultural budget has declined rapidly since 1994. In addition, most provincial agricultural departments (and many other provincial departments) have large numbers of underskilled workers, a legacy of the *apartheid* years. It is difficult to move towards a more specialised service, and to outsource service provision. Nevertheless, pilot studies are under way in each province to allow some experimentation in service provision in targeted areas, and to targeted groups.

A complementary development is the strengthening of farmers' associations, and a clearer understanding by farmers and government alike of the services farmers need. It is believed that with a firm demand from farmers for competent services, improvements in training, greater flexibility in service provision and slowly improving provincial control over personnel and budgets, the basis for major improvements is being laid, albeit slowly.

Domestic support policies

Following the first democratic elections in 1994, a new White Paper on Agriculture was approved by Parliament in 1995. This paper was a statement of broad policy principles. In order to facilitate the transformation of the sector, there was need to develop more focused policy, guided by the national vision expressed in the RDP and GEAR, which is to create conditions to effectively deal with the legacy of South Africa's history. To translate these policy principles into operational programmes, a policy reform process was initiated in 1997 to investigate agricultural policy options for government. The consultative stage of this process is now nearing completion.

Agricultural markets have been deregulated, and the subsidies that farmers previously received indirectly through the huge transfers made to control boards are no longer possible. An important element

of the deregulation process was the abolition of drought subsidies, which White farmers used to lobby very successfully for, but which had the effect of encouraging the cultivation of vulnerable crops and greater density of livestock holdings than was warranted for the variable and dry climate. Now the farmers have moved swiftly to manage risk. A futures market for crops has rapidly emerged in the private sector, and many more farmers are using insurance. However, these measures do not help small-scale farmers, for whom other measures are being examined.

International policy environment

Agricultural trade reforms have complemented the deregulation of domestic policies. South Africa completed the tariffication process for agricultural commodities in 1996 in line with its WTO commitments. The simple average tariff level was 5.6 per cent in 1998. A process of rationalising the tariff schedule was implemented in 1997 and this led to a 38 per cent decline in tariff lines. In 1997 all export subsidies for agricultural commodities were eliminated, except for sugar. Licenses and quotas are now restricted to quota administration in respect of trade agreements, and non-tariff import controls remain only for sanitary and phytosanitary measures accepted by the WTO.

In parallel to the commitments taken in the UR agreement, South Africa has been seeking greater regional integration. It is part of the Southern African Customs Union (SACU) since 1987 with its partners of Botswana, Lesotho, Namibia and Swaziland. In addition, South Africa is now a member of the Southern Africa Development Community (SADC) which is, up to now, largely a forum for co-operation in political and development matters. The government believes that balanced development in the region and a collective approach for seeking market access outside the region will benefit both its neighbours and itself. Since 1994, the country has been involved in trade negotiations within the region. The most significant is the SADC Trade Protocol. Recognising its dominant position in the region, South Africa, together with the partners in SACU, has offered an asymmetric agreement in which it will open its markets faster than its counterparts. This will give the other SADC countries time to re-adjust their economies and attract investment to take advantage of the new opportunities from increased regional trade, and to reduce the trade imbalance currently prevailing.

The government has also been involved in a long series of negotiations with the European Union in order to set up freer trade between SACU and the EU. These have culminated in an agreement, which will have its strongest impact in the agriculture sector by allowing many South African agricultural commodities to enter the European market without tariffs. Concerned about the difficulties in competing with subsidised farm products and subsidised agricultural exports, in common with its Cairns Group partners, South Africa will continue to argue in the next round of WTO negotiations that in the interests of fair trade, all countries should reduce the level of support to agriculture, and especially that export subsidies should be eliminated.

Assessment and outlook

South Africa's economic strategy is centred on increasing growth and employment. The agricultural sector is seen to have an important role in furthering these two main objectives. The thrust of agricultural policy has been to eliminate domestic subsidies and liberalise trade in conformance with WTO commitments. At the same time, measures to improve skills, and to increase access to resources in rural areas have been introduced. Domestic reforms have been accompanied by efforts to broker regional trade agreements (notably with other Southern African states and the EU). Agricultural exports are an important contributor to South Africa's economy and the country is likely to benefit if the next round of WTO negotiations leads to a substantial liberalisation of international trade in these products.

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I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1975	1995	1996	1997
GDP (US$ billions)	36.0	133.6	126.3	129.1
Gross agricultural product (US$ billions)	2.9	5.2	5.5	5.2
Gross domestic investment/GDP (%)	31.7	18.9	17.4	15.9
Population (millions)	24.1	41.2	42.4	43.3
GNP per capita (US$)	1 550	3 330	3 310	3 210
Share in GDP (%)				
Agriculture	8.5	4.4	4.8	4.5
Industry	42.8	39.2	38.7	36.5
Services	48.8	56.4	56.4	56.9
Population in rural area (% of total population)	52.0	50.7	50.5	50.3
Employment in agriculture (% of total employment)	..	13.2	..	..
Agro-food exports (% of total exports)	35.4	7.9	8.4	8.1
Agro-food imports (% of total imports)	7.9	7.5	7.2	7.0
Consumption				
Private consumption/cap. (annual growth %)	1.5	2.5	1.8	0.2
Share of household income spent on food (%)	..	16.0	..	..

Domestic prices (% change from previous year)

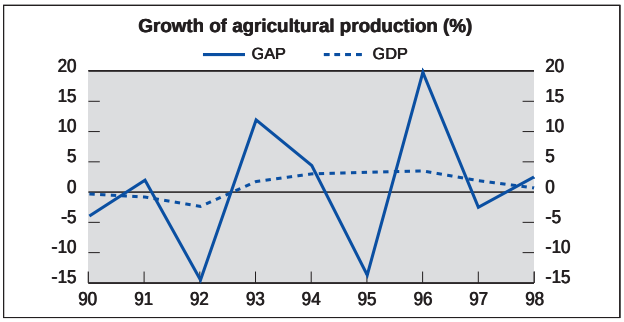
	1975	1995	1996	1997
Implicit GDP deflator	10.7	8.8	8.5	7.8
Consumer price index	13.4	8.6	7.4	8.5
Agricultural commodity price index	..	11.4	–3.2	3.5
Food price inflation	..	8.7	6.1	9.4

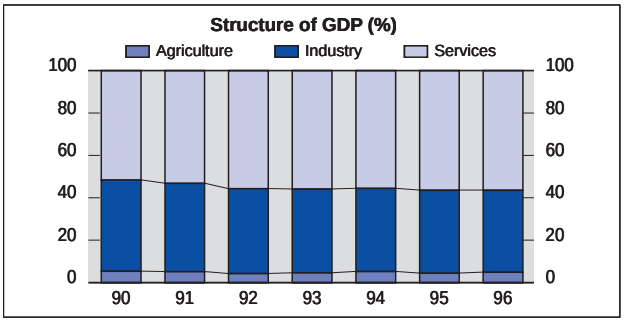
NATURAL RESOURCES AND ENVIRONMENT

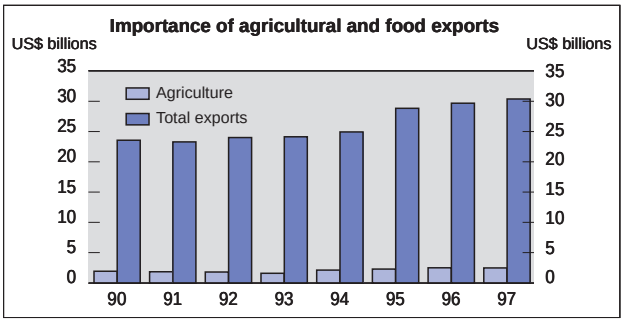
	1975	1995	1996	1997
Total land (millions ha)	122.1	122.1	122.1	122.1
Agricultural land (millions ha)	95.1	97.0	..	101.6
Forestry (millions ha)	..	8.5	..	..
Arable land per capita (ha)	0.5	0.4	0.4	..
Water use (billion cu. m)	13.3	..	..	..
Agriculture (1987 in %)	72	..	..	..

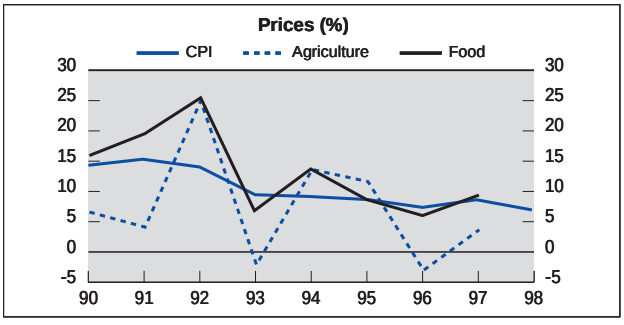
CAPITAL INFLOWS

	1975	1995	1996	1997
Foreign Direct Investment (millions US$)	185	993	758	1 725
Portfolio Investment (millions US$)	..	3 076	2 209	8 218
Net aid flows (millions US$)	..	389.0	367.2	497.5





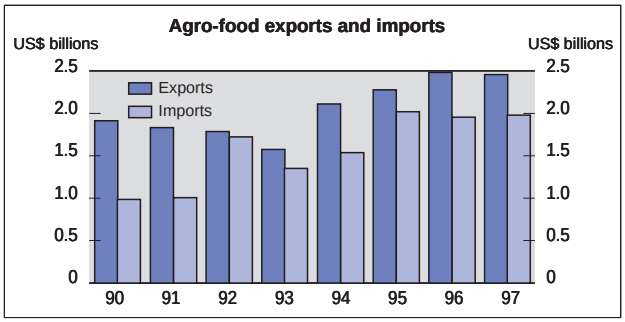




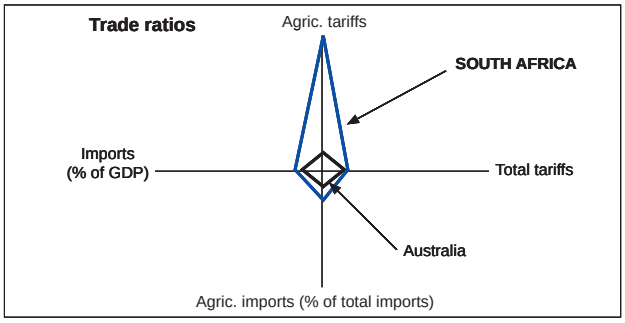
II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

MERCHANDISE TRADE

	1975	1995	1996	1997
Total exports (fob)	5 423	28 843	29 685	30 374
Agriculture and food exports	1 623	2 284	2 489	2 464
Non agricultural	3 800	26 559	27 196	27 910
Total imports (cif)	7 579	27 128	27 355	28 382
Agriculture and food imports	586	2 026	1 961	1 984
Non agricultural	6 993	25 102	25 394	26 398

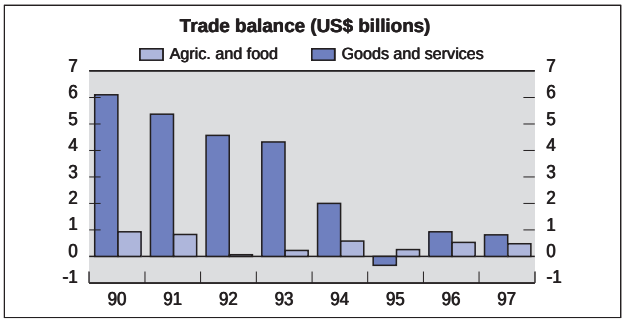


1998 Tariff barriers	Range	Average	Deviation	Mode
Total	[0 78]	6.1		
Agriculture	[0 55]	8.7	6.1	3.6
Animal products (including. live)	[0 40]	10.2	7.9	..
Vegetable products	[0 35]	6.1	2.4	5.7
Animal and vegetable fats	[0 30]	4.8	2.5	..
Processed food (including tobacco)	[0 55]	12.4	7.0	3.6



BALANCE OF PAYMENTS

	1975	1995	1996	1997
		(US$ millions)		
Exports of goods and services	9 686	33 302	34 302	35 440
Imports of goods and services	10 221	33 640	33 374	34 626
Resource balance	–525	–338	928	814
Balance of agro-food trade	1 038	259	528	480
Current account balance	–1 908	–2 756	–1 715	–1 931



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UKRAINE

Macroeconomic situation

Expectations of an economic recovery in 1998 did not materialise, with a financial crisis developing in the last quarter of the year. This was largely due to internal factors, similar to those underlying the Russian crisis. However, the spill over effects of the financial crisis in Russia intensified the adverse developments in the Ukrainian economy, strongly exposed to Russian markets. Emergency monetary and fiscal measures undertaken by the Ukrainian government helped to avoid a dramatic downturn in 1998.

Fragile growth recorded in the first 8 months of 1998, became negative towards the end of the year, resulting in an annual GDP fall of 1.7 per cent. The deterioration of export markets strongly affected the basic industries, leading to a sharp decline in industrial output, and a rapid accumulation of unsold stocks towards the end of the year.

By August 1998, the fiscal situation had become critical. Rising state debt service requirements coupled with poor tax collection forced the government to make a 23 per cent nominal cut in budgetary expenditure. A Treasury bill restructuring for both domestic and foreign investors was announced, interpreted by international rating agencies as a *de facto* default. However, these actions reduced the budget deficit to 2.7 per cent of GDP, down from 5.6 per cent in 1997.

The deterioration of financial markets created a high demand for foreign currency, putting the hryvnia under strong pressure. Loosening of the currency corridor, to which the government had to resort in response to a critical reduction in currency reserves, pushed the exchange rate further down. In September and October the hryvnia suffered sharp depreciation against the US dollar, leading the government to introduce rigid currency exchange restrictions. This helped to hold back the fall of the hryvnia; nevertheless, during 1998 the hryvnia lost nearly half of it's value.

Following movements of the hryvnia, the monthly CPI rate rose from 0.2 per cent in August to 3.8 per cent in September and 6.2 per cent in October, and thereafter stabilised. The year-end CPI increased by 20 per cent in 1998 compared to 10 per cent in 1997.

The total value of merchandise exports contracted by 11 per cent, largely reacting to the fall in NIS trade. The exports to NIS (with over two thirds to Russia) accounted for 35 per cent of the total value of Ukrainian merchandise exports in 1998. Imports of goods declined faster (by 14 per cent), which led to a fall in the trade deficit.

Agricultural and agro-food situation

Agriculture is a major economic sector in Ukraine and an important source of export revenues. However, due to a continuous decline in output, its contribution to GDP has nearly halved during the 1990s, falling to 13 per cent in 1998. The sector's share in total employment was much higher, stabilising at around 22 per cent over the past four years. The contribution of household production to total agricultural output has increased dramatically in Ukraine: by 1998 it accounted for 58 per cent of total GAO (30 per cent in 1991).

According to official data, GAO fell by 8 per cent in 1998, largely due to poor performance of the crop sector. Crop production contracted by 15 per cent, reflecting a substantial drop in output of the major crops. With a total of 26.5 million tonnes, the grain harvest only slightly exceeded the 1996 level (24.5 million tonnes), the lowest since the mid-1960s, while sugar beet output was the lowest recorded in over 40 years. Total meat production continued to fall, having decreased by 9 per cent in 1998 (the large-scale sector alone experienced a contraction of more than one quarter). However, there were some positive developments in hog and poultrymeat production: inventories in both sub-sectors increased for the first time after a long period of decline, and in the case of poultry this was followed by output growth. A better feed situation due to the substantial recovery of grain output in 1997 largely explains these developments. The milk and egg sub-sectors also performed favourably in 1998. The prolonged decline in milk production ceased in 1998; better feeding resulted in increased productivity, largely offsetting the impact of declining cow numbers. For the first time since the beginning of the 1990s, egg output recorded some growth.

Output of the food processing sector declined marginally by 0.5 per cent, in contrast with the 15 per cent fall of 1997. However, the sugar industry, one of the largest food processing sub-sectors, was in critical condition. As a result of a sharp drop in sugar beet output, white sugar production totalled only 1.9 million tonnes, the lowest level in over five decades.

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Decline in per capita consumption of meat and meat products continued. In 1998 it fell by 9 per cent compared to 1997 and equalled less than one half of the 1990 level. Per capita intake of dairy products and eggs recovered slightly for the first time since 1990. There was a substantial drop in per capita consumption of potatoes, fruits and berries in 1998, while for other basic crop foodstuffs (cereal products, sugar, vegetable oil, vegetables) it increased. According to preliminary official data, households spent on average 63 per cent of their total expenditures on food in 1998.

Structural adjustment policies

There were no major changes in policies related to collective agricultural enterprises (CAEs). As of January 1999, practically all eligible *kolkhozes* and *sovkhozes* had been transformed into CAEs (*i.e.* completed the first stage of formal privatisation); land titling had been implemented in 99.7 per cent of CAEs. New varying legal forms include joint stock companies, peasant associations, co-operatives, etc. However the majority of enterprises were privatised with little change in their organisational structure, size and management. According to official data, the financial situation of the CAEs continued to worsen with nearly 90 per cent of enterprises reporting losses in 1998.

Since 1997, there had been a marginal increase in the number of individual farms in Ukraine, explained by the lack of production incentives, legislative and political uncertainties, lack of seed capital and insufficient access to credit. In 1998, for the first time since the start of the reform the number of individual farms decreased from 35 927 to 35 485 units. However, the average size, as well as the total agricultural land used by individual farms continued to increase.

Strong disagreements between the government and the Parliament over land issues prevented any major developments in land legislation. Despite the Parliament's opposition, President Leonid Kuchma succeeded in authorising, by Decree, the sale of non-agricultural land. Uncertainty regarding the feasibility of agricultural land sales remains, even though the moratorium on such sales expired in 1997. In October 1998, the Law on Lease of Land was adopted, setting a more elaborate legislative base for land leasing compared to the one that was defined in the Land Code. This is expected to facilitate the leasing of and, thus the reallocation of agricultural land.

Privatisation of the grain industry, as decreed in November 1997, was the major activity in the downstream sector. Out of a total of 878 enterprises, 99 were to be joined to Khlib Ukrainy (Bread of Ukraine), a quasi-government grain procurement organisation, and the remainder to be privatised within the next few years. By the beginning of 1999, 504 enterprises had completed their privatisation plans, of which 470 had started asset distribution. Privatisation affecting the majority of other agro-food enterprises continued.

Domestic support policies

Mounting budgetary pressures forced the Ukrainian government to make a major shift from direct to indirect support in 1998, involving such measures as the provision of guarantees on the advance supply of inputs and various agricultural debt and tax concessions.

Large-scale barter schemes, "inputs for grain", were introduced in 1998, largely displacing the previous types of support. According to the fertiliser supply scheme, the government issued repayment guarantees to companies for delivering fertiliser to agricultural producers who concluded contracts with Khlib Ukrainy. The latter, in turn, redeemed state debt to fertiliser suppliers upon the sale of grain delivered by producers.

Supply of agricultural machinery from the State Leasing Fund (established at the end of 1997) was another important support activity. Leasing of machinery (with the final buyout) from this fund was provided for up to five years, at half of the National Bank of Ukraine refinancing rate. Additionally, the government financed deliveries of spare parts to producers, although the funds allocated to this programme were cut to almost one quarter of the initially budgeted sum.

Agricultural producers were to repay in total 4.7 million tonnes of third class grain for inputs delivered in 1998; however, only 40 per cent of this debt had been returned as of early 1999 despite the imposition of a rigid repayment order. Proposals to restructure and write off a part of this debt have been discussed, but not approved so far.

A new subsidy scheme for meat and milk was another major type of indirect support applied in 1998. The scheme was designed to substitute foregone budget income for actual appropriations. VAT payments from milk and meat processors were accumulated on a special account and then transferred to milk and meat producers as a subsidy. The amount of this support reached about US$102 million in 1998.

In 1998 the Ukrainian government resorted to major restructuring of the debts of agricultural enterprises. The first step in this process was the partial write-off and a one-year restructuring of the tax arrears to the state budget and the Pension Fund. A

similar concession was granted to sugar processors. Two other major concessions for agricultural producers are foreseen, including: *i)* a partial write-off of credit debt accumulated between 1994 and 1996; and *ii)* a restructuring for disaster-affected farms of credit debt accrued between 1997 and 1998.

From 1 January 1999, a single agricultural tax came into force replacing 10 different taxes paid previously by producers. This is expected to reduce their tax burden. Moreover, producers will enjoy a two-year tax holiday period (until 1 January 2001) before having to pay this tax. Another major tax concession introduced in 1998 is the four-year tax holiday on VAT payments, which started from 1 January 1999. Agricultural producers who receive over 50 per cent of their earnings from agricultural production and food processing are able to accumulate their VAT payments and to use them for purchase of inputs.

International policy environment

Agro-food exports amounted to about 10 per cent of total Ukrainian exports in 1998, and agro-food imports to about 7 per cent of total imports. After a peak in 1995 and 1996 that followed trade liberalisation, the value of agro-food exports contracted by 42 per cent in 1997, and further by 23 per cent in 1998. A substantial loss of earnings from sugar and beverages trade was not offset by the increase in value of grain exports, leading to a fall in the overall agro-food export revenue in 1998. The value of agro-food imports grew by 17 per cent, albeit from a low base in 1997. Tobacco, fish and meat products were the major items, accounting respectively for 20 per cent, 12 per cent and 6 per cent of agro-food imports. Ukraine maintained its positive agro-food trade balance in 1998, although it declined substantially.

Ukraine continued its liberal export regime. Duties were applied only on exports of live animals. Between August and September 1998 sunflower exporters were obliged to make an advance deposit on a special account, which was equal to 100 per cent of their imputed sales earnings, to assure supplies for domestic processors. This provision gave rise to strong protests from traders and was eventually repealed.

There were no major changes in the import regulations. The level of import tariffs applied for agricultural commodities in Ukraine is higher than that for industrial goods. According to preliminary estimates, the weighted average import tariff for agro-food products in 1998 was about 27 per cent as compared to 8 per cent for industrial goods.

Trade relations with NIS countries have been based on bilateral agreements. A new trade regime with Russia came into effect on 1 February 1998, allowing for free trade between the two countries with no VAT and import duties applied. Exports of white sugar from Ukraine to Russia were subject to special treatment. Duty and VAT free exports were agreed only within a quota of 600 000 tonnes, the remainder being subject to the regular tariff and VAT regime. Russia's level of imports turned out to be very low, and by March 1999 only 70 000 tonnes out of this quota had been exported by Ukraine.

Assessment and outlook

Overall, the crisis of the last quarter of 1998 was brought about by the same forces that led to the economic collapse in Russia. The Ukrainian government managed to keep the situation under control and achieved some stabilisation towards the end of 1998. Maintaining a stable macroeconomic environment will be the main challenge over the next two years, particularly given the financial burden arising from the need to service an increasing amount of foreign debt.

Further access to multilateral aid will be determined by the ability of the government to meet the loan conditions, which demands substantial progress in market reforms. The latter is impeded by the permanent disagreements between the government and the Parliament on the reform process. This also explains the slow progress in enterprise restructuring and development of market institutions, leading to the continued recession of the Ukrainian economy. The expected decline in demand from major Ukrainian trading partners, especially Russia, will be an additional impediment to the economic recovery.

The agricultural sector performed unfavourably in 1998, suffering a sharp drop in production of the major crops and contraction of export markets. The overall performance of the sector in 1999 will be affected by the deteriorated macroeconomic conditions, implying a downturn in domestic and external demand, adverse impacts of inflation on both producer costs and income. A marginal increase in crop production may occur in 1999, but owing predominantly to more favourable weather conditions. The growth in livestock output is unlikely to be sustained due to lower feed availability and limited demand.

Growing budgetary problems led the government to shift more from direct budget allocations to non-monetary support of agricultural producers, involving a large-scale barter operation between the input sector and agriculture. This has been

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done in a way that is very similar to the previous administrative system with the distribution of input supply quotas and delivery of agricultural products tied to these supplies. As in the previous years, the non-recovered debt of agricultural producers has also been restructured in1998. Government representatives are evoking the need to restore the system of state guaranteed prices for agricultural products. Agricultural policies in Ukraine have thus far failed to address the key areas of the sector's inefficiency and to provide an adequate framework that would help Ukrainian agriculture to realise its comparative advantages. Instead, the policies tend to concentrate on administrative support of input provision to the sector, dominated by loss-making farms. In view of the forthcoming presidential elections (October 1999) the government is expected to approve more concessions for large-scale producers and refrain from any principal policy changes in 1999.

I. THE ROLE OF AGRICULTURE IN THE ECONOMY

BASIC ECONOMIC INDICATORS

	1995	1996	1997
GDP (US$ billions)	85.8	44.6	49.7
Gross agricultural product (US$ billions)	11.8	5.4	5.2
Gross domestic investment/GDP (%)	26.7	22.7	20.1
Population (millions)	51.7	51.3	50.6
GNP per capita (US$)	1 350	1 210	1 040
Share in GDP (%)			
Agriculture	14.6	13.1	13.7
Industry	43.5	38.8	40.1
Services	41.9	48.1	46.2
Population in rural area (% of total population)	29.8	29.3	28.9
Employment in agriculture (% of total employment)	22.2	21.4	21.8
Gender structure of agricultural employment (%)			
Male	51.6	..	51.6
Female	48.4	..	48.4
Agro-food exports (% of total exports)	20.7	21.2	12.7
Agro-food imports (% of total imports)	7.6	7.8	5.2
Consumption			
Private consumption/cap. (annual growth %)	–13.2	–4.0	..
Share of household income spent on food (%)	58	62	62.2

Domestic prices (% change from previous year)

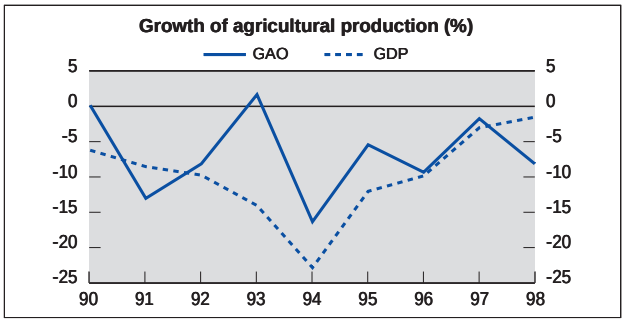
	1995	1996	1997
Implicit GDP deflator	415.5	66.2	17.2
Consumer price index	182.0	39.7	10.0
Agricultural commodity price index	441.0	164.0	110.0
Food price inflation	250.0	..	..

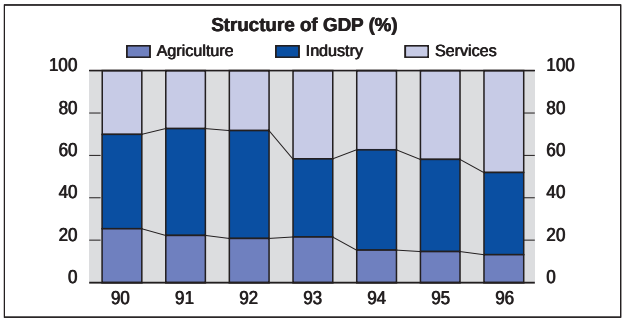
NATURAL RESOURCES AND ENVIRONMENT

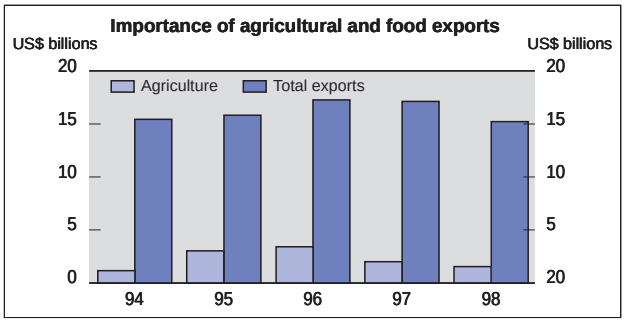
	1995	1996	1997
Total land (millions ha)	57.9	57.9	57.9
Agricultural land (millions ha)	41.8	41.8	41.9
Arable land per capita (ha)	0.6	0.6	..

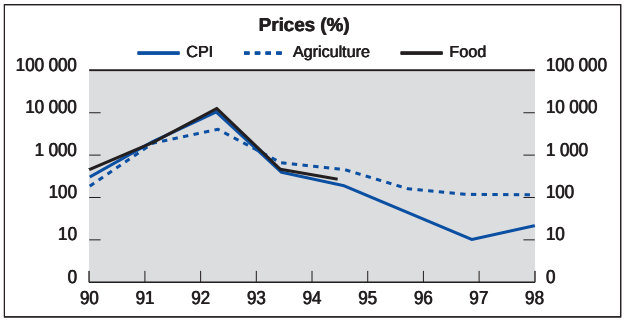
CAPITAL INFLOWS

	1995	1996	1997
Foreign Direct Investment (millions US$)	267	521	623
Portfolio Investment (millions US$)	4	198	1 603
Net aid flows (millions US$)	319.9	389.1	178.7







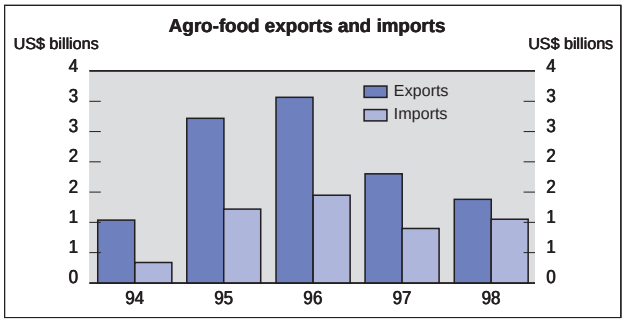


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II. AGRICULTURAL TRADE AND THE IMPORTANCE OF OECD COUNTRIES

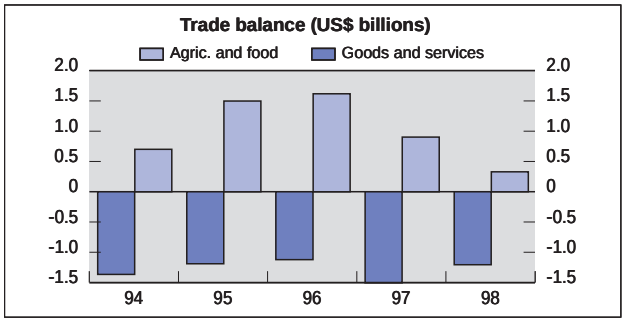
MERCHANDISE TRADE

	1995	1996	1997
	(US$ millions)		
Total exports (fob)	14 244	15 547	15 418
Food	979	1 408	687
Agricultural raw materials	787	1 779	1 256
Non agricultural	12 478	12 360	13 475
Total imports (cif)	16 946	19 843	19 623
Food	274	35	500
Agricultural raw materials	233	655	450
Non agricultural	16 439	18 843	18 673



BALANCE OF PAYMENTS

	1995	1996	1997
	(US$ millions)		
Exports of goods and services	17 090	20 346	20 355
Imports of goods and services	18 280	21 468	21 891
Resource balance	–1 190	–1 122	–1 536
Balance of agro-food trade	1 499	1 618	903
Current account balance	–1 152	–1 184	–1 335



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