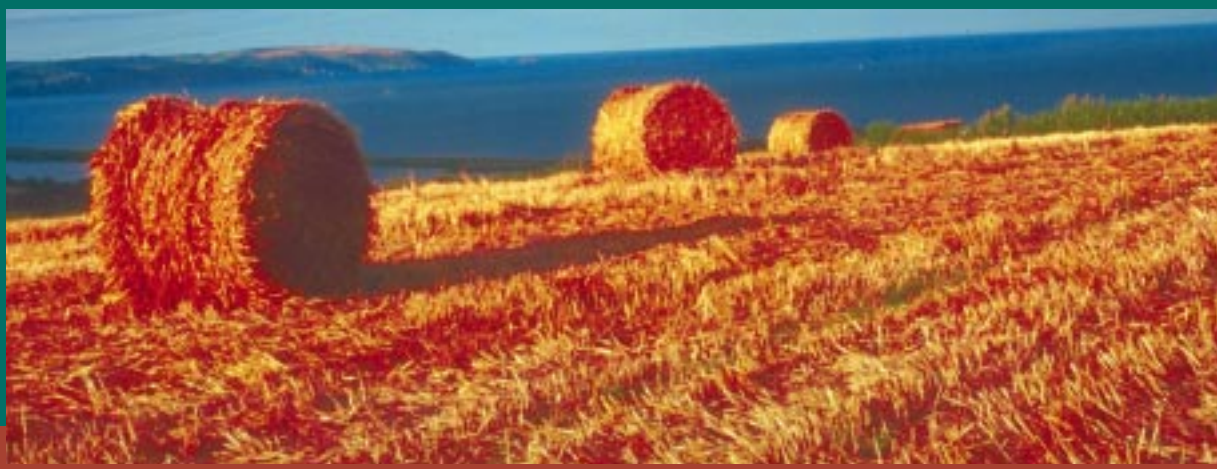
NEW METHODOLOGY



Agricultural Policies in OECD Countries

Monitoring and Evaluation

1999

AGRICULTURAL POLICIES IN OECD COUNTRIES

MONITORING AND EVALUATION

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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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Pursuant to Article 1 of the Convention signed in Paris on 14th December 1960, and which came into force on 30th September 1961, the Organisation for Economic Co-operation and Development (OECD) shall promote policies designed:

- to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the development of the world economy;
- 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.

The original Member countries of the OECD are Austria, Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The following countries became Members subsequently through accession at the dates indicated hereafter: Japan (28th April 1964), Finland (28th January 1969), Australia (7th June 1971), New Zealand (29th May 1973), Mexico (18th May 1994), the Czech Republic (21st December 1995), Hungary (7th May 1996), Poland (22nd November 1996) and Korea (12th December 1996). The Commission of the European Communities takes part in the work of the OECD (Article 13 of the OECD Convention).

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SUIVI ET ÉVALUATION

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EXECUTIVE SUMMARY

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 and through the SPS, TBT and TRIPS Agreements. Resolution of some trade conflicts through dispute settlement procedures, and new bilateral and multilateral trade initiatives in 1998 should help further integrate agriculture 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, due to the complexity of many new measures, that efficiency, targeting and transparency are improving.

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.

MONITORING AND EVALUATION

MONITORING AND EVALUATION

1. ECONOMIC AND AGRICULTURAL MARKET BACKGROUND

Macroeconomic environment

The pace of world economic growth slowed dramatically in 1998. A sequence of adverse developments which began with the financial tensions and devaluation of the Thailand baht more than a year ago quickly spread to other countries, hitting Indonesia, Malaysia, the Philippines and Korea especially hard. Meanwhile, the economic and political situation in Russia continued to worsen. By year's end the crisis had spread to Latin America culminating, most recently, with the problems in Brazilian financial markets and the devaluation of the real.

To varying degrees, almost every country in the world, including some of those in the OECD, has been affected. The average rate of economic growth in OECD countries overall fell by nearly half between 1997 and 1998 (Table I.1). However, it is the stark contrasts in the composition of that average which has had the greatest implications for agricultural markets. In Japan, the largest importer of agricultural commodities in the OECD, GDP declined by nearly 3 per cent. In Korea, also an important importer of farm commodities, the decline was even greater at nearly 7 per cent.

In contrast, in North America, the strong economic performances registered in 1997 by the three NAFTA countries – Canada, Mexico and the United States – continued through most of 1998 and it is expected that the final outcome will indicate only a slight weakening for the region overall. Moreover, the average rates of growth in European countries were fractionally higher in 1998 than in 1997. The robust performance of these economies was accompanied by further moderation in already historically low rates of price inflation. And, although rates of unemployment are significantly higher in Europe than in North America, unemployment went down in both regions last year.

The Australian economy grew by nearly 4 per cent in 1998 while registering a rate of price inflation below 2 per cent. This outpaced economic performance of most other OECD economies and came despite the economic weakness in Asian economies which are important destinations for Australia's commodity exports. The New Zealand economy did not fare so well. The relatively rapid economic expansion which had been underway there since 1992 was brought to an abrupt halt by the effects of the Asian crisis compounded by a severe drought.

Non-OECD economies

Latin American economies, which had grown on average by over 5 per cent in 1997, slipped to an average of just over 1 per cent in 1998. There were, however, exceptions in this region. Argentina's economy posted a gain of nearly 5 per cent, with an accompanying rate of price inflation of just over 1 per cent.

The high growth rates witnessed in 1997 in countries across the whole of the non-OECD region fell abruptly in 1998 (Table I.2). The estimated average for 1998 is under 1 per cent. Accompanying the economic slowdowns in many countries have been sharp increases in rates of price inflation, attributable largely to currency devaluations. The Russian economy for example contracted by 6 per cent amid continuing devaluations of the rouble. China, however, seemingly unscathed by the recessions in neighbouring Asian countries, once again posted a gain in economic output of near 9 per cent and a stable currency.

Table I.1. **Key macroeconomic indicators**

	Real GDP		Inflation[1]		Unemployment		Short-term interest rates[2]	
	% change		% change		Percentage of labour force		Per cent	
	1997	1998	1997	1998	1997	1998	1997	1998
United States	3.9	3.5	1.9	1.0	4.9	4.6	5.1	5.1
Canada	3.7	3.0	0.5	–0.1	9.2	8.4	3.5	3.5
Mexico	7.0	4.6	18.8	15.0	3.7	3.4	21.3	21.3
European Union	2.7	2.8	1.8	1.8	11.2	10.6	4.2	4.2
Japan	0.8	–2.6	0.6	0.7	3.4	4.2	0.6	0.6
Korea	5.5	–6.5	2.4	6.0	2.6	7.3	13.4	13.4
Australia	2.8	3.6	2.0	1.9	8.6	8.2	5.4	5.4
New Zealand	3.1	0.2	0.1	0.5	6.6	8.3	7.7	7.7
OECD	3.2	2.2	3.7	3.3	7.2	7.1		

1. GDP deflator.
2. Japan: 3-month Credit Deposits; Europe area: 3-month interbank rates.
Source: OECD *Economic Outlook,* December 1998.

Table I.2. **Macroeconomic indicators for selected non-member countries**

	Real GDP[1]		Inflation[2]	
	% change		% change	
	1997	1998	1997	1998
Brazil	3.7	0.8	6.1	3.8
China	8.8	7.6	0.8	–2.5
Indonesia	4.7	–15.5	11.1	60.0
Russia	0.8	–6.0	11.0	70.0

1. Real GDP corresponds to the percentage change relative to the previous year. For China it is the GNP change.
2. Annual percentage change in the consumer price index, except for China where it is measured by the retail price change.
Source: OECD *Economic Outlook,* December 1998.

Agricultural markets

Market prices of both agricultural and of non-agricultural commodities also fell sharply in 1998.[1] Wheat prices for the 1998/99 crop year, for example, are expected to be down one third from their levels of 1996/97, and a fall of nearly 15 per cent from the previous year's level. Similar price falls have occurred in world coarse grain and oilseeds markets, leading to lower feed costs and ultimately to lower meat prices. The economic slowdown is part of the explanation. Consumers in countries where economies were contracting had less to spend and consumers in countries where the exchange rate was devalued saw prices in domestic currencies of most goods rise, reducing quantities demanded.

However, contraction in demand due to the economic crisis tells only part of the story as to why farm commodity prices fell so precipitously last year. Since the mid 1990s, world wheat production has increased by 13 per cent, maize production by 13 per cent and soybean production by 25 per cent. The combination of high farm prices of cereals and oilseeds and low input prices of earlier years constitute the main explanation for this increased production. Growers around the world responded to those attractive incentives, expanding plantings, while Governments responded by reducing or eliminating land set-asides. Demand for this increased output, especially demand weakened by poor economic perfor-

mance in many food importing countries of the world, was not sufficiently robust to avoid the inevitable falls in commodity prices.

Current estimates put world production of milk, beef, pig and poultrymeat for 1998 at close to record levels. This has been reflected in generally weaker prices for all these commodities, especially for pork, while dairy product prices have held up relatively well on world and domestic markets.

Farm incomes

Falling farm commodity prices since 1996 reduced significantly the value of farm production in both 1997 and 1998. Though mitigated to some degree by coincident falls in prices of some farm inputs – fuel, fertilisers and interest in particular – net farm incomes in most OECD countries declined. Table I.3 shows the evolution of net farm incomes in a selection of OECD countries from 1996, a year in which farm incomes were generally at or near historical peaks in most OECD countries.

Table I.3. **Farm income developments in selected OECD countries 1996-1998**

	Percentage change		
	1995 to 96	1996 to 97 [1]	1997 to 98 [2]
Australia	–5	–14	–21
Canada	–24	3	–4
EU 15	5	–3	–4
Japan	–4	–13	–5
United States	48	–7	–16

Note: Year over year per cent change in net farm income.
1. All 1997 figures are preliminary estimates.
2. All 1998 figures are forecasts made by the respective national agencies.
For Japan the estimate is based on monthly data through September.
Source: Figures were taken from the following sources:
Australia: Australian Commodities, Vol. 5, No. 4, December 1998, ABARE.
Canada: Farm Income, Financial Conditions and Government Assistance, Data Book, Agriculture and Agri-Food Canada, Policy Branch, 1998.
European Union: Statistics in Brief, Eurostat, 11 December 1998.
Japan: Monthly Statistics of Agriculture Forestry and Fisheries, 12 December 1998.
Statistics and Information Department, Ministry of Agriculture, Forestry and Fisheries.
United States: US Department of Agriculture, Economic Research Service, November 1998.

The numbers in the table reveal downturns, some quite significant, in the levels of net farm income in both 1997 and 1998 and for all the countries shown. Of course, incomes of farm households depend not only on what happens to the farm component of their earnings but what happens to off farm income as well. Data are not available to get a full picture on what happened in 1998. Typically, more than half of net farm household income is earned off the farm. In some cases, farm families may react to falling incomes from farming by shifting work time from farm to off-farm work. Although the poor economic situation in some OECD Countries may have reduced opportunities for off farm employment, this is not the case for others. Thus a crisis in farm commodity *prices* need not imply a crisis of equal proportion in the economic well-being of people who farm.

In examining the agricultural policy developments in OECD countries, it is useful to place such changes in the context of the relative importance of the agro-food sector versus the economy as a whole. Table I.4 shows key indicators on the relative economic importance of agriculture and food processing in OECD countries. Total economic output has grown faster than agro-food output in OECD countries, leading to a decline in agriculture's share. OECD wide, agriculture and food processing together account for only around 4 per cent of total GDP. The decline in the agro-food sector's share of total output is typically associated with declines in both the share of total employment and in the absolute number of people

Table I.4. **Main agricultural indicators**

	Percentage of								
	Agriculture in GDP[a]	Food processing in GDP[b]	Agricultural employment in total civilian employment[c]	Food processing in total civilian employment[d]	Agricultural commodities in total exports[e]	Processed prod. in total exports[e]	Agricultural commodities in total imports[e]	Processed prod. in total imports[e]	Food in total consummer expenditure[f]
Australia[g]	3.2	n.a.	5.2	2.1	17.7	2.7	1.1	2.8	14.9
1992-94 average[g]	3.1	2.0	5.2	2.3	11.0	2.3	1.1	2.8	14.4
1986-88 average[g]	4.4	2.2	5.8	2.4	18.4	2.0	1.2	2.7	15.1
Canada	n.a.	1.8	5.1	1.6	5.6	1.8	2.6	2.4	10.4
1992-94 average	1.5	1.7	5.4	1.7	5.5	1.6	3.1	2.4	10.7
1986-88 average	2.7	1.7	6.1	1.9	5.9	1.3	3.1	2.2	11.9
Czech Republic[g]	3.0	1.8	5.8	2.6	2.1	2.3	2.9	2.8	23.9
1992-94 average[g]	3.4	2.6	7.5	2.7	3.8	3.2	3.8	3.4	26.5
1989-91 average[g]	5.8	3.2	12.0	3.0	n.a.	n.a.	n.a.	n.a.	27.0
European Union[h]	1.9[i]	1.8[j]	5.0	1.6[k]	3.6	3.5	4.9	3.5	14.4[l]
1992-94 average[h]	2.3[i]	2.0[k]	5.5	2.4[k]	5.5	4.0	6.0	3.6	15.7
1986-88 average[h]	3.1[i]	2.1[k]	7.5	2.7[k]	5.7	3.5	6.7	3.6	17.7
Hungary[g]	6.4	4.0	7.9	3.5	8.4	5.4	2.2	2.0	n.a.
1992-94 average[g]	7.3	4.8	9.7	4.3	13.7	7.5	3.1	2.5	22.3
1989-91 average[g]	8.6	5.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	23.5
Iceland	n.a.	n.a.	8.5	n.a.	0.5	0.2	2.5	5.3	15.8
1992-94 average	9.4	6.6	9.5	7.7	0.7	0.3	2.7	5.9	17.1
1986-88 average	9.9	6.1	10.5	10.8	1.3	0.1	2.6	5.1	16.6
Japan	1.9	2.3	5.3	2.8	0.1	0.2	6.4	2.9	n.a.
1992-94 average	2.1	2.5	6.0	2.7	0.1	0.2	7.8	3.1	n.a.
1986-88 average	2.8	2.8	8.2	2.6	0.1	0.2	7.9	2.9	n.a.
Korea	6.3	1.9	11.0	1.0	n.a.	n.a.	n.a.	n.a.	n.a.
1992-94 average	7.2	2.1	14.8	1.0	0.5	0.5	3.5	1.2	n.a.
1986-88 average	10.4	2.1	22.0	1.3	n.a.	n.a.	n.a.	n.a.	n.a.
Mexico[g]	5.6	3.9	23.2	4.1	3.3	2.4	3.7	3.2	24.0
1992-94 average[g]	5.7	3.5	25.7	3.6	4.5	2.4	4.2	5.1	22.4
1989-91 average[g]	8.2	3.8	n.a.	n.a.	7.9	3.3	6.6	7.7	27.3
New Zealand	n.a.	n.a.	8.4	3.8	36.3	3.9	2.9	4.3	11.1
1992-94 average	7.9	3.8	10.5	4.1	36.8	3.4	3.1	3.8	12.1
1986-88 average	7.2	4.0	10.4	4.7	37.9	2.8	3.1	3.3	12.5
Norway	2.2	n.a.	4.8	2.4	0.5	0.3	2.3	2.6	n.a.
1992-94 average	2.6	2.0	5.4	2.4	0.5	0.4	2.5	2.7	n.a.
1986-88 average	3.3	1.5	6.7	2.5	0.7	0.4	2.6	2.6	n.a.
Poland[g]	6.0	n.a.	20.4	n.a.	6.3	5.1	3.8	3.4	28.0
1992-94 average[g]	n.a.	n.a.	24.5	n.a.	6.9	4.3	5.4	4.3	32.4[m]
1986-88 average[g]	11.8[n]	n.a.	26.4[n]	n.a.	n.a.	n.a.	n.a.	n.a.	36.9[n]
Switzerland[g]	1.1	n.a.	4.7	2.2	0.8	1.6	2.7	2.8	n.a.
1992-94 average	1.5	n.a.	4.4	n.a.	1.0	1.5	3.1	2.8	n.a.
1986-88 average	2.1	n.a.	5.8	n.a.	1.2	1.4	3.3	3.0	n.a.
Turkey[g]	16.8	4.8	40.9	n.a.	8.4	8.1	2.8	1.7	n.a.
1992-94 average[g]	15.3	4.8	43.2	n.a.	12.3	7.2	2.3	2.0	n.a.
1986-88 average[g]	18.1	4.60	46.0	n.a.	15.7	6.4	1.8	1.7	n.a.
United States	1.7	1.29	2.7	1.3	7.3	1.7	1.8	2.1	7.6
1992-94 average	1.7	1.35	2.8	1.4	6.5	1.8	1.9	2.2	8.1
1986-88 average	1.9	1.39	2.9	1.4	8.6	1.5	2.0	3.0	8.7
OECD average[p]	2.1	1.71	8.2[o]	1.5[q]	3.2[r]	2.7[r]	4.7[r]	3.2[r]	11.4
1992-94 average[p]	2.4	1.89	8.9	1.8[q]	5.0	2.8	4.9	3.1	12.8
1986-88 average[p]	2.8	1.96	8.7	2.2[q]	5.6[s]	2.5[s]	5.2[s]	3.3[s]	13.0

n.a.: not available. The first row of data for each country provides the latest available year, either 1996 or 1997.
Note: For definitions and sources, see following page.

Table I.4. **Main agricultural indicators** *(cont.)*
Definitions and sources

a) % of agriculture in GDP:
National accounts gross value added for agriculture forestry and hunting as a percentage of Total Gross Domestic product for most countries. For a few, like Switzerland, Gross Value Added (GVA) at market prices (corresponding to Agricultural Gross Domestic Product) as a percentge of Total Gross Domestic Product (GDP) GVA at market prices is obtained by subtracting intermediate consumption from the value of output. Intermediate consumption, which is to measure all goods and services consumed in the production process, comprises the same items as in Eurostat's accounts database, plus one line for adjustment (*e.g.* to accommodate VAT under-compensation). GVA can therefore be considered as a residual, showing the contribution of agriculture to a country's Gross Domestic Product (GDP). Data taken from OECD, *Economic Accounts for Agriculture* database.

b) % of food processing in GDP:
STAN database for Industrial Analysis. Industry S3112 (Food). Value as a percentage of Total Gross Domestic Product (GDP).
Data taken from OECD, *STAN* database.

c) % of agricultural employment in total civilian employment:
Civilian employment according to the International Standard Industrial Classification (ISIC) division agriculture, hunting, forestry, and fishing expressed as a percentage of total civilian employment. Latest year 1997.
Definitions and data taken from OECD, *Labour Force Statistics* database.

d) % of food processing in total civilian employment:
STAN database for Industrial Analysis. Industry S3100 (Including food, beverages, tobacco and fisheries products).
Number engaged as a percentage of Civilian employment according to the International Standard Industrial Classification (ISIC).
Data taken from OECD, *STAN database*.

e) % of agricultural trade in total merchandise trade:
Trade data taken from the OECD *Foreign Trade Statistics*, Paris, January 1999, using the Standard International Trade Classification (SITC) (Revision 2) codes.
The categorisation of commodities is in accordance with the OECD Secretariat definition of Agricultural trade, which includes:
Agricultural commodities: 00 + 01 (including live animals) + 02 (excluding 025 eggs) + 041 to 045 + 054.1 + 054.2 + 054.4 + 054.5 + 054.81 + 057 + 06 + 08 (excluding 081.42 fishmeal) + 22;
Agricultural processed products: 091 (animal oils and fats) + 4 (vegetable oils and fats) excluding 411.1 (fish oils) + 046 to 048 + 054.6 to 056 + 058 (excluding 054.81 manioc) + 025 + 098 + 07 + 11; and
Agricultural raw materials: 261 + 263 + 268 + 232 + 264 + 265 + 12 + 21 + 29.
Latest available year is 1997 for all countries except the US for which it is 1996.

f) % of food in total consumer expenditure:
Final Consumption Expenditure of Resident Households for Food as a percentage of total Final Consumption Expenditure.
Data taken from OECD, *National Accounts.*

g) OECD Secretariat estimates based on national sources.

h) EU-15.

i) Excluding Denmark, Greece, Ireland, Luxembourg, Netherlands, Portugal, Sweden.

j) Excluding Ireland, Italy and Luxembourg.

k) Excluding Ireland and Luxembourg.

l) Excluding Denmark, Greece, Luxembourg, Portugal and Spain.

m) 1992-94 = 1991.

n) 1989-91 = 1989, from a national source.

o) Excluding Hungary and Poland.

p) Excluding Czech Republic, Hungary and Poland.

q) Excluding Czech Republic, Hungary, Korea, Poland, Switzerland and Turkey.

r) Excluding Korea, Mexico and United States.

s) Excluding Czech Republic, Korea, Mexico, Poland and Hungary.

employed in agriculture. The average share of the workforce employed in agriculture and food processing has declined in all OECD countries for which data are available.

The importance of agricultural trade varies among OECD countries. Exports of agricultural commodities and processed products, as a percentage of total exports range from less than 5 per cent in Japan, Korea, Norway and Switzerland to over 20 per cent in Australia and New Zealand. In many OECD countries, the relative importance of processed product exports has remained stable or increased, while declining for agricultural commodities. Imports of agricultural commodities and processed products represent less than 10 per cent of total imports in all OECD countries. The relative importance of agricultural commodity imports has declined in contrast to processed product imports which have increased.

Food continues to account for a significant but declining share of total consumer expenditures, at 11 per cent in 1996 for the OECD as a whole, compared to 13 per cent a decade earlier. The Czech Republic, Mexico and Poland report the highest proportion of consumer expenditures on food at over 20 per cent.

2. EVOLUTION OF AGRICULTURAL SUPPORT

Long-term trends in agricultural support

Within wide variations in the levels, composition and trends in all forms of support to agriculture among OECD countries and across commodities, the major trends in agricultural support in OECD area since 1986-88 include:

- a slow downward trend in the level of support to producers, as measured by the percentage PSE (Producer Support Estimate) in most OECD countries, but more markedly in countries with low overall levels of support;
- stability in the support to general services provided to agriculture, as measured by the percentage GSSE (General Services Support Estimate), at below 20 per cent of total support to agriculture (TSE);
- a slow long-run decline in total support to agriculture, as measured by the percentage TSE, and a shift in financing support from consumers to taxpayers;
- despite reductions in market price support, it is still the main source of support and, together with commodity-linked payments, represents over 80 per cent of support to producers, although constraints are increasingly attached to the levels of output, area or animal numbers that are supported; support based on overall farm returns, which is the form of support least linked to commodities, remains marginal.

Measurement of support to agriculture

The measurement of support to agriculture using the Producer and Consumer Subsidy Equivalent (PSE/CSE) method was adopted by the OECD in implementing the 1982 Ministerial Trade Mandate.[2] The purpose was to estimate the level and composition of support to agriculture, and to evaluate the impact of a progressive and balanced reduction of support using an economic model. The indicator 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. At that time, market price support measures were predominant, with a relatively small number of policy measures within each of the other categories. Other transfers associated with agricultural policies, but not covered in these categories, were included in the calculation of Total Transfers.[3]

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" based on work by Professor T. Josling in the 1970s, building on early work by Professor W. Corden.[4] However, the OECD indicators were defined more broadly as transfers from taxpayers and consumers to producers arising from policies. While the initial definition is an estimate of support in terms of equivalent farm income loss to producers, the OECD indicators have always been an estimate of support in terms of transfers to producers (PSE) and overall transfers associated with policies which support agriculture (Total Transfers). Therefore, although both PSE and Total Transfers as defined in the OECD work include the "subsidy element", they do not separately identify it.

In order to reflect as closely as possible the underlying definitions, it was agreed in 1998 to replace "subsidy equivalent" by "support estimate" in the names of the 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). In addition, a number of changes were made in the coverage and classification of measures, as well as the methods of calculation of each indicator in

percentage terms and in the producer and consumer Nominal Assistance Coefficients (NAC) – Box I.1. The objective of these changes was 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).[5]

Box I.1. **Definitions of the OECD indicators of support**

Producer Support Estimate (PSE): an indicator of the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policy measures which support agriculture, regardless of their nature, objectives or impacts on farm production or income. The PSE can be expressed in monetary terms; as a ratio to the value of gross farm receipts valued at farm gate prices, including budgetary support (percentage PSE); or as a ratio to the value of gross farm receipts valued at world market prices, without budgetary support (producer NAC).

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 can be expressed in monetary terms; as a ratio to the value of consumption expenditure valued at farm gate prices, including budgetary support to consumers (percentage CSE); or as a ratio to the value of consumption expenditure valued at world market prices, without budgetary support to consumers (consumer NAC).

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. The GSSE can be expressed in monetary terms or as a percentage of the total support to agriculture (percentage GSSE).

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 can be expressed in monetary terms or as a percentage of the Gross Domestic Product (percentage TSE).

With the reform of agricultural policies in OECD countries, the number and complexity of policy measures has increased significantly, limiting the usefulness of the original PSE categories for the analysis of policies. This was particularly the case of the Direct Payments category, which increasingly embraced a wider range of measures providing support to farmers to achieve a variety of different objectives, all with different eligibility conditions and implemented in different ways. It is the implementation criteria (and not the objectives or effects of policies), highlighting the nature of the initial incidence of a measure, that provide the basis of the new OECD classification presented in Box I.2. In turn, this classification by implementation criteria allows the PSE to become the starting point for analysis of the impacts of policy measures on production, consumption, trade, income, or the environment as, for example, in the Policy Evaluation Matrix currently under development.

Estimates of indicators of support based on this classification, together with the changes designed to clarify the coverage and interpretation of the indicators, are being presented and used for the first time in the present report. These estimates cover the period 1986-1998. While only the general outline of the new classification and definitions of the main support indicators are given here, a detailed description and analysis of the new methodology, coverage, definitions, and classification criteria is contained in Part II.2.

The new classification has been implemented as consistently as possible for all OECD countries over the period since 1986. It might be noted that, in general, the value of the TSE is essentially the same as the calculation of Total Transfers under the previous classification. Although both the percentage PSE and CSE are in general lower than before,[6] the relative levels of support across countries, and the long-run trends in the various indicators are similar. However, the breakdown of measures in the new classification provides more detailed and consistent information for policy analysis.

Box I.2. **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
B. Payments based on output
C. Payments based on area planted/animal numbers
D. Payments based on historical entitlements
E. Payments based on input use
F. Payments based on input constraints
G. Payments based on overall farming income
H. Miscellaneous payments

II. General Services Support Estimate (GSSE) [**Sum of I to O**]

I. Research and development
J. Agricultural schools
K. Inspection services
L. Infrastructure
M. Marketing and promotion
N. Public stockholding
O. Miscellaneous

III. Consumer Support Estimate (CSE) [**Sum of P to S**]

P. Transfers to producers from consumers
Q. Other transfers from consumers
R. Transfers to consumers from taxpayers
S. Excess Feed Cost

IV. Total Support Estimate (TSE) [**I + II + R**]

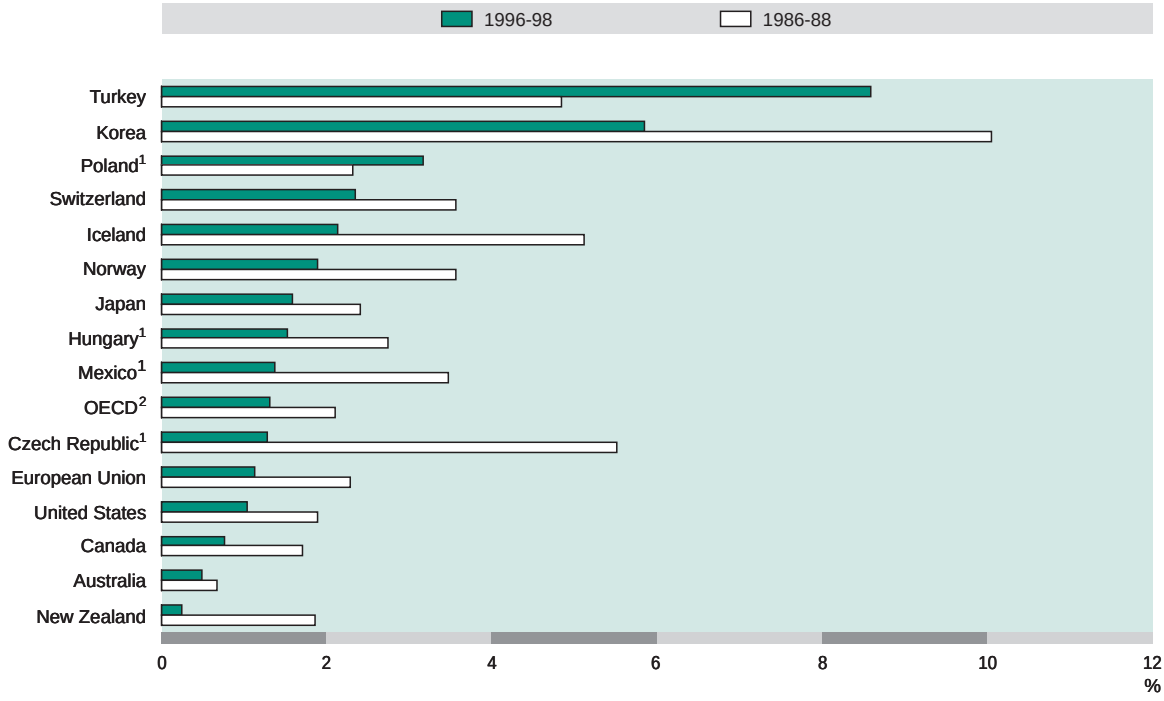
T. Transfers from consumers
U. Transfers from taxpayers
V. Budget revenues

Overall level of support

Long-run decline in OECD support levels, but a large rise in 1998. The overall level of support to agriculture for the OECD area, as measured by the percentage TSE (support associated with agricultural policies as a percentage of GDP), fell from about 2.1 per cent in 1986-88 to 1.3 per cent in 1996-98.[7] It decreased in all countries, except Turkey and Poland (Graph I.1). The TSE reached about US$350 (ECU 300) billion in 1996-98 (Table I.5). The shares of the PSE and the GSSE in the TSE remained relatively stable over the decade at about 75 per cent and 20 per cent respectively, the remainder being budgetary subsidies to NSconsumers. Over the last decade, the consumer contribution to the financing of total support to agriculture, as measured by the TSE, decreased by about 10 percentage points to 53 per cent, the remainder being financed from budgetary sources. However, significant differences in the sources of financing as well as in the level and composition of support to agriculture persist across countries. In 1996-98, the TSE per capita ranged from about US$40 in New Zealand to US$900 in Switzerland (Graph I.2).

The overall level of support to producers in OECD countries as measured by the *percentage* PSE (which expresses the total value of support to producers as a percentage of the total value of gross farm receipts, including budgetary support),[8] has been on a slow downward trend, declining from

Graph I.1. **Total Support Estimate by country**
% of GDP



Notes: Countries are ranked according to 1996-98 levels.
For more detail, see Table III.16.
1. For the Czech Republic, Hungary, Mexico and Poland, 1986-88 is replaced by 1991-93.
2. For 1986-88, the Czech Republic, Hungary and Poland are excluded.
Source: OECD, PSE/CSE database.

41 per cent in 1986-88 to 33 per cent in 1996-98. This can be expressed as support to producers being about one third of total gross farm receipts, including budgetary support. In other words, as measured by the producer NAC of 1.50 in 1996-98, total gross receipts were 50 per cent higher than at world market prices without budgetary support. The PSE was 32 per cent in 1997, but increased to 37 per cent in 1998, due to a sharp fall in world market prices, which was not matched by a fall in supported producer prices on average (Table I.5).

The decrease in the percentage PSE over the last decade was largely due to a decline in market price support and payments based on output, although most other types of payments increased, especially those based on area planted or animal numbers, as well as support based on historical entitlements. The long-run decline in market price support has been caused largely by an upward trend in world market prices, and to a lesser extent to a downward trend in supported prices

The composition of support to producers, as measured by the PSE, has also changed over the last decade (Table I.6). The share of market price support fell from 77 per cent in 1986-88 to 67 per cent in 1996-98, and the share of payments based on output halved to 3 per cent. But the share of payments based on area or animal numbers doubled to 13 per cent. The share of payments based on input use (for example, interest concessions, capital grants) have been consistently around 9 per cent. Although payments based on constraints on the use of fixed and variable inputs (including environmental constraints) have increased nearly three fold, they represent only about 3 per cent of support. The share of payments based on overall farming income remain very low, representing less than 1 per cent of support. Overall, although with wide variations across countries, around 80 per cent of support to producers in OECD is still based on output, area or animal numbers, although

Table I.5. **OECD: Estimates of support to agriculture**

	1986-88	1991-93	1996-98	1997p	1998p
Producer Support Estimate (PSE)					
(US$ billion)	247	292	259	246	274
(ECU billion)	224	237	221	217	245
Percentage PSE [1]	41	39	33	32	37
Producer NAC	1.7	1.7	1.5	1.5	1.6
General Services Support Estimate (GSSE)					
(US$ billion)	63	77	66	66	63
(ECU billion)	57	63	56	59	56
Percentage GSSE [1]	19	20	19	20	17
Consumer Support Estimate (CSE)					
(US$ billion)	–192	–221	–172	–160	–181
(ECU billion)	–174	–180	–147	–141	–162
Percentage CSE [1]	–36	–34	–25	–24	–29
Consumer NAC	1.6	1.5	1.3	1.3	1.4
Total Support Estimate (TSE) [2]					
(US$ billion)	326	394	349	336	362
(ECU billion)	297	320	298	297	324
Percentage TSE [1, 3]	2.1	1.7	1.3	1.3	1.4

p: provisional. See Part II for definitions.

1. The denominators of the indicators in percentage are: PSE – the total farm receipts (including budgetary support); GSSE – the total value of support to agriculture as measured by the TSE; CSE – the total value of consumption expenditure on commodities domestically produced (measured at farm gate), including budgetary payments to consumers; and TSE – the total GDP.
2. TSE is the sum of PSE, GSSE and *transfers from taxpayers to consumers in the CSE*. Note that the TSE is *not* the addition of PSE, GSSE and CSE, as the transfers from consumers to producers appear with opposite signs in both the PSE and the CSE.
3. Excluding the Czech Republic, Hungary and Poland for which consistent GDP data is not available for 1986-88.

Source: OECD, PSE/CSE database.

some of the payments are based on limited output, area or animal numbers, or associated with environmental cross-compliance conditions.

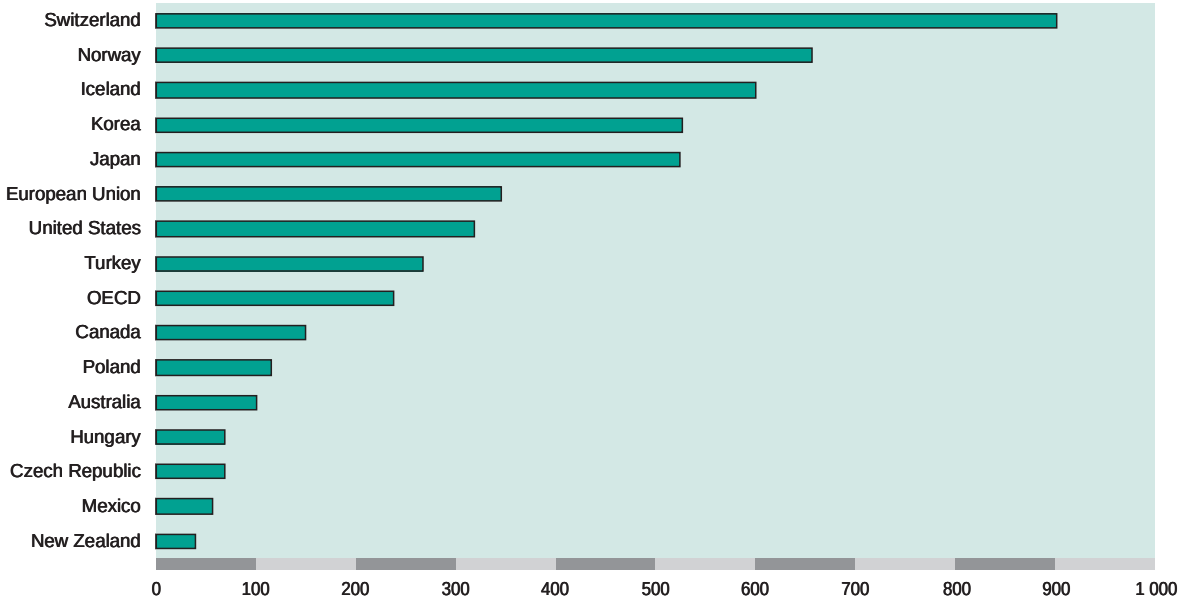
Reflecting the shift to budgetary payments, the percentage CSE, which measures the share of consumption expenditure due to policies affecting agriculture (the implicit tax on consumers), fell from 36 per cent in 1986-88 to 25 per cent in 1996-98. Thus, the contribution of consumers to finance support to producers is about a quarter of the value of consumption expenditure (at farm gate prices, and including consumption subsidies) on domestically produced commodities. In other words, as measured by the consumer NAC, consumption expenditure was 34 per cent higher than at world market prices without any budgetary payments. The percentage CSE increased by 5 percentage points to 29 per cent in 1998, mainly reflecting the increase in market price support to farmers (Table I.5).

Level of support by country

Wide variations in the long-run trend among OECD countries. There are wide variations in the level and composition of support for individual countries and commodities among OECD countries, as there are also wide variations in farm structures, natural, social and economic conditions, and trade positions. In 1996-98, the share of GDP to support agriculture, as measured by the percentage TSE, ranged from below 1 per cent in Australia and New Zealand to 5 per cent in Korea, and over 10 per cent in Turkey (Graph I.1). The share of TSE for general services provided to agriculture, as measured by the percentage GSSE, ranged from less than 10 per cent in the European Union, Mexico, Norway and Switzerland, to about 30 per cent in Australia, Canada, Turkey and the United States, and to 45 per cent in New Zealand (Graph I.3).

In 1998, support to producers, as measured by the percentage PSE and the producer NAC, increased in all countries, except Korea and New Zealand. However, over the last decade support to producers has tended to decrease in all countries. But, while it has remained below the OECD average in North America

Graph I.2. **Total Support Estimate per capita, 1996-98**
US$



Note: For more detail, see Table III.17.
Source: OECD, *Labour Force Statistics,* Paris, 1998; OECD PSE/CSE database.

and Oceania, it has remained higher in most European countries and Asian OECD countries. Countries within these groups present some similarities not only in their levels of support, but also in production conditions and trade positions. The Czech Republic, Hungary, Mexico, Poland, and Turkey are countries marked by ongoing major structural adjustments and similar macroeconomic developments, and generally recorded levels of support lower than the OECD average (Graphs I.4 and I.5). Although with some minor differences, the PSE per farmer and per hectare give essentially the same picture. The PSE per full-time farmer ranged from about US$500 in Mexico to US$34 000 in Switzerland, and the PSE per hectare ranged from about US$2 in Australia to US$9 500 in Japan (Graphs I.6 and I.7).

Support below the OECD average in North America and Oceania. Over the last decade, Australia, Canada, New Zealand and the United States have had levels of support to producers lower than the OECD average, as measured by the percentage PSE and producer NAC (Graphs I.4 and I.5). All of them are net exporters of major agricultural commodities, have a predominance of large farms, and a relatively low share of the civilian population in agriculture. With a percentage GSSE of around 30 per cent, the share of support to general services in total support to agriculture is the highest in the OECD area (Graph I.3). The share of market price support tended to increase and is more than half of the support to producers in 1996-98 in all these countries (Table I.6). However, this form of support is only applied to a small number of main commodities in an overall context of relatively low levels of support. Domestic prices in these countries are in general closely aligned with world market prices as shown by relatively low levels of the CSE and the consumer NAC (Graphs I.8 and I.9). In the case of the United States, the low level of implicit tax on consumption is accentuated by consumer subsidies, in particular food stamps. In 1996-98, the CSE was positive and the consumer NAC was below 1 reflecting a subsidy on food consumption in the United States.

In **Canada,** support to producers over the last decade more than halved to 15 per cent in 1996-98. While the share of market price support increased, the share of all other payments decreased, except for

Table I.6. **Composition of Producer Support Estimate**

% of PSE

		Market price support	Payments based on:						Miscellaneous payments
			Output	Area planted/ animal numbers	Historical entitlements	Input use	Input constraints	Overall farming income	
Australia	1986-88	55	0	0	0	17	0	22	7
	1996-98	54	4	0	0	20	0	16	6
Canada	1986-88	49	17	17	0	15	0	0	2
	1996-98	55	9	4	11	12	0	9	0
Czech Republic	1991-93	95	0	0	0	5	1	–1	0
	1996-98	63	0	2	0	35	0	0	0
European Union	1986-88	84	6	2	0	7	1	0	0
	1996-98	52	4	29	1	9	4	0	1
Hungary	1991-93	74	0	0	0	18	1	2	6
	1996-98	39	5	0	0	46	0	9	0
Iceland	1986-88	87	1	1	0	11	0	0	0
	1996-98	46	46	0	0	8	0	0	0
Japan	1986-88	90	3	0	0	4	3	0	0
	1996-98	92	2	0	0	4	2	0	0
Korea	1986-88	99	0	0	0	1	0	0	0
	1996-98	95	0	0	0	4	0	1	0
Mexico	1991-93	86	1	0	0	13	0	0	0
	1996-98	30	0	2	34	33	0	0	0
Norway	1986-88	51	23	9	0	17	2	0	0
	1996-98	42	21	9	0	27	1	0	0
New Zealand	1986-88	26	0	0	20	45	0	9	0
	1996-98	78	0	0	0	22	0	1	0
Poland	1991-93	n.c.	0	0	0	n.c.	0	0	0
	1996-98	87	0	0	0	13	0	0	0
Switzerland	1986-88	87	1	6	0	2	0	0	3
	1996-98	65	1	15	12	3	1	0	3
Turkey	1986-88	76	0	0	0	24	0	0	0
	1996-98	72	2	0	0	26	0	0	0
United States	1986-88	47	7	26	0	13	2	2	3
	1996-98	50	1	2	19	15	6	3	5
OECD	1986-88	77	5	6	0	8	1	1	1
	1996-98	67	3	13	4	9	3	1	1

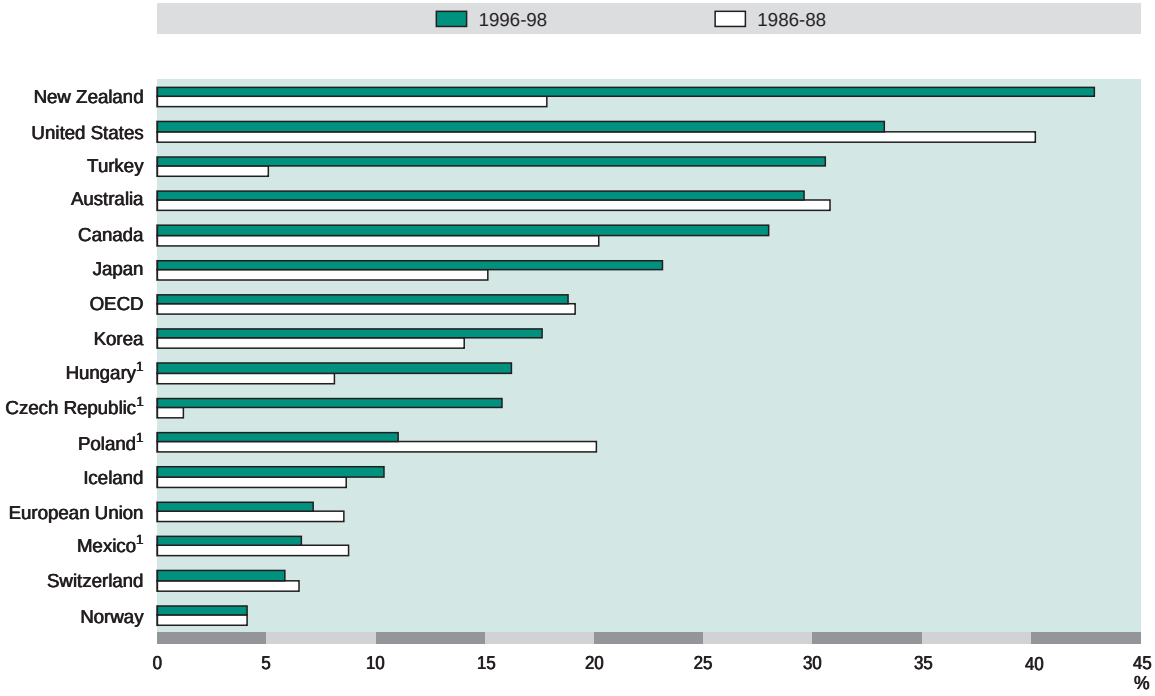
Note: n.c.: not calculated.
Source: OECD, PSE/CSE database.

payments based on overall farming income. In 1998, the PSE increased by 2 percentage points to 16 per cent, mainly due to higher market price support for milk and to higher crop insurance payments.

In the **United States,** the PSE decreased to 17 per cent in 1996-98, in particular due to a marked decrease in payments based on output and area planted. Market price support (mainly for milk and sugar) accounts for about half of support, most of the remainder is based on historical support entitlements for crops, and input use. Payments based on input constraints (including environmental constraints) increased three fold and now represent over 5 per cent of support to producers. In 1998, the PSE increased by 8 percentage points to 22 per cent, due to high *ad hoc* and *ex post* payments mainly for crops, and to market price support for milk, due to the combined effect of a rise in the domestic milk price and a fall in the world market price.

With a PSE of about 7 per cent over the last decade, **Australia** has the second-lowest level of support in the OECD area. Apart from market price support mainly provided to the milk sector, the other main

Graph I.3. **General Services Support Estimate by country**
% of TSE



Notes: Countries are ranked according to 1996-98 levels.
For more detail, see Table III.10.
1. For the Czech Republic, Hungary, Mexico and Poland, 1986-88 is replaced by 1991-93.
Source: OECD, PSE/CSE database.

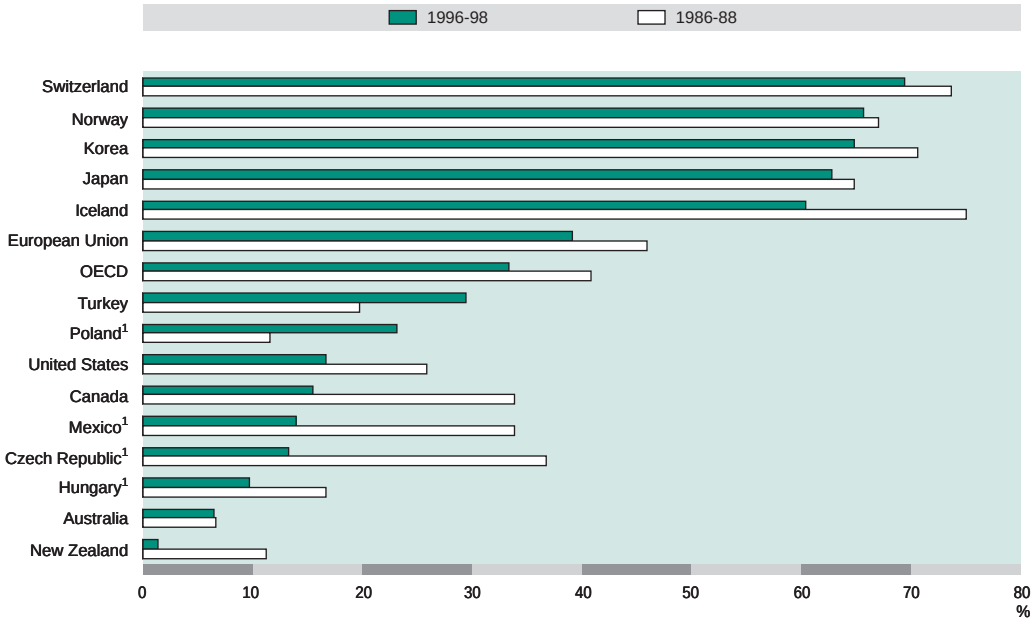
forms of support to producers are based on input use, and on overall farm income. In 1998, the percentage PSE remained at 7 per cent, but with a rise in producer prices and a reduction in world market prices for milk, which more than offset the reduction in payments based on input use, the PSE in monetary terms increased.

New Zealand, with a PSE of 2 per cent since 1991, provides the lowest level of support to producers of all OECD countries. In 1996-98, about three-quarters of support to producers was from market price support resulting from sanitary restrictions on imports of poultry and eggs, with the rest in the form of payments based on input use, mainly on-farm animal health services. In 1998, the percentage PSE fell to 1 per cent, due to a fall in market price support for poultry resulting from a rise in the world market price.

Support above the OECD average in most European countries and Asian OECD countries. Consistently over the last decade, support to producers has been above the OECD average in the European Union, Iceland, Norway and Switzerland, as well as in Japan and Korea. These Member countries present certain similarities in their production conditions and trade positions. All of them, including most of the EU member countries, are net importers of agricultural commodities, with a predominance of small farms and a relatively high share of the civilian population in agriculture. However, the EU as a whole is a net exporter of major agricultural commodities. While the level of support to producers in the EU is just above the OECD average, it is significantly above the OECD average in the other countries of this group (Graphs I.4 and I.5).

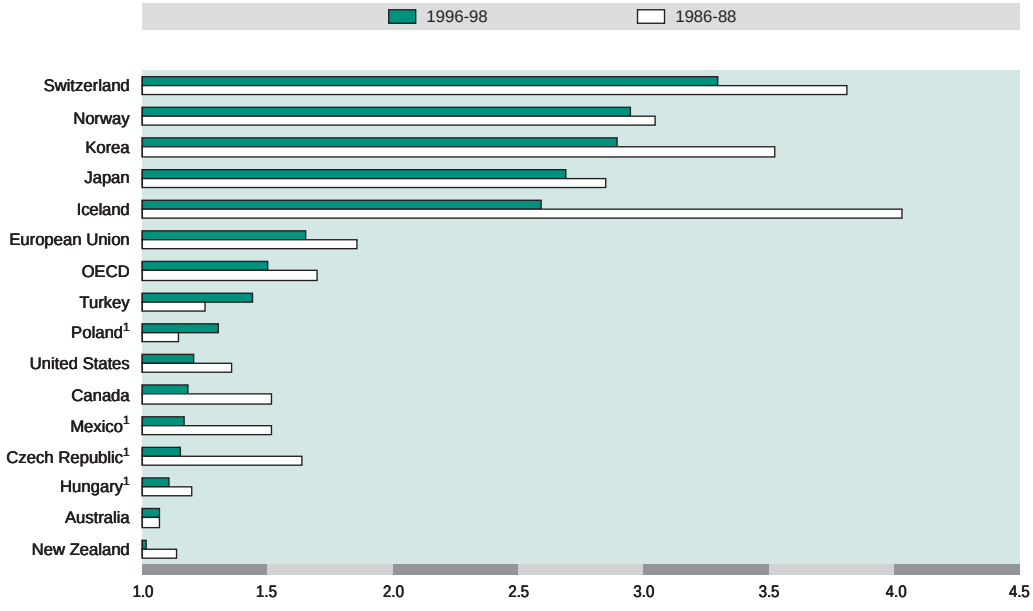
The percentage GSSE is significantly below the OECD average in the European countries, but around the OECD average in Japan and Korea (Graph I.3). Apart from Norway, countries in this group grant market price support for most major commodities, and have the highest share of market price support in overall support to producers amongst Member countries. This share has been significantly reduced to around

Graph I.4. **Producer Support Estimate by country**
% of value of gross farm receipts



Notes: Countries are ranked according to 1996-98 levels.
For more detail, see Table III.5.
1. For the Czech Republic, Hungary, Mexico and Poland, 1986-88 is replaced by 1991-93.
Source: OECD, PSE/CSE database.

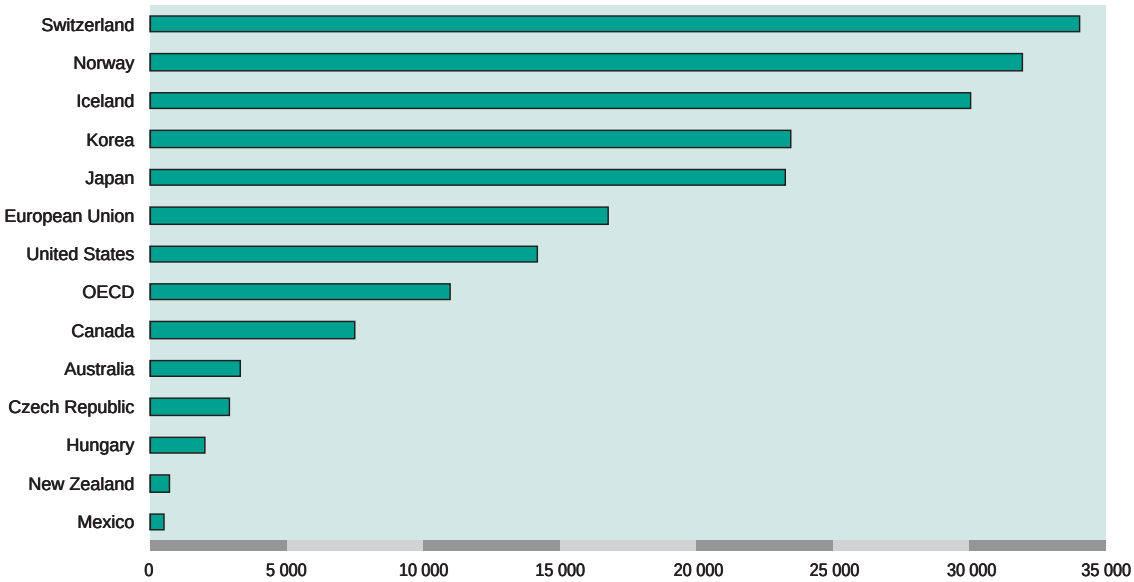
Graph I.5. **Producer Nominal Assistance Coefficient by country**



Notes: Countries are ranked according to 1996-98 levels.
For more detail, see Table III.5.
1. For the Czech Republic, Hungary, Mexico and Poland, 1986-88 is replaced by 1991-93.
Source: OECD, PSE/CSE database.

Graph I.6. **Producer Support Estimate per farmer, 1996-98**

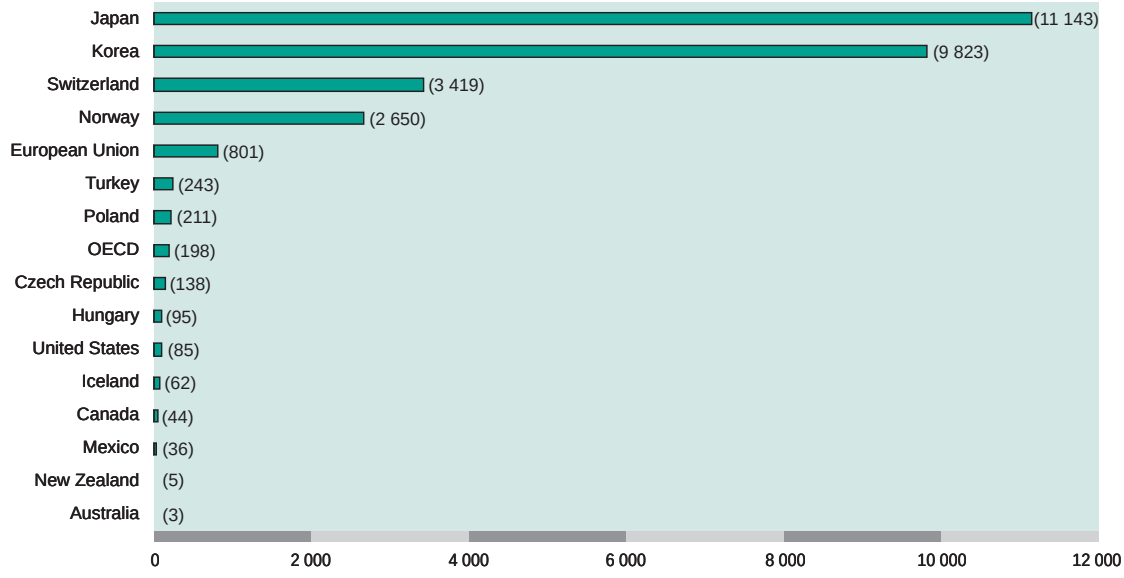
US$



Notes: PSE per Full-time Farmer Equivalent (FFE). All forms of labour – farmers, hired employees and unpaid family workers – are included in the calculation of FFEs. For the definition of FFE, see Part II.2.
Not calculated for Poland and Turkey.
For more detail, see Table III.7.
Source: OECD PSE/CSE database.

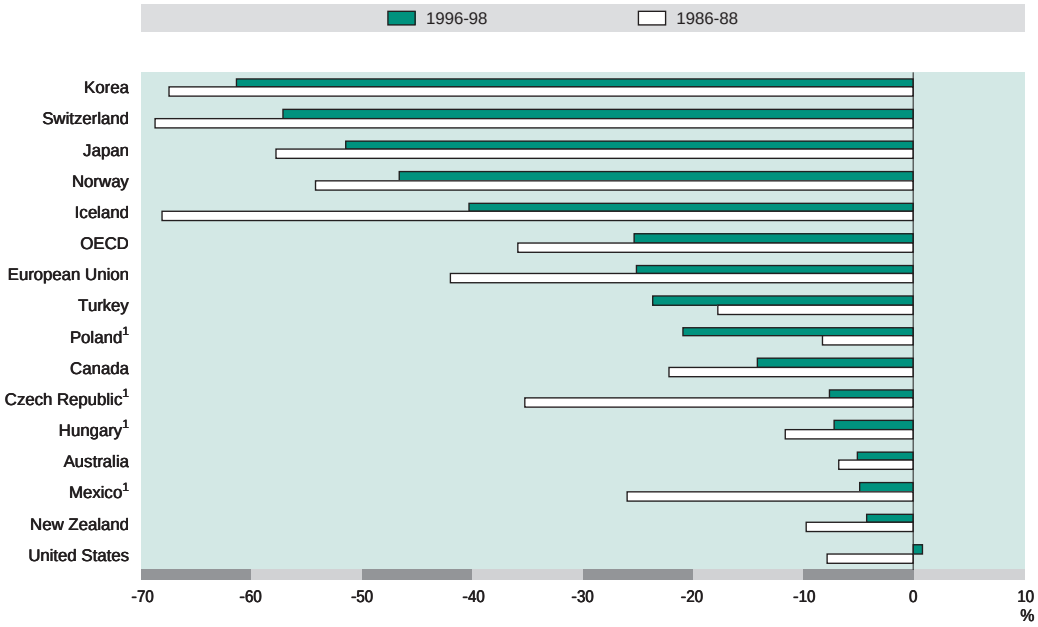
Graph I.7. **Producer Support Estimate per hectare, 1996-98**

US$



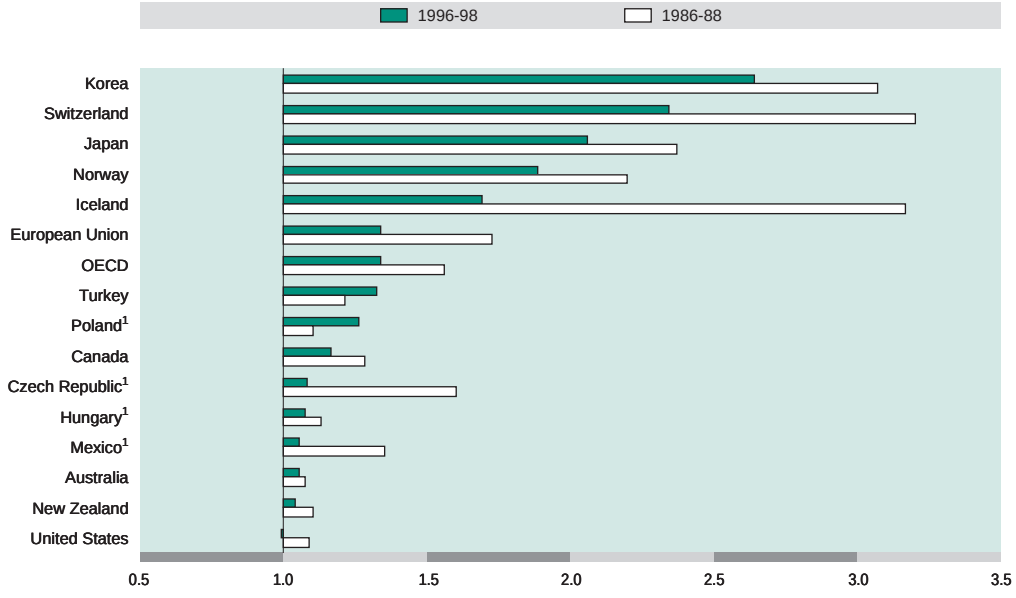
Notes: PSE per hectare of agricultural land (arable land, permanent crops and permanent meadows and pastures).
For more detail, see Table III.8.
Source: OECD PSE/CSE database.

Graph I.8. **Consumer Support Estimate by country**
% of consumption valued at the farmgate



Notes: Negative values indicate an implicit tax on consumption.
Countries are ranked according to 1996-98 levels.
For more detail, see Table III.12.
1. For the Czech Republic, Hungary, Mexico and Poland, 1986-88 is replaced by 1991-93.
Source: OECD, PSE/CSE database.

Graph I.9. **Consumer Nominal Assistance Coefficient by country**



Notes: Countries are ranked according to 1996-98 levels.
For more detail, see Table III.13.
1. For the Czech Republic, Hungary, Mexico and Poland, 1986-88 is replaced by 1991-93.
Source: OECD, PSE/CSE database.

50 per cent in the European countries, but remains above 90 per cent in Japan and Korea (Table I.6). The relative importance of market price support in these countries is mirrored in the levels and changes in the CSE and consumer NAC (Graphs I.8 and I.9).

As measured by the percentage PSE, support to producers in the **European Union** fell from 46 per cent in 1986-88 to 39 per cent in 1996-98. While the share of market price support fell, there was a substantial increase in the share of payments based on area planted and animal numbers. Payments based on input constraints (including environmental constraints) increased six fold, but only accounted for 4 per cent of support to producers at the end of the period. In 1998, the PSE increased by 7 percentage points to 45 per cent, due to an increase in market price support (due mainly to a fall in world market prices), as overall budgetary payments remained stable.

Support to producers in **Iceland,** as measured by the percentage PSE, declined by 15 percentage points over the last decade – to 60 per cent in 1996-98. The significant reduction in the share of market price support was more than compensated for by an increase in the share of payments based on output. In 1998, the PSE increased by 11 percentage points to 69 per cent, mainly the effect of an increase in market price support, due to an increase in domestic prices and a fall in world market prices for livestock.

Support to producers in **Norway** declined by 1 percentage point over the last decade – to 66 per cent PSE in 1996-98, the second highest PSE in the OECD area. Norway has traditionally recorded a low and falling share of market price support in the PSE, together with a high share of payments based on output and on input use. In 1998, the PSE increased by 5 percentage points to 70 per cent, the effect of an increase in market price support, mainly due to a fall in world market prices together with an increase in producer prices, and in payments based on area planted or animal numbers.

Support to producers in **Switzerland** declined by 5 percentage points over the last decade – to 69 per cent PSE, the highest in the OECD area in 1996-98. The share of market price support in the PSE decreased significantly together with an increase in the share of payments based on area or animal numbers and historical support entitlements. Payments based on input constraints (including environmental constraints) increased significantly, but those that are not commodity specific represent only 2 per cent of the support to producers. In 1998, the PSE increased by 5 percentage points to 73 per cent, mainly due to a fall in world market prices.

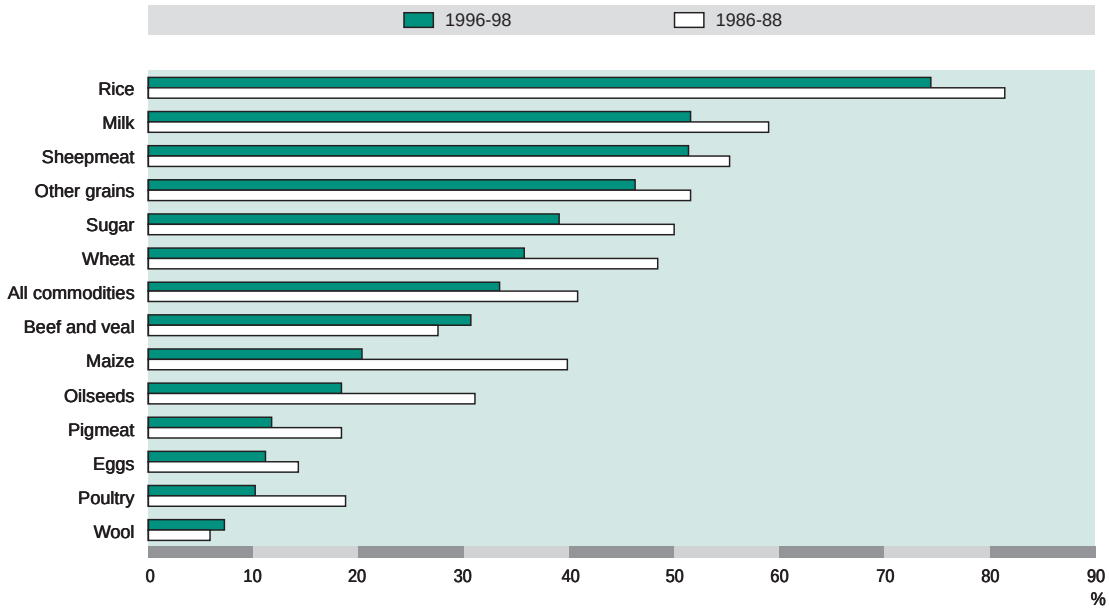
Support to producers in **Japan,** as measured by the percentage PSE, declined to 63 per cent in 1996-98, a fall of 2 percentage points since 1986-88. The share of market price support has remained stable, at around 90 per cent of support to producers. In 1998, the PSE increased by 2 percentage points to 63 per cent, which was due to an increase in market price support, resulting from a decrease in world market prices that was greater than the fall in domestic prices.

Support to producers in **Korea** decreased by 6 percentage points over the last decade to a 65 per cent PSE in 1996-98. Market price support decreased, but still represents 94 per cent of support to producers. In 1998, the PSE fell by 7 percentage points to 59 per cent, which was largely due to the sharp depreciation of the won which more than offset the fall in world market prices in dollar terms.

Support in countries marked by major structural problems and macroeconomic developments has remained below the OECD average (Graphs I.4 and I.5). The **Czech Republic, Hungary, Mexico, Poland** and **Turkey** have generally experienced high inflation[9] and volatile exchange rates over the last decade. The **Central European** countries and **Mexico** have in addition been undergoing a process of fundamental economic reform involving deregulation and trade liberalisation, the former in the context of transition from centrally planned to market economies, the latter in the context of NAFTA. With respect to agriculture, all countries in this group have severe structural problems leading to relatively low productivity, including in the upstream and downstream sectors. Despite the structural and productivity problems in the agricultural sector, the share of support to general services provided to agriculture, as measured by the percentage GSSE, is below the OECD average in all these countries, except in Turkey due to high financial costs associated with the price premium paid to cotton producers in 1993 (Graph I.3).

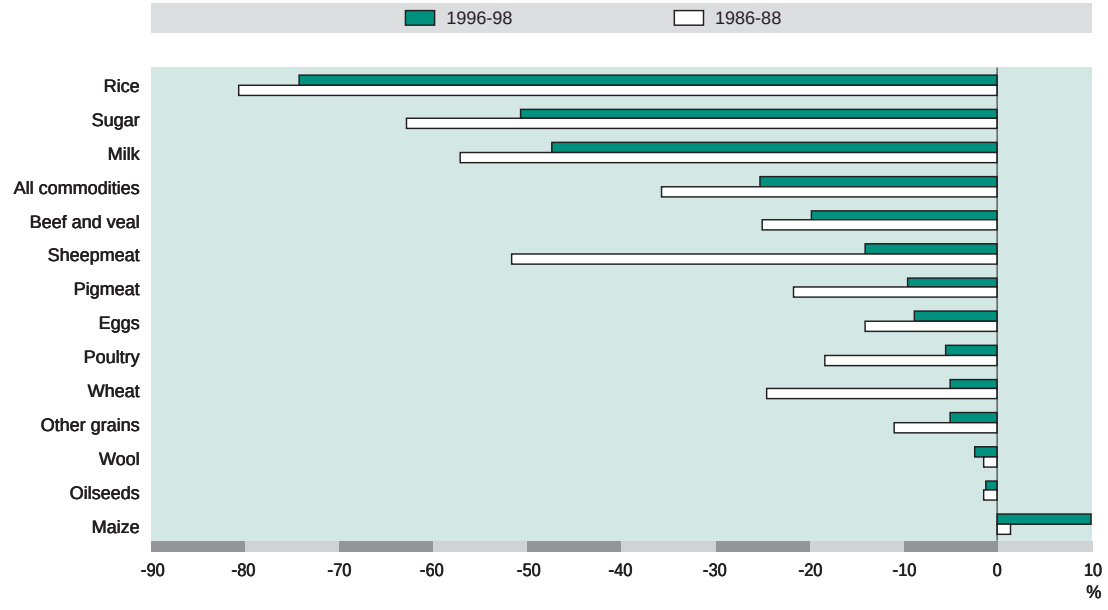
In the **Czech Republic,** since the economic reform initiated at the beginning of the 1990s, the PSE fell from 37 per cent to 13 per cent in 1996-98. Two-thirds of the support is in the form of market price support and 28 per cent is based on input use. In 1998, the PSE increased by 7 percentage points to 17 per

Graph I.10. **Producer Support Estimate by commodity**
OECD average as % of value of gross farm receipts



Notes: Products are ranked according to 1996-98 levels.
For more detail, see Table III.6.
Source: OECD, PSE/CSE database.

Graph I.11. **Consumer Support Estimate by commodity**
% of consumption valued at the farmgate



Notes: Negative values indicate an implicit tax on consumption.
Products are ranked according to 1996-98 levels.
For more detail, see Table III.13.
Source: OECD, PSE/CSE database.

cent, the combined effect of increases in market price support (mainly for grains and milk) and in payments based on area planted or animal numbers.

In **Hungary,** since the economic reform initiated at the beginning of the 1990s, the PSE fell from 17 per cent to 10 per cent in 1996-98. While the share of market price support in support to producers fell to 45 per cent, the share of payments based on input use increased significantly to 42 per cent. In 1998, the PSE increased by 4 percentage points to 12 per cent, essentially the effect of an increase in market price support (mainly for milk) and to a limited extent in payments based on input use.

In **Poland,** support to producers, as measured by the PSE, initially fell significantly with the economic reform at the beginning of the 1990s, but has since doubled to reach 23 per cent in 1996-98. This increase has been the result of a significant rise in market price support, which now accounts for 87 per cent of the PSE. At the same time, the share of support based on input use halved to 13 per cent. In 1998, the PSE increased by 4 percentage points to 25 per cent, due to an increase in market price support, essentially the combined effect of a rise in producer prices and a decline in world market prices.

In **Mexico,** with the economic reform initiated at the beginning of the 1990s, the PSE decreased by 20 percentage points to 14 per cent in 1996-98. Market price support and support based on input use have fallen significantly to respectively 56 and 17 per cent of support to producers, and a quarter is now in the form of support based on historical entitlements (PROCAMPO). In 1998, the PSE increased by 3 percentage points to 19 per cent, essentially due to a rise in producer prices, as the fall in world market prices was more than offset by the depreciation of the Mexican peso.

In **Turkey,** support to producers, as measured by the PSE, has been below the OECD average but has increased in each of the last three years to reach 29 per cent in 1996-98. The main source of support remained market price support accounting for 82 per cent of the PSE, while payments based on input use account for 17 per cent. In 1998, the PSE increased by 8 percentage points to 39 per cent, due to an increase in market price support, essentially due a rise in producer prices as the depreciation of the Turkish Lira more than offset the fall in world market prices in dollar terms.

Level of support by commodity

Wide variations also in support among commodities. As with countries, there are also wide variations in the levels of support to producers for the major agricultural commodities.[10] Since 1986-88, the percentage PSE declined for all commodities, except for beef and veal, and wool (Graph I.10). Despite a fall of 7 percentage points, at 74 per cent, the PSE for rice remained the highest in 1996-98. The PSE for wheat and sugar fell by over 10 percentage points, but together with rice, milk and sheepmeat were above the OECD average. Rice, sugar and milk are commodities for which market price support continues to be the main source of support in all OECD countries.[11] Consequently, these commodities are those with the highest levels of implicit tax on consumption as measured by the CSE. On the other hand, maize consumption has been generally subsidised, mainly due to relatively high consumption subsidies on maize used for food in Mexico (Graph I.11).

The percentage PSE for crops overall is below the OECD average, having fallen by over 20 percentage points for maize and by over 10 percentage points for oilseeds over the last decade. The shift from market price support to payments based on area planted and animal numbers has, in general, been accompanied by a reduction in support for crops, but an increase for beef and veal. However, in 1998, percentage PSE increased for all commodities, except poultry. This was mainly the result of the fall in world market prices not matched by declines in domestic support prices.

3. EVALUATION OF AGRICULTURAL POLICY DEVELOPMENTS

The previous section reviewed the main trends in the level and composition of support to agriculture, and the incidence of that support on taxpayers and consumers, as measured by a number of OECD indicators. This section evaluates the broad directions in agricultural policy reform in Member countries over the last decade, followed by the main policy developments in 1998 and a review of new framework laws for agricultural policy reforms in the EU, France, Japan, Korea and Switzerland. An in-depth evaluation of long-term trends in agricultural policy reform was undertaken in 1998 for the March meeting of the OECD Committee for Agriculture at Ministerial level, updated for the 1998 monitoring and evaluation report and is reproduced in part below.[12] The 1998 assessment presented here is complemented by special policy features in Part I.4 of this report on food safety, the environment, the EU single currency and trade with non-member countries. Policy developments are assessed against the principles for agricultural policy reform adopted by the OECD Ministerial Council in 1987, re-affirmed in subsequent years, and most recently by Agriculture Ministers in 1998. The relevant text from Ministerial Communiqués is reprinted in Part II.1 of this report.

Long-term trends in agricultural policy reform

The context for policy reform changed significantly over the last ten years, suggesting a changing frame of reference for policy makers. Membership in the OECD has been enlarged since 1994 to include five additional countries (Czech Republic, Hungary, Korea, Mexico, Poland), thus widening the spectrum of economic and social conditions across the OECD. Population and, until recently, strong economic growth in South East Asia, combined with political upheavals in Central and Eastern Europe and the former Soviet Union, shifted trade patterns, while trade in processed products took on increased economic importance. The large surpluses, low prices and extensive use of export subsidies which characterised world cereal markets in the late 1980s gave away to strong demand, high prices and historically low stock-to use ratios by the mid-1990s, but surpluses and low prices re-emerged towards the end of 1997 and during 1998. Vertical integration and co-ordination, greater concentration, increased foreign ownership and new technologies have fundamentally altered the structure of the agro-food sector. Agriculture has become more specialised with bulk commodity markets and auction systems declining with the emergence of more differentiated products regulated by contracts. As the agro-food sector has become more integrated, many primary producers and processors have witnessed a decline in market power and, in some cases, a redistribution of risks and returns. At the other end of the food chain, consumers have become more vocal with the result that concerns, such as food safety, environment and animal welfare, have a higher profile on the policy agenda.

Shifting government priorities, budgetary pressures and the expansion of multilateral, regional and bilateral trade agreements have brought many changes to agricultural policy in Member countries, ranging from limited reinstrumentation to comprehensive reforms. From the domestic perspective, policy makers are seeking to balance a wider range of objectives and mediate amongst a broader range of interest groups. This has created a need for greater flexibility and adaptability in agricultural policies, consistency with broader policy frameworks and a shift in focus from the farmgate to the entire agro-food sector and rural economy. Progress has been made towards the OECD Ministerial principles for agricultural policy reform, in particular, following implementation of the Uruguay Round Agreement on Agriculture (URAA) from 1995. The main highlights have been:

- greater transparency in border protection and increased exposure of domestic markets to international competition, but overall barriers to trade remain high;

- reduced levels of support to agriculture and increased market orientation, but progress has been uneven across countries and commodities;
- significant shift from market price support to budgetary payments, although most payments remain linked by different degrees to commodities or inputs and supply controls persist;
- decreased use of subsidies for purchased inputs such as fertilisers and pesticides, with enhanced support for farm investment and diversification;
- growing emphasis on agri-environmental payments and cost-sharing measures, but the transparency, targeting and cost-effectiveness of these measures need to be improved;
- greater emphasis on continued structural adjustment and support to disadvantaged areas, with more attention to sector-wide policy impacts and policy coherence with rural development objectives;
- increased focus on domestic regulatory measures, especially in the areas of food safety/quality, leading to international disputes where such measures are perceived as constituting non-tariff trade barriers.

Reducing trade distortions

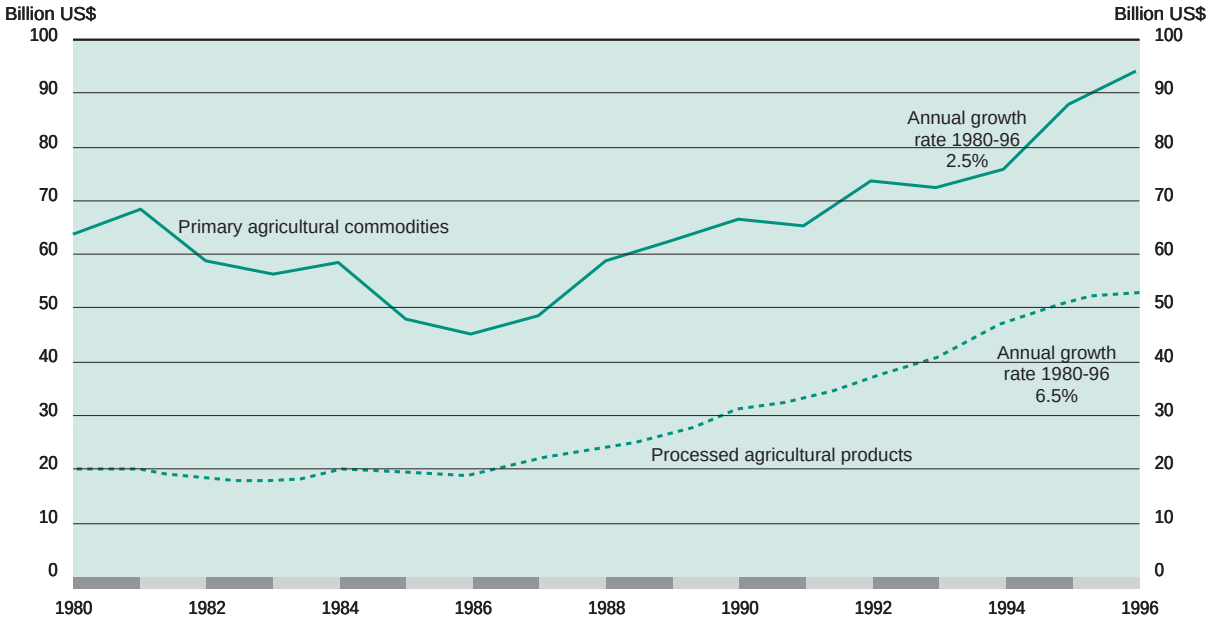
The tariffication that took place as a result of the URAA resulted in the elimination of virtually all quantitative restrictions on imports and their replacement by bound tariffs, although a number of tariff rate quotas have been created.[13] In the short run, however, the tariffs that have replaced non-tariff barriers are, in some cases, so high that they deter potential imports and continue to shield producers from world markets. Nonetheless, some hitherto closed markets have been opened and new trade opportunities have been created under the minimum access commitments. Many OECD countries have been able to take advantage of these newly created export opportunities, although a significant number of the tariff-rate quotas have not been filled. In some cases this is due to high in-quota tariffs but also because changes in domestic and international prices have reduced import demand or have made exports under quota arrangements less attractive. In addition, some questions have arisen concerning quota administration, in particular the allocation of import licences.

The high tariff levels for agricultural products stand out against the more modest levels achieved over successive GATT Rounds for manufactured goods in most industrial countries and an increasing number of middle and low income nations. Many manufacturing tariffs are of the order of 5-10 per cent, and several countries have average tariffs for the manufacturing sector of considerably less than 10 per cent. Agricultural tariffs by contrast average above 40 per cent, with tariff peaks of over 300 per cent.[14] However, applied rates within tariff rate quotas (TRQs) for those products are generally much lower.

The constraints on the value and volume of export subsidies are one of the more effective measures of the URAA, although the high world prices prior to 1998 made the export subsidy limits less constraining, especially for grains. Indeed, some governments implemented export taxes and quantitative export restrictions during peak-price periods in order to slow down or limit the outflow of grains and to prevent domestic prices from rising to world market levels. Export taxes and restrictions make goods more expensive for importers, and export restrictions also prevent supplies from reaching international markets, and may therefore increase concern over price fluctuations and the availability of food in countries that are heavily dependent on food imports. More recently, export subsidy constraints have been binding in a large number of cases, reducing the distortion of trade that would otherwise have occurred.

There has also been a move to a more liberal trade regime for processed food products, which will have substantial benefits for consumers and the agro-food sector, especially as trade has grown more rapidly for processed than for primary agricultural products (Graph I.12). A 1997 OECD study, *The Uruguay Round Agreement on Agriculture and Processed Agricultural Products*, identified significant tariff reductions for some products in some countries which were expected to stimulate trade.[15] The report also noted that tariff escalation was reduced in some cases although still evident in a number of product chains. However, as in the case of primary agricultural products, the current protection levels for processed food products remain high and the immediate gains from trade liberalisation are likely to be small. In general, tariffs

Graph I.12. **OECD exports in primary and processed agricultural products**



Notes: For the definition of agricultural commodities and processed products, see the notes to Table I.4. OECD exports include new Members as of year of accession: Czech Republic (1995), Hungary (1996), Korea (1996), Mexico (1994) and Poland (1996). Intra-EU trade has been excluded.
Source: OECD, *Foreign Trade Statistics,* 1999.

have not been reduced more for processed than for primary agricultural products under the URAA, and the reductions are less in many cases.

Tariffication has been used less frequently for processed products and where it has been applied, the high tariffs established for the agricultural primary products carry through to the processed goods. The tendency to concentrate tariff reductions on products with relatively low protection levels, and to minimise reductions on sensitive items, such as dairy and sugar products, applies to basic and processed products alike. Consequently, sensitive processed products that have been tariffied are unlikely to benefit significantly from tariff reductions in the short or medium term; it can be expected that the disparities in protection levels between product categories will remain. Tariff escalation, even though it has been reduced still prevails in some important product chains, notably impeding imports of processed products from less developed countries where these products are not covered by preferential trade agreements.

Export subsidies have been less important for processed than for basic agricultural products in the past. Nevertheless, the export subsidy commitments under the URAA constrain exports of food products containing subsidised agricultural raw materials. Products likely to be most affected are those incorporating dairy components, sugar and cereals. Some countries have resorted to greater use of arrangements allowing duty-free entry of agricultural raw materials for processing if the final products are re-exported.

In parallel with multilateral trade liberalisation, bilateral and regional agreements continue to be developed, most of which include some provisions for agricultural commodities and processed products.[16] There has been an expansion of regional and other trade arrangements (*e.g.* NAFTA, CEFTA, AFTA) involving OECD and non-OECD countries in recent years. Many trading groups are set to expand in the future and, in contrast to the past, agricultural trade is often included in these arrangements. The Singapore WTO Ministerial Declaration noted that regional agreements can promote further liberalisation and may assist least-developed, developing and transition economies in integrating into the international trading system. Regional trade agreements may divert trade and investment to the extent that

they discriminate against third parties and restrict membership but contribute to the development of agricultural trade in cases where they allow countries to liberalise faster and more comprehensively than might have been possible through multilateral negotiations alone.

Increasing market orientation

A key reform principle is to allow market signals to influence the orientation of agricultural production. Greater market orientation has been achieved by reducing support and by delivering support through less distortionary measures, as evidenced by a decline in the producer and consumer Nominal Assistance Coefficients over the last decade for most OECD countries. The level of support can be reduced through reductions in administered prices and related interventions in domestic markets, or through reductions in budget outlays for the sector. But unless border protection is also lowered or modified to allow for the transmission of price changes, domestic markets continue to be sheltered from world markets and producers will not become more responsive to world market signals.

In carrying out reforms, some countries have put the emphasis on reducing the constraints on agriculture imposed by support policies with the aim of creating a competitive industry that can take advantage of emerging market opportunities. Others have primarily responded to internal and external pressures for reform, including those related to the implementation of the URAA. To achieve these objectives, many countries have frozen or lowered their administered prices over the last decade and these changes have often been accompanied by reductions in public purchases of agricultural commodities and some easing of supply controls (*i.e.* production quotas, land set-asides). As long as high levels of support remain in place, supply controls serve to reduce production and trade distortions, and to limit programme expenditures but they are usually associated with higher consumer costs and significant rigidities at the farm and downstream levels. In some countries, supply controls are also used to contribute to regional, environmental and social objectives. Such measures have tended to be used for those commodities with the highest levels of protection. The dairy and sugar sectors, for example, continue under tight supply management in many countries and generally less progress has been made in reducing support to these products.

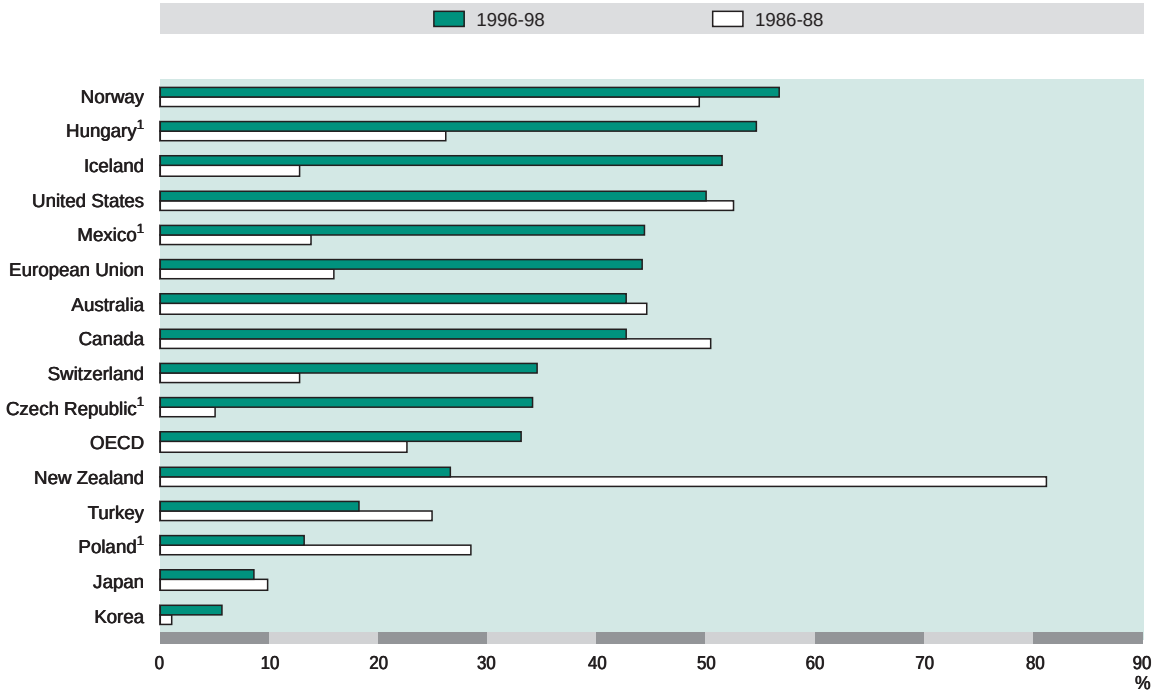
Shifting to budgetary payments

In their principles for policy reform, OECD Ministers advocated a shift away from production-linked measures and towards budgetary payments in providing support to farmers. They suggested that direct income payments, for example, would be particularly well suited to meeting the needs of, amongst others, low income farmers, those in particularly disadvantaged regions, or those affected by structural adjustment in agriculture. Budgetary payments can also provide a means of addressing certain objectives in agriculture that cannot be achieved by relying on the market mechanism alone, such as environmental or rural development objectives, without unduly distorting agricultural markets and trade.[17]

Taxpayer-financed budgetary payments to producers are more transparent and impose a smaller burden on low-income households than market price support. They can channel support more effectively to the intended beneficiaries and have smaller side-effects for other market participants. If the payments are targeted to specific problems they will be less distorting of production and trade and should allow policy objectives to be achieved with a lower overall level of support. Nonetheless, the government administrative costs associated with budgetary payments can be quite high initially, especially in countries with a large number of small farms, if there is a need for information as a payment base to be established for each eligible farm. Once this base is established, however, the administrative costs of a budgetary payment may be reduced and compare favourably with similar costs for other forms of support.[18]

Judging by the increasing share in total support provided to the agricultural sector, it appears that the OECD countries are favouring the use of budgetary payments (Graph 1.13). In fact a greater use of budgetary payments has been the predominant characteristic of agricultural policy reforms in almost all Member countries during the last decade. Nevertheless, the shift to budgetary payments has not been comprehensive and most countries still rely more heavily on price support than on budgetary payments to assist the sector.

Graph I.13. **Budgetary payments to producers**
% of PSE



Notes: Countries are ranked according to 1996-98 levels.
For more detail, see estimates of support to agriculture tables for each country in Part III.
1. For the Czech Republic, Hungary, Mexico and Poland, 1986-88 is replaced by 1991-93.
Source: OECD, PSE/CSE database.

While virtually all budgetary payment measures introduced in recent years have been implemented in the context of a decline in output-related price support and have therefore improved market orientation, they have not always reduced the dependency of the agricultural sector on support. In many cases they have been provided to compensate farmers for reductions in administered prices, leaving the overall level of support unchanged, or even increasing it if compensation was based on the assumption of lower producer prices that did not materialise. Compensation that is open-ended in time reduces the incentive for farmers to make those structural adjustments that are necessary because of reform and prolongs the burden on the taxpayer.

In terms of their influence on resource allocation, most of the programmes achieve a certain degree of dissociation from production by relating area and headage payments to fixed, historical parameters such as area planted to a crop or group of crops, or animals registered at a point of time in the past. Although such programmes weaken or eliminate the policy incentive to increase agricultural production at the margin, they usually require that the resources be kept in production and that the farmers stay in the industry. Some programmes contain payment ceilings per holding or are restricted to farms in disadvantaged areas, but many are proportional to farm size and benefit predominantly the bigger producers in the more prosperous farming areas. However, the shift to budgetary payments has made it more transparent as to who are the beneficiaries of support.

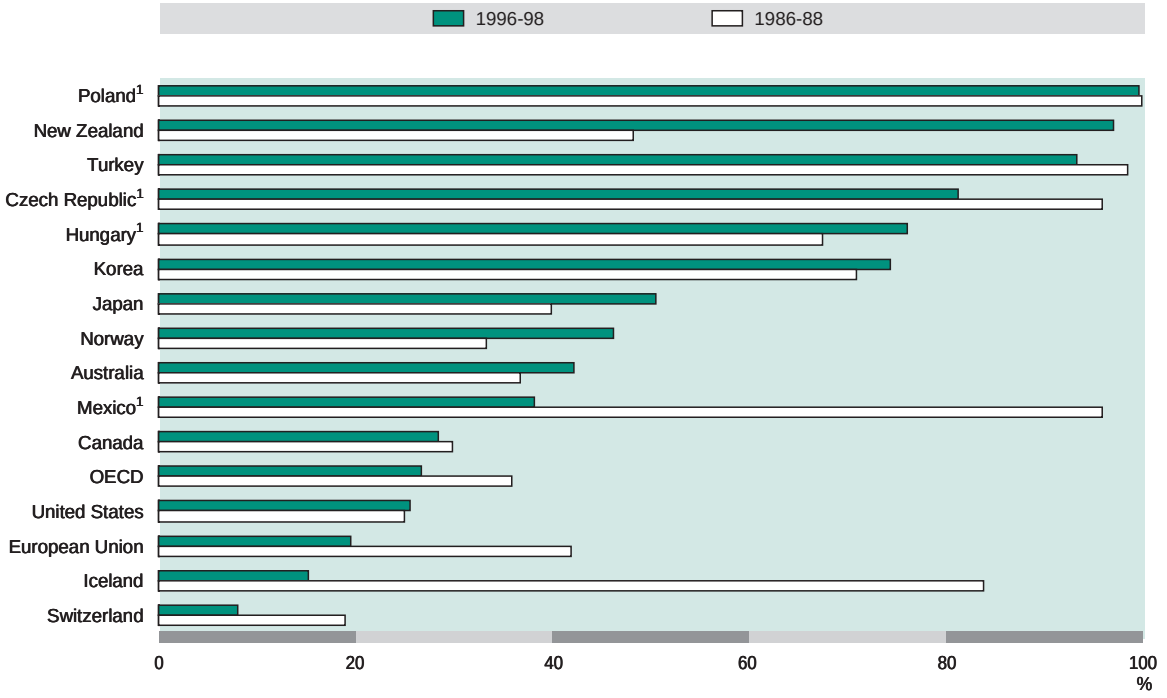
Declining use of input subsidies

Subsidies for yield-enhancing variable inputs can increase unwanted surpluses and encourage excessive use of purchased inputs at the expense of land and labour, while their net effects on farm

incomes are relatively small. Excessive use of fertilisers and pesticides, and water abstraction for irrigation at unsustainable rates, can also have detrimental consequences for the environment. General subsidies for farm equipment, buildings and structures, by increasing farm investment and attracting capital into the sector, also influence the allocation of productive resources.

Trends in types of input subsidies have generally been mixed (Graph 1.14). Over the last decade, there has been a general reduction or elimination of subsidies for fertilisers in many OECD countries. Many OECD countries continue to exempt farmers from taxes paid on transport fuels, particularly diesel. These tax exemptions typically result in farmers paying prices that are less than half of those charged to motorists. In much of the OECD area, subsidised water remains a major element of support for crops, though there have been reforms in some countries in the last decade, reducing or eliminating subsidies and imposing charges on water withdrawals by farmers.[19]

Graph I.14. **Payments to producers based on input use**
% of total budgetary payments



Notes: Countries are ranked according to 1996-98 levels.
For more detail, see estimates of support to agriculture tables for each country in Part III.
1. For the Czech Republic, Hungary, Mexico and Poland, 1986-88 is replaced by 1991-93.
Source: OECD, PSE/CSE database.

In general, investment aid is provided in a targeted fashion to facilitate structural adjustment and farm modernisation, or encourage adoption of less polluting technologies. A few countries have reduced or eliminated capital grants and interest concessions to farmers in recent years, but for some new Member countries (*e.g.* Czech Republic, Hungary, Mexico, Poland) subsidies for farm investments have been one of the primary means of modernising and restructuring the sector. Some of these countries have recently shifted away from providing capital grants and interest-free loans towards interest subsidies, which are not as completely disconnected from financial market conditions.

Improving environmental performance

Over the last ten years agricultural policy has increasingly addressed environmental issues and the sustainable use of resources in agriculture.[20] Agriculture influences the environment – soils, water, air, biodiversity, wildlife habitat and agricultural landscapes – in both beneficial and harmful ways. The specific impacts depend, among other factors, on the type and quantity of crops or livestock produced, the farming practices employed, the level and mix of chemicals applied, and site-specific environmental conditions. Farmers will enhance the environmental performance of the sector if they are faced with proper incentives to include the environmental costs and benefits of their activities in their production decisions (Box I.3). But markets do not always provide the right signals because many environmental costs and benefits are not accounted for in market prices, and, in some cases, agricultural support policies further distort production incentives.

Current efforts by Member countries to reform their agricultural policies are seen both as an opportunity and a risk for the environment. Policy reform that reduces market price support and input subsidies will contribute to achieving sustainable resource use. However, this will not necessarily be sufficient unless account is also taken of the provision by farmers of any non-renumerated environmental benefits and that farmers are held responsible for meeting the required level of environmental protection, including through input taxes and regulations (polluter-pays-principle).[21] Environmental measures in agriculture should be transparent, targeted to the objective and tailored to the environmental situation, and subject to regular monitoring and evaluation to ensure that they are effective and cost-efficient and do not distort production and trade.

The environmental performance of agriculture in the OECD area has improved in several respects over the last decade. The reductions in production-related support in recent years have in many cases generated a double benefit: they have resulted in a more efficient allocation of resources, while mitigating some of the negative effects of agriculture on the environment. In particular, reductions in price support and input subsidies have lowered the demand for chemical and mechanical inputs as well as for irrigation water. Reforms in the livestock sector have in most cases resulted in lower livestock densities, thereby reducing grazing pressure and manure surpluses and, as a consequence, the risk of soil erosion and nutrient leaching. Policy reforms have also slowed down the conversion of environmentally fragile land to agricultural uses, and in some areas have led to a shift of land from crop production to grass-based uses. The changes have sometimes been aided by land diversion schemes, which have paid farmers for idling land or for replacing arable crops by less intensive forms of production. Shifts in the location of agricultural production as a result of policy reform, which improve environmental performance in a particular country or region, may be offset by reduced performance in others.

Box I.3. Examples of agricultural practices that help sustainability

Rotation: alternating two or more crops on the same piece of land.
Intercropping: growing two or more crops simultaneously on the same piece of land.
Conservation tillage: seeding directly in the soil with little or no preparatory cultivation.
Agroforestry: growing of annual crops along with perennial trees or shrubs.
Silvipasture: Combining trees with grassland on which livestock graze.
Integrated pest management: using natural predators and pest control thresholds to control pests.
Adequate nutrient management: more targeted fertiliser use and reduction of emissions.
Semi-natural habitat management: providing hedges, low-level marshes and extensive grazing.

Source: OECD (1998), *Agriculture and the Environment Issues and Policies*, Paris.

However, there have been concerns that some of the positive environmental effects of agriculture could be reduced if reform causes agricultural activity to shrink, especially in areas where agriculture has historically supported a rich variety of flora and fauna and created scenic landscapes, or where it has

been associated with land conservation, including landslide and flood prevention. In some regions land that is taken out of agriculture will revert back to nature and enrich the environment, but in others it may degrade and erode, causing damage to wildlife habitat and biodiversity, and a loss of the flood controlling function of the land.

To prevent such damage but also to respond to the demand for environmental quality, many countries have implemented environmental measures in parallel with policy reform. These measures often involve payments aimed at reducing soil erosion, improving water quality, preserving or creating wildlife habitat and maintaining the landscape. However, most of these measures have been implemented through payments per hectare or per head of livestock rather than on the basis of specific environmental outcomes. Moreover, many of these payments have been provided in the context of high levels of overall agricultural support. There has been some resort to regulatory measures but little emphasis on levying financial charges on farmers to reduce environmental harm (polluter-pays-principle), which reflects a distribution of property rights over environmental resources that tends to favour farmers. Monitoring and assessment of the programmes have, in many cases, been insufficient.

Facilitating structural adjustment and rural development

The agricultural sectors in OECD countries continue to face pressure to adjust to economic, demographic and social forces, and to the changing economic environment created by agricultural policy reform. Structural adjustment in agriculture usually involves a decrease in farm labour (Graph I.15), an increase in the average farm size, mechanisation, greater concentration of production and, increasingly, diversification of the sources of farm household income.

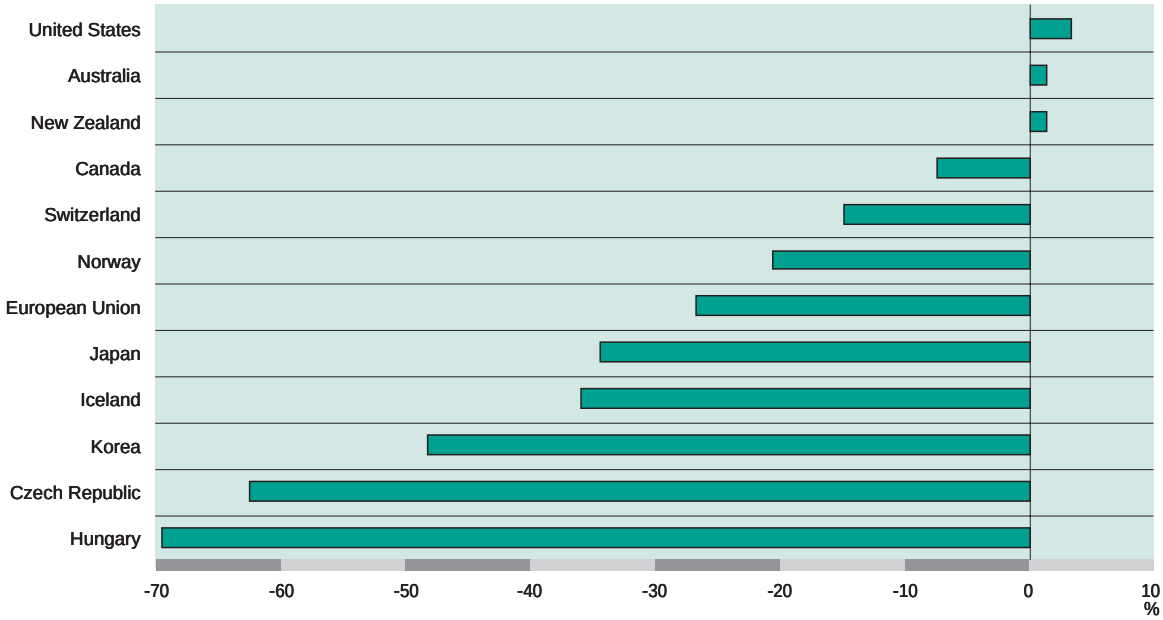
The pressure for structural adjustment can impose a degree of hardship on certain segments of the farming population, particularly in the short run. The problems are often aggravated by over-regulated land markets, tax exemptions and other restrictions that discourage the conversion of farm assets to alternative economic uses. Reducing such impediments to factor mobility is one way OECD countries have attempted to facilitate adjustment of the sector and permit a better allocation of resources. Improving factor mobility can also help increase the opportunities for farm households to mitigate the income losses and reduce the social costs associated with structural adjustment.

In the last ten years, virtually all OECD countries have implemented measures to promote structural adjustment in agriculture. Labour market measures, including education and retraining, are important elements in many structural adjustment policies. Other measures that have been used include early retirement schemes for farmers, installation and set-up assistance for new entrants into the sector, and incentives to ensure that land released in the restructuring process is taken up by viable farm units. While the majority of structural adjustment measures are sector-specific, some OECD Member countries have made efforts to embed their social security nets, retraining programmes and other employment measures for farmers in their national policy framework, which allows them to address social problems created by structural adjustment in agriculture in the same way as is done for other sectors.

It has been recognised by policy makers that rural development with its multiple objectives such as halting or reversing the decline in rural populations, reducing rural poverty, stimulating employment, fostering the development of small and medium-sized enterprises, protecting or enhancing rural amenities, maintaining a sufficient infrastructure and improving social facilities can not rely on agriculture and agricultural policy alone, but requires a broad range of economic activities and cross-sectoral policies.[22] Agricultural policy, with its emphasis on output-related support, has contributed to inflated land prices and rents, and may make rural areas less attractive to non-farm industries. Moreover, production-linked support has tended to increase rather than reduce inter-regional differences in income levels, as the largest benefits have often gone to farmers in the more affluent rural areas. At the same time, the decline in farm employment has continued.

One area where advances have been made in recent years is the promotion of regional quality produce. Some countries have begun to implement product certification and labelling schemes, which provide better information to consumers about food attributes, such as quality and geographic origin, thereby offering them a wider range of products and permitting producers of high-quality foods to benefit

Graph I.15. **Farm employment**
% change 1986-88 to 1996-98



Notes: As measured by Full-time Farmer Equivalent (FFE). All forms of labour – farmers, hired employees and unpaid family workers – are included in the calculation of FFEs. For more detail, see definition of FFE in Part II.2.
Historical data for Mexico, Poland and Turkey are not available.
For comparison purposes, Austria, Finland and Sweden have been added to the European Union in 1986-88.
Source: OECD, PSE/CSE database.

from a price premium. Promoting quality labels and labels of origin enables regional producers to specialise in certain quality segments and opens up niches for farmers who cannot be competitive on the basis of production costs alone, and can potentially stimulate economic activity in disadvantaged rural areas.

In rural regions where the prospects for economic diversification are limited, a fall in agricultural incomes could trigger a further outflow of agricultural labour and lead to economic and social problems. In such cases, social measures for low-income farm households, including direct income payments, can play an important part in easing the adjustment pressure and mitigating the degree of hardship. However, unless factor mobility is encouraged and productive outlets for labour, capital and land are provided, these measures will not help rural economies to become more viable in the long run. While most recent initiatives in rural development have been away from output-related agricultural support towards broader inter-sectoral and regional approaches, some major programmes for problem areas continue to be heavily centred on agriculture, especially in regions with few alternatives to agriculture.

Greater focus on regulatory reforms

Regulations are widespread in the agro-food sector. They are an integral part of agricultural support policies in the form of, for instance, administrative prices, supply controls and import licensing, but they are also common in the food processing industries, where many exemptions from competition laws have been granted, and where regulatory measures have been implemented to maintain competition in markets in which a group of producers, food manufacturers or retailers exercises a dominant influence. At the same time, new regulatory issues have emerged in connection with changing consumer concerns regarding food safety and quality, the way food is produced, the environment, biotechnology and animal welfare.

Regulations can be necessary and may enhance competition where markets do not ensure full transmission of economic signals and in meeting consumer concerns (*e.g.* food safety, animal welfare), but they can have adverse effects on economic performance if they are ill-adapted or have become unnecessary because market conditions have changed.[23] Regulatory measures that benefit certain groups of farmers or food manufacturers can have negative effects on the structure and performance of related industries, and exemptions from competition law can insulate inefficient firms from market forces, restrict innovation and hinder expansion into value-adding activities. Where regulations are used, they should be limited to areas of demonstrated market failure, to the extent possible be subjected to cost-benefit analysis, and their administrative and compliance burdens should be minimised by ensuring sufficient flexibility and clear definitions of responsibilities within the regulatory framework. There is also a risk that regulatory responses to legitimate public concerns can act as non-tariff barriers to trade, as evidenced by a number of international disputes involving domestic food safety and quality regulations.

The agricultural policy reforms of the past decade have permitted some relaxation of distorting regulations in OECD countries, although progress has been limited and restricted to a few commodity markets. Among the achievements that have been made in the regulatory field in recent years are a series of bilateral agreements on veterinary and health standards, some limited regional harmonisation of standards, and a greater recognition of the importance of transparent and science-based risk analysis. Greater international efforts in mutual recognition and, where appropriate, harmonisation of regulations are necessary to reap the full benefits of policy reform. Alignment and simplification of regulations within countries would facilitate these efforts and some of the new regulatory issues could also be addressed through industry-led quality schemes.

Agricultural policy developments in 1998

A detailed description of agricultural policy developments in each OECD country is contained in Part II.3 of this report. This section provides an overview of the main policy developments in 1998, evaluated with respect to the OECD Ministerial principles for agricultural policy reform.

It was a difficult year for agricultural policy makers in 1998. Poor global economic performance, including in some OECD countries, and the continuing Asian financial crisis led to reductions in demand for food and other commodities (discussed in Part I.1 of this report).[24] Market prices of most agricultural commodities fell sharply, especially for grains and pigs, causing farm cash receipts to fall dramatically in many countries. The relatively high commodity and strong trade growth prices of recent years had eased the pressure for government intervention in the sector, but governments once again faced strong farm-level demands for increased support and protection. In addition, a number of food-related concerns [*e.g.* BSE, E Coli 0157, salmonella, listeria, as well as increased public attention on the growing use of genetically modified organisms (GMOs)] raised consumer unease and led to demands for tougher regulation and stricter enforcement in many OECD countries. As a result, the focus shifted somewhat away from longer term policy objectives towards short-term, emergency measures that were not always consistent with the OECD Ministerial principles for agricultural policy reform. The key points of the evaluation of agricultural and related trade policy developments in 1998 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;
- support to producers, as measured by the percentage PSE and the producer NAC, increased in all countries except Korea and New Zealand;
- 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 to reduce environmental harm and to improve environmental performance continue to favour producer payments for altering practices (which are not always consistent with PPP) 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

Trade measures

There was a mixed assortment of trade measures in 1998 – some aimed at reducing barriers and others in the direction of increased support and protection. **Japan** replaced the quantitative restriction on the import of rice with tariffs from 1 April 1999 (US$2 680 per tonne for fiscal 1999) pursuant to the UR Agreement on Agriculture. The **EU** reduced the tariff on the extra autonomous quota for bananas, while announcing a tax on imports of US corn gluten used in animal feed to take effect in June 2001 in response to US actions to impose a quota on wheat gluten imports. **Australia** converted all remaining quantitative restrictions to tariffs and removed export subsidies on cheese, sugar and tobacco. In **Mexico**, some milk import quotas were transferred to private importers for the first time and **Switzerland** dismantled its state monopoly on foreign trade in dairy products, enabling cheese and butter producers to trade directly with partners abroad.

However, the **Czech Republic** and **Poland** took initiatives to further protect domestic markets, including actions to limit preferential imports from other Central European Free Trade Agreement (CEFTA) countries, resulting in trade disputes among the members. **Poland** also introduced a system of additional import levies, under the UR Special Safeguards Clause, which are triggered if prices fall below a threshold price, affecting most crops and livestock products.

A number of Member countries expanded the use of export subsidies and export credits in 1998. **Canada,** the **Czech Republic** and the **US** increased activity under existing export credit programmes. Similarly, the **US** rolled-over unused export subsidy commitments for skim milk powder. The **EU** reached its UR limit on subsidised exports for fruits, vegetables and some dairy products while rolling-over its export subsidy commitments from previous years for some other commodities. The **Czech Republic, Hungary** and **Turkey** also increased the use of export subsidies although, in the case of **Hungary,** reforms were introduced to increase transparency and reduce expenditures in future years.

Several bilateral and multilateral negotiations to liberalise trade were completed or underway in 1998. The **EU** reached a sanitary agreement with **Canada** covering trade in live animals and animal products. Negotiations between the **EU** and South Africa on a Trade and Co-operative Agreement, including agricultural products, reached final agreement in March 1999 while the EU took initial steps towards future trade negotiations with **Mexico,** MERCOSUR members and a Transatlantic Economic Partnership with the **US. Canada** and the **US** agreed to a number of measures to improve bilateral trade in agricultural products, including greater harmonisation of health and safety regulations. **Turkey** is negotiating with the EU and with EFTA countries to extend existing trade agreements to agricultural commodities.

Table I.7. **Summary of WTO and NAFTA dispute settlement procedures (1998 and early 1999)**

	Consultations	Requested by
WTO Procedures		
Argentina	Countervailing duties on wheat gluten	EU
Czech Republic	Import duties on wheat	Hungary
EU	Differentiated treatment on coffee	Brazil
EU	Patent protection	Canada
EU	Import duties on rice	India
EU	Exportation of processed cheese	US
Japan	Imports of pork	EU
Korea	Inspection procedures	US
Philippines	Pork and poultry	US
Slovak Republic	Import duties on wheat	Hungary
US	Tariff-rate quota for groundnuts	Argentina
US	Imports of cattle, swine and grains	Canada
US	Safeguard on corn brooms	Colombia
	Panels	
Canada	Milk and dairy products	US, New Zealand
EU	Imports of bananas	US
EU	Beef with growth hormones	US, Canada
EU	Poultry products	Brazil
EU	Butter products	New Zealand
India	Patent protection	US
India	Patent protection	EU
India	Quantitative restrictions	US
Japan	Quarantine of agricultural products	US
Korea	Dairy products	EU
Mexico	High-fructose corn syrup	US
NAFTA Procedures		
US	Safeguards on corn brooms	Mexico
US	Sugar exports	Mexico
US	Imports of cattle, swine and grains	Canada

Source: See Part II.4 for more detail.

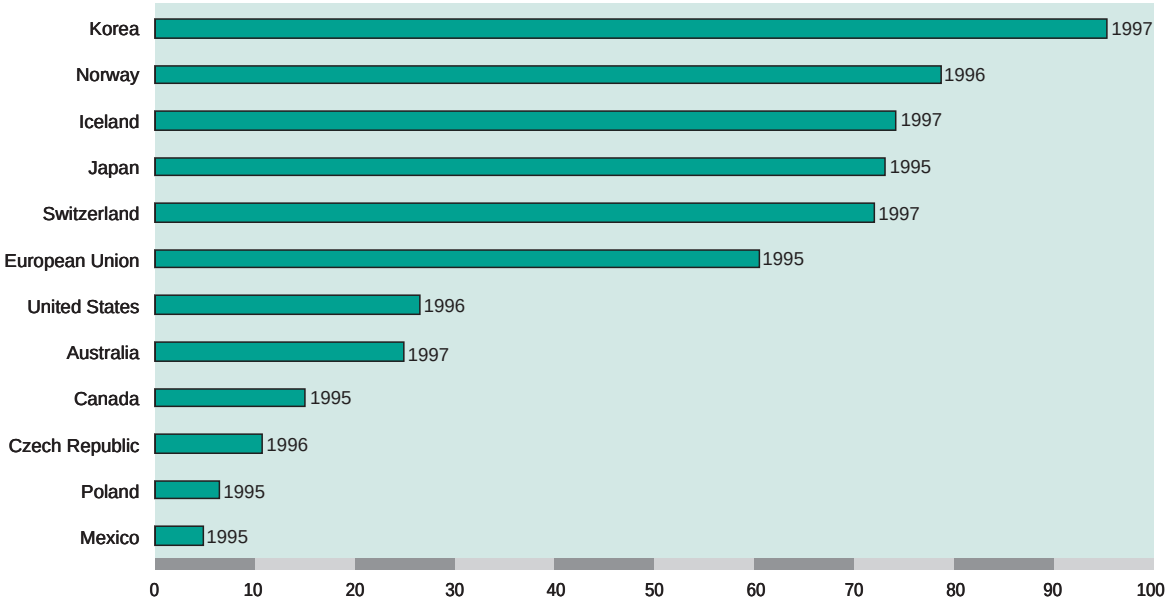
Multilateral dispute settlement mechanisms helped to resolve trade conflicts involving agricultural products. (WTO and NAFTA trade dispute developments involving agricultural products are discussed in Part II.4 of this report. Through the World Trade Organisation (WTO) dispute settlement procedures, OECD countries were party to a number of consultations and panels (Table 1.7). These trade disputes covered a broad range of policy measures seen by the requesting country to violate various Articles of GATT 1994 or related agreements [*e.g.* Agriculture Agreement, Sanitary and Phytosanitary (SPS) Agreement, Technical Barriers to Trade (TBT) Agreement, Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement]. In several cases, consultations or the panel processes are still proceeding. With respect to the ***EU*** ban on beef raised with growth hormones, the panel's findings that the EU import prohibition was inconsistent with Article 5.1 of the SPS Agreement was upheld under appeal while other findings were reversed, and the EU has to comply with the recommendations by May 1999. **Japan** notified its intention to appeal a panel finding that certain quarantine measures were inconsistent with SPS provisions. However, in February 1999, the basic findings of the panel report were upheld. In addition, both Canada and Mexico made requests under the dispute settlement procedures of the North American Free Trade Agreement (NAFTA). One request by Mexico regarding sugar exports to the US remains outstanding.

Market price support

Market price support increased in most OECD countries in 1998 as world commodity prices fell and many domestic, administered prices were raised. UR disciplines were not a constraint for most OECD countries contemplating increased support since, for most countries, the current Total Aggregate Mea-

sure of Support (AMS) was well below UR commitment levels (Graph I.16). In the **Czech Republic,** state guaranteed prices were increased for milk and bread wheat, in contrast to the fall in world prices for these commodities. With high purchase prices and no export subsidy schemes for grains, government stocks reached record high levels. Similarly, the market support for high quality wheat was extended to lower qualities in **Hungary** despite accumulating government stocks. **Korea** raised the government purchase price for rice in response to increased farm input costs associated with the devalued Won and announced its intention to develop a calf breeding stabilisation programme with deficiency payments for beef producers. In **Norway,** virtually all administered prices were increased, although the increases were generally small, while in **Turkey,** in a high inflation context and with domestic prices generally well above world levels, support prices for cereals, sugar and tobacco were raised significantly.

Graph I.16. **Current total Aggregate Measure of Support**
% of UR commitment level



Note: New Zealand total AMS = 0, Hungary and Turkey AMS below *de minimis* level. (Support amounting to less than 5% of the value of production.) The date corresponds to the latest available year for each country.
Source: WTO Secretariat.

There were also some important measures designed to move away from price guarantees and other support linked to production. Dairy support is being phased-out in **Australia.** Fresh milk markets were deregulated in New South Wales and Queensland with other States reviewing farm gate price and production control arrangements and expected to follow suit. **Iceland** abolished the administered price for sheepmeat and wool at the producer and wholesale level. In **Japan,** the government purchase price for domestic rice was reduced. **Mexico** reduced the amount of intervention buying of maize, opening the market to the private sector, and substantially lowered consumer subsidies, with the tortilla subsidy to be eliminated in 1999. Administered prices for several **Swiss** agricultural products were reduced and, with the implementation of the AP 2002 policy reforms (described in the section on Framework Laws), all price guarantees are planned to be suppressed. Intervention prices did not change significantly in the **EU** while the mandatory level of land set-aside was increased by 10 per cent for the 1999/2000 season and the requirement that land must be cropped for two years prior to eligibility was abolished, the result of an expected near doubling of grain intervention stocks.

Budgetary payments

Total budgetary payments to producers for OECD as a whole increased about 7 per cent in 1998, to an estimated US$82 billion. The increase was primarily due to higher payments under existing compensatory payment schemes, triggered by falling commodity prices, and emergency assistance programmes introduced in response to falling farm incomes. While increasing the level of support and isolating producers from world prices masks market signals and can hinder long-term structural adjustment, many of the new policy measures at least partially reflected the agreed operational criteria set down by OECD Agricultural Ministers at their meeting in March 1998 in that they are to some degree transparent, targeted, tailored, flexible and equitable (Box I.4).

However, there have also been some exceptions. Temporary assistance measures calculated by reference to production and prices of specific commodities are clearly neither targeted nor tailored adequately in the sense that they may overcompensate for actual income losses at the farm level. Neither are they likely to meet the operational criterion of equity, unless appropriate ceilings or limits are incorporated that take other income and wealth into account. Temporary assistance programmes in general may create a kind of "moral hazard" that encourages farmers to take greater risks in their production decisions than warranted by market conditions, on the assumption that government will absorb losses should they arise. Finally, long-term reform efforts could be undermined if a series of "temporary assistance measures" lead farmers to the conclusion that reductions in support and protection are reversible.

Box I.4. **Operational criteria**

At their March 1998 meeting, OECD Agriculture Ministers agreed that policy measures should seek to meet a number of operational criteria, which would apply in both the domestic and the international context, and should be:

- *transparent:* having easily identifiable policy objectives, costs, benefits and beneficiaries;
- *targeted:* to specific outcomes and as far as possible decoupled;
- *tailored*: providing transfers no greater than necessary to achieve clearly identified outcomes;
- *flexible:* reflecting the diversity of agricultural situations, be able to respond to changing objectives and priorities, and applicable to the time period needed for the specific outcome to be achieved;
- *equitable*: taking into account the effects of the distribution of support between sectors, farmers and regions.

Source: OECD, *News Release,* 6 March 1998.

Administered prices or support levels for a wide variety of agricultural commodities were raised under existing programmes in **Iceland, Korea, Mexico** and **Norway,** although in the case of Korea total budgetary outlays declined. In **Hungary,** income related budgetary payments declined as additional eligibility criteria (economic, social and employment) were added to the programme. A new **Canadian** supplemental income assistance programme is related to farm net income, not tied to any specific commodities and temporary in duration (two years). Several EU member states, including **Austria, France** and the **UK,** also introduced disaster assistance for farms in financial difficulty with fixed, short-term payments often linked to specific regions. **US** Production Flexibility Contract payments for contract crops declined in 1998 and will continue to be progressively reduced until 2002 as scheduled under the 1996 FAIR Act. The minimum prices for milk and dairy products were also reduced and will be eliminated after 1999. Also in the **US,** emergency measures for crop producers amounting to over US$5 billion were temporary and flexible with payments addressing market losses, natural disasters and "multiple-year" crop losses. As much of the new emergency income assistance in OECD countries was for 1998 and announced *ex post,* the impacts on short-term production decisions should be minimal. In the **Czech Republic,** budgetary payments for least favoured areas and promotion of extensive livestock production were extended to more general payments supporting production, with total area and headage payments more than doubling in 1998.

Agri-environmental concerns. There was less new policy development in this area in 1998 although all of the existing programmes continued, and for several of these expenditures increased. The approach to agri-environmental measures varies across Member countries depending on the relative diversity and urgency of environmental problems, budgetary resources, and style of governance. For some countries, **Mexico, Poland** and **Turkey,** where the more immediate challenges of low farm incomes, structural adjustment and trade development are priorities, agri-environmental policies have played a relatively minor role. For **Australia, Canada** and **New Zealand,** where environmental problems generally relate to soil erosion, for example, and are largely contained on farms, the emphasis is on training, community or group projects and horizontal government initiatives, such as Australia's Natural Heritage Trust and Canada's National Soil and Water Conservation Programme. The **EU, Japan** and **Korea** tend to focus more on regulations and budgetary payments to encourage producers to reduce environmental damage associated with intensive farming practices spilling over to the rest of the population, for example, water pollution, and to compensate for environmental services provided by agriculture. **Japan's** New Agricultural Basic Law is described in the section on Framework Laws. In a number of countries environmental measures are increasingly a component of all agricultural policies through mandatory environmental assessments, cross-compliance and budgetary payments with specific environmental objectives, often to generate environmental amenities such as through maintaining farming in mountainous areas or promoting extensive farming practices. The **Netherlands,** for example, introduced producer compensation measures to reduce the pig herd by 25 per cent, while **Switzerland** introduced new cross-compliance criteria for producers seeking budgetary payments. **Sweden** introduced new support programmes to reduce nutrient leaching and chemical use on farms, and to conserve local animal breeds threatened by extinction. In **Norway,** funds were made available for the development of local action plans that identify environmental protection needs and a requirement for farmers to draw up fertiliser and manure plans was introduced. **Denmark** introduced a differentiated tax on the use of antibiotics and growth hormones in feedstuffs, and doubled a tax on pesticide use, which was introduced in 1996.

In previous years, the OECD monitoring and evaluation report has observed that agri-environmental measures have had unclear objectives, been poorly targeted and lacked any overall evaluation. OECD countries have begun to address these shortcomings. (OECD work on environmental indicators is discussed in the feature on *Measuring the environmental impacts of agriculture* in Part I.4 of this report.) **Austria** replaced an existing agri-environmental programme with one more targeted to farm size and land use, and with stricter limits on fertiliser use. In **Norway,** to better target agri-environmental measures, farmers and municipalities were encouraged to co-operatively develop local plans that would identify environmental protection needs and propose suitable actions. Sustainable agriculture became a top priority of the new **Korean** government which identified specific measures to promote sustainable agriculture under the Sustainable Agriculture Promotion Act. **France** announced a new framework law for agriculture with the preservation and renewal of natural resources a central theme.

Policy developments to encourage organic farming were common to a number of OECD countries in 1998. To promote organic farming, the **Czech Republic** introduced direct producer payments and **France** launched a five-year development plan with plans to create a national "agro-bio" institute and an office for organic agriculture. In the **UK,** where consumer interest in organic products appears to be growing rapidly, budgetary payments to encourage organic farming under the Organic Aid Scheme are expected to reach £4.5 million (US$7.5 million) in 1999. Similarly, budgetary payments farming in **Korea** are targeted towards organic farmers in "water preservation areas" in which the use of chemicals and animal waste are restricted in order to preserve the quality of drinking water.

While the acreage devoted to organic farming is still very small (*e.g.* less than 1.3 per cent of EU farmland), growth in commercial food sales is forecast at over 40 per cent annually.[25] Major retail chains have entered the organic market in earnest, with Sainsbury in the UK, for example, reporting sales worth £1 million (US$1.7 million) per week. This market growth has tremendous potential for revenue enhancement and diversification (*e.g.* prices for organic products are 10-15 per cent higher than equivalent products produced from "conventional" farming methods), while offering new opportunities for smaller farms and for disadvantaged and environmentally-fragile areas. However, there are also a number regulatory problems (*e.g.* definitions, labelling, inspection, international harmonisation) associated with the production, processing and trade of organic products.

Food safety and quality. There was a considerable amount of regulatory reform in the agro-food sector in 1998, primarily aimed at greater regulatory efficiency and increased protection and information for consumers. The **EU** continued a BSE-related ban on **UK** exports of beef and certain derived products which was extended to **Portugal** towards the end of the year. **Canada** began modernising and consolidating regulations related to food inspection, agricultural inputs and animal and plant health. **Korea** and **New Zealand** centralised various food-safety related responsibilities while plans for a single, independent food agency were announced in the **UK.** The **Czech** parliament approved a new food law restricting State intervention to the setting of standards and testing while the **EU** and **Sweden** introduced new food labelling schemes. In the US, a new food safety system was introduced, raising increasing standards and requiring all federally and state inspected meat and poultry plants to adopt Hazard Analysis Critical Control Points (HACCP) schemes to improve food safety.

There has also been considerable attention paid to the use of genetically modified organisms (GMOs) in food, with approaches ranging from testing and labelling to outright bans in some countries. Probably the biggest emerging food issue is the use of bio-technology, in particular genetic engineering. For some consumers, scientific uncertainty about the long-term effects on the environment and human health of GMOs is the major concern. For others, the use of GMOs is more of an ethical issue about the way food is produced. While these new regulatory measures related to food safety have been generally well received by domestic consumers, in a number of cases such regulations can act as non-tariff barriers to trade and have given rise to international disputes. A number of countries including **Australia** and **New Zealand** maintained strict sanitary requirements on imported livestock and meat products, while an outright ban in **Turkey** allowed no livestock and meat product imports in 1998.

Rural development. All OECD countries recognise the linkages between agriculture and the rural economy and are increasing the coherence between the two policy domains. While opportunities for growth and diversification of agriculture are limited in many disadvantaged regions, there is a common approach in that structural adjustment within the agro-food sector is seen as essential to the economic growth of the sector and, therefore, it's contribution to the economic viability of rural areas. In this context, **Australia** introduced a scheme to assist low income, pension-aged farmers to transfer their farms to the next generation. **EU** expenditures on regions lagging behind in economic development remained about the same in 1998 and included payments to farmers in mountainous areas, investment aid, aid to young farmers and support for processing and marketing of agricultural products. Expenditures in **Japan** to improve rural infrastructure, such as roads and sewage, and to help establish industries in rural areas remained high but declined from 1997 levels as part of a general reduction in budgetary expenditures. **France, Italy** and **Norway** provided additional assistance to young farmers in the form of low interest rate loans, tax concessions and installation grants. A number of Member countries, such as **Australia, Canada** and **Hungary,** funded agriculture and rural initiatives developed at the regional or sub-regional level, aimed at improving innovation, diversification and marketing. In several Member countries, including **Ireland, Poland** and the **US,** sector-wide, industry-led initiatives with a focus on improving international competitiveness were reported.

Framework laws

In 1998, **France, Korea** and **Switzerland** announced new agricultural laws which set out the general framework and direction for future agricultural policy reform. The New Agricultural Basic Law in **Japan** was submitted to the 1999 Ordinary Session of the Diet. These new "strategic plans" for the sector range from a very broad identification of goals with little specific policy content to detailed programme and budgetary details, as in the case of Switzerland. While there are differences in priorities and approaches, it would appear on the basis of available information that the policy directions suggested in these framework laws attempt to address at least some of the shared goals adopted by OECD Agricultural Ministers at their March 1998 meeting (Box I.5). In March 1999, **EU member states** reached agreement on "Agenda 2000" which contains a number of elements related to agriculture, including reforms to the EU Common Agricultural Policy (the predominant framework for the new French agricultural law).

Box I.5. **OECD shared goals for the agro-food sector**

At their March 1998 meeting, OECD Agricultural Ministers outlined a set of shared goals, stressing that the goals should be viewed as an integrated and complementary whole. There was a broad consensus that OECD Member governments should provide the appropriate framework to ensure that the agro-food sector:

- is responsive to market signals;
- is efficient, sustainable, viable and innovative, so as to provide opportunities to improve standards of living for producers;
- is further integrated into the multilateral trading system;
- provides consumers with access to adequate and reliable supplies of food, which meets their concerns, in particular with regard to safety and quality;
- contributes to the sustainable management of natural resources and the quality of the environment;
- contributes to the socio-economic development of rural areas, including the generation of employment opportunities through its multifunctional characteristics, the policies for which must be transparent;
- contributes to food security at the national and global levels.

Ministers stressed that agro-food policies should seek to strengthen the intrinsic complementarities between the shared goals, thereby allowing agriculture to fulfil its multifunctional character in a transparent, targeted and efficient manner. The challenge in pursuing the shared goals 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-efficient, and avoid distortion of production and trade.

Source: OECD, *News Release*, 6 March 1998.

EU: CAP *Reform* – AGENDA 2000 *agreement*

The EU Heads of States reached a global agreement at the European Summit in Berlin, March 1999 on the so called "Agenda 2000" negotiation package, which contains a reform of the EU Common Agricultural Policy (CAP). The other elements of the Agenda 2000 package deal mainly with a framework for new quinquennial structural programmes, specific measures for candidate countries to EC accession and budgetary discipline. The agreement is based on proposals by the European Commission put forward in March 1998. The proposals related to agriculture were prompted by a combination of factors, including the impact of the new disciplines agreed at the Uruguay Round, the preparation of the eastward enlargement of the EU, the anticipation of the new multilateral agricultural trade negotiations due to start by the end of 1999, domestic concerns about the preservation of the European model of agriculture, and, more generally, increasing budgetary constraints. Heads of States declared, in particular, that "the content of CAP reform will ensure that European agriculture is multifunctional, sustainable, competitive and spread throughout Europe, including regions with specific problems, that it is capable of maintaining the countryside, conserving nature and making a key contribution to the vitality of rural life, and that it responds to consumer concerns and demands as regards food quality and safety, environmental protection and the safeguarding of animal welfare". The main elements of the agreement on agriculture are described below.

a) Arable sector: cereals, oilseeds and protein crops

Intervention price. The cereals intervention price will be reduced from its present level of euro 119.19 per tonne by 15 per cent in two equal steps in the years 2000/2001 and 2001/2002. A decision upon possible further reduction in the intervention price to be applied from 2002/2003-onwards will be taken in the light of market developments. The monthly increment system used for seasonal price corrections is to be maintained.

Compensatory payments. The decrease in institutional prices will be compensated by direct payments, but only partially (at around 50 per cent), in a way similar to the direct payments instituted by the 1992 CAP reform. In the calculation of direct payments, historic reference yields are to be multiplied by

an amount per tonne. For marketing years 2000/2001 and 2001/2002, area payments will be increased from euro 54 per tonne to euro 58.5 and to euro 63 per tonne. Any consequent increase in area payments will bear the same proportion to the price reduction as those applicable in 2000/2001 and 2001/2002. A special concession was granted to Italy and Spain and a supplementary higher amount of euro 19 per tonne (drying premium) will be payable in Finland and in the northern regions of Sweden.

For oilseeds, including linseeds, the area payment per hectare will be reduced in three annual steps to align it with the cereals payment, although specific measures could be proposed if production potential deteriorates seriously. In the above calculation of area payments, the rate will fall from current rates to euro 63 per tonne for 2002/2003. As of 2002, these per tonne payments will be multiplied by the historic reference yield for cereals.

The reference price and advance payment systems for oilseeds will be abolished as of 2000/2001.

Protein crops will receive a supplementary premium. Durum wheat continues to receive, in addition to the cereals direct payment, a per hectare payment of euro 344.5 in traditional production zones and euro 138.9 elsewhere. For Portugal, maximum guarantee areas for durum wheat will be doubled from 59 000 hectares to 118 000 hectares.

Set-aside. Compulsory set-aside is retained, with the rate set at 10 per cent for all the 2000-2006 period; voluntary set-aside is maintained and extraordinary set-aside is abolished. Compensation for set-aside is set at the same rate as for arable crops.

Silage cereals. EU member states where maize silage is not a traditional crop will have the option of making grass silage eligible for the arable crops area payment and defining specific sub-base areas for grass silage. The total national base area, however, cannot be changed. The basic cereals reference yield will apply to these payments.

b) Beef and veal

Intervention price. The intervention price will be reduced from its present level of euro 2 780 per tonne to euro 2 224 per tonne by 20 per cent in three steps over the period 2000-2002. The intervention price at the end of the transition period (euro 2 224 per tonne) will be the basis for a new system of private storage. Private storage aid could be granted when – as in the pig sector- the average Community market price is less than 103 per cent of the basic price for beef. A safety net intervention system (buying-in tenders) will be set up to a level of euro 1 560 per tonne as of 1 July 2002. In addition, there is a clause that exceptional measures could be taken, including *ad hoc* intervention buying-in, before reaching the safety net level.

Premia. The basic special premium for male animals will be increased in three steps up to 2002, to euro 210 for bulls and euro 150 for steers. The annual suckler cow premium will be increased to euro 200 and will continue to be based on individual ceilings. Payments will be one-off for bulls and twice in a lifetime for steers. The premium for bulls takes into account the benefit of retaining the arable crop payment for silage maize. The milk production eligibility limit for suckler cow premium of 120 000 litres is to become optional for EU member states, as well as the 90 head per farm ceiling on special premia within the total ceiling per member state.

A slaughter premium of euro 80 is introduced for bulls, steers, dairy cows, suckler cows and heifers over the age of eight months, and of euro 50 for calves (more than one month and less than seven months, and less than 160 kg carcass weight). In addition, the so-called "Herod Premium", designed to encourage a cut in beef production by paying a premium for culled calves, will continue on a voluntary member state basis. Payments will be assessed through the EU state aid procedure and financed fully from national budgets.

Ceilings. The national ceiling for suckler cow premia is set at the highest level of utilisation of premium payments for the years 1995, 1996 and 1997, plus 3 per cent. The only exceptions are Austria, Finland and Sweden, for which the ceilings are fixed at the levels foreseen in the accession treaty. The national premium, additional to the suckler cow premium, is increased from euro 30.19 per head to euro 50 per head. A maximum 20 per cent of the suckler cow premium rights can be claimed for heifers. EU member states where more than 60 per cent of suckler cows and heifers are kept in mountainous areas

may decide to manage the payment of the suckler cow premium to heifers by allocating a part of the maximum 20 per cent of the suckler cow national ceiling to a separate national ceiling.

Regional ceilings for the special male premium are fixed on the basis of the 1996 premia applications; for Austria, Finland and Sweden the levels are set out in the accession treaty. The two payments for the special beef premium for steers are payable at ages nine months and twenty-one months, respectively.

Two ceilings for the new slaughter premium would be introduced on a per EU member state basis, one for adult animals (bulls, steers, cows and heifers) and one for calves. This will be calculated based on the number of animals slaughtered in 1995 plus exports to third countries in the same year.

Extensification. The total number of animals qualifying for the special premium and the suckler cow premium will continue to be limited to two livestock units (LU) per hectare of forage area. EU member states may choose between two formulae for granting additional extensification premia on suckler cow and special beef payments. With the first formula, the extensification premium is increased as follows: In 2000 and 2001, the premium is set at euro 33 between 2.0 and 1.6 LU per hectare and euro 66 if less than 1.6 LU per hectare; from 2002, the premium is set at euro 40 between 1.8 and 1.4 LU per hectare and euro 80 if less than 1.4 LU per hectare. With the second formula, EU member states may apply for a simple supplement of euro 100 per livestock unit where the stocking density on a holding is less than 1.4 LU per hectare.

Pasture land should represent at least 50 per cent of the total forage area declared. The definition of "pasture land" is left to each EU member state. In EU member states where more than 50 per cent of the milk is produced in mountainous areas, the extensification premium is also applicable in the case of dairy cows kept on holdings situated in these areas.

c) Dairy sector

Intervention prices for butter and skimmed milk powder will be reduced by 15 per cent.

Quotas. The Council agreed to extend the milk quota regime for a further period and to hold a mid-term review with the aim of allowing the present quota arrangements to run out. Specific quota increases totalling 1.39 million tonnes are to be implemented for Greece, Spain, Ireland, Northern Ireland and Italy in 2000/2001 and 2001/2002. In all other EU member states, quotas will be increased by 1.5 per cent from 2005/2006. This amounts to an overall increase of 2.4 per cent in quotas.

A series of changes to quota management were agreed, although they are optional at member state level. It is understood that these measures will come into force as of 1 April 2000.

Compensation. A system of payments per tonne of quota in a given reference year will be introduced to compensate for the price cuts. Compensatory payments per tonne would be supplemented by a payment from the EU financial envelope allocated to EU member states.

d) National envelopes

Two financial envelopes in the beef and milk sectors respectively which can be used for funding additional direct payments will be introduced at the individual EU member state level.

e) Wine

A new Common Market Organisation for Wine has been established and the present 23 regulations dealing with wine will be replaced with a single regulation. Intervention schemes are reduced and subsequent budgetary savings will be used for helping structural adjustment. New planting rights for EU member states have been doubled to a total of 68 000 hectares. For unlicensed plantings, a 50 per cent penalty fee per hectare has been agreed upon. A ban on new vineyard plantings – *i.e.* without planting rights – has been extended to the year 2010.

f) Rural development and agri-environmental policy

There has been agreement on an overhaul of the rural development regulations which aims at simplifying and supplementing existing schemes for investment, training, early retirement, less favoured areas, agri-environmental programmes, afforestation and the establishment of young farmers. Outside the Objective 1 regions, rural development measures will be financed from a single source: the EAGGF – Guarantee Section.

The agreement foresees that EU member states must define appropriate environmental measures to be applied by farmers as well as penalties for environmental infringement involving the reduction of direct payments. In addition, the agreement foresees allowing EU member states to modulate direct payments per farm, within certain limits, in relation to employment on the farm or overall prosperity of the holding. Savings from cross-compliance and modulation measures can be re-channelled into agri-environmental measures, early retirement schemes, afforestation and less favoured areas.

g) Structural funds

The current seven priority Objectives will be reduced to three: two regional Objectives and a horizontal Objective for human resources. The number of Community initiatives will be reduced from thirteen to three, one of which will be rural development.

h) Budgetary implications

The financial cost of the reform is estimated at euro 40.5 billion a year on average over the coming period up to 2006, excluding euro 14 billion for rural development and veterinary and plant health measures over the period.

France: Framework Act for French Agriculture

A framework bill for agriculture went before the National Assembly in October 1998. The legislation will break new ground compared with previous acts, in particular that of 1960/62. If all goes as planned, it should be passed by the National Assembly and the Senate by the end of the first semester 1999. The implementing orders will then be issued, in particular on "territorial farming contracts". Details of how these contracts will actually work in the *départements* are currently being drawn up. The new Act stems from the need to define a new framework for the development of agriculture to meet the broad expectations of the public at large. Its purpose is to redefine agriculture's role in society, and hence the goals of French agricultural policy, and to modernise the way in which that policy is implemented. It should however be noted that France, as a member of the European Union, applies the Common Agricultural Policy and that the new framework act fleshes out the broad outline laid down by the CAP.

In the new act, farm policy takes into account the multifunctional nature of agriculture and should enable the sector to fulfil three functions:

- the economic function of producing goods for the food and processing sectors;
- the social and territorial function of helping to create and preserve jobs in rural areas and ensure balanced land use;
- the function of conserving and renewing natural resources.

The main provisions of the act relate to these three functions.

With regard to agricultural production, interprofessional agreements will play a greater role in the economic organisation of the sector and a dynamic co-operative sector will be encouraged. Policies to identify and enhance the quality of food products will also be made more coherent. The innovative "territorial farming contracts" are also in line with the three functions listed above. They are individual contracts between a farmer and the authorities (the prefect of each *département*) setting out the rights and duties of each party for a period of several years, the approach being a collective one, and co-ordinated across the whole *département*. Under the terms of the contract, the farmer will receive support in return for goods or services that meet public expectations. Contracts are a way of modernising the allocation of gov-

ernment support and making it more transparent. They should also assist in decoupling support and improve patterns of government funding across the country. For 1999, FF 300 million (US$50.9 million) have already been allocated to these contracts by redeploying existing resources, in particular the EU's agri-environmental funds.

With regard to the social function of agriculture, employment will be a farm policy priority. To that end, structural controls will be redirected and stepped up to prevent the dismantling of farms that could be taken over by young people. Social security contributions will be lower for young farmers setting up in business. Formalities for hiring salaried workers will be simplified, and the status of workers and spouses working on the farm will be enhanced. This aspect will be an integral part of the territorial farming contracts.

With regard to farming's contribution to environmental protection and land use, the Act allows for the designation of protected areas on peri-urban land, making any changes in land use subject to a number of procedures. Agricultural education and research will see their mandates and organisation brought into line with the new thrust of farm policy. Finally, territorial farming contracts will take into account the contribution made by farming to the conservation and renewal of natural resources.

Preliminary evaluation. By stressing the multifunctional role of agriculture and the sustainability of natural resources, the new French framework law reflects some of the "shared goals" adopted by OECD Agriculture Ministers in 1998. Little detail is available as to which policy instruments, or overall levels of support, will be used to achieve the various objectives or anticipated levels of assistance, but references to decoupled support and the use of budgetary payments as economic incentives for the provision of positive externalities (*e.g.* environmental and rural amenities) are consistent with the long-term principles of agricultural policy reform. Of course, expected reforms to the EU Common Agricultural Policy would have a significant influence on the overall policy framework influencing the French agro-food sector.

Japan: New Agricultural Basic Law

In Japan, a series of reforms have been implemented in the agricultural sector since the beginning of 1990's. The Uruguay Round Agreement of Agriculture brought an acknowledgement from government and farmers of the need for fundamental changes in agricultural policies in Japan. The government launched a process of agricultural policy reform by establishing the Investigative Council on Basic Problems Concerning Food, Agriculture and Rural Areas in 1997 to review current policies and to establish a new law replacing the Agricultural Basic Law, a constitutional law that has been part of Japan's agricultural legislation for over 35 years. The Council, whose members were drawn from many different backgrounds including historians, economists, farmers, journalists, representatives of consumer and other industry, presented a final report to the Prime Minister in September 1998. Based on that report, the government and the ruling Liberal Democratic Party announced a more detailed action plan for the reform, scheduled to be completed in 2003.

The action plan contains general principles and ideas as well as time schedules for policy reforms in various areas. The government is expected to elaborate concrete proposals for policy measures and implement them following the plan. It will therefore be several years before a complete, concrete image of reformed agricultural policies in Japan will emerge. The New Agricultural Basic Law, however, is scheduled to be submitted to the Diet immediately in early 1999 and the reform in the rice sector announced in 1997, including an introduction of new direct payment to rice farmers [Rice Farming Income Stabilisation Program (JRIS)], has been already implemented taking the initiative in the reform.

The action plan suggests reviewing almost all the agricultural policy measures in the process of the reform. Ten subjects or themes are to be examined:

- basic rational for agricultural policy reform;
- securing a stable food supply based mainly on domestic production;
- developing food policies focusing on consumer's viewpoint;
- improving infrastructure for production, such as agricultural land and irrigation;
- fostering self-reliance of farmers;

- stabilising the farm economy;
- developing technology;
- enhancing environmental cyclic nature of agriculture;
- enhancing multifunctionality of agriculture and developing rural area;
- reviewing agricultural organisations.

Concerning *food security*, domestic agricultural production is regarded as a principal source of food supply together with stable imports and stockholding. The government intends to set a target level of domestic agricultural production. The target level will be calculated based on the assumption that domestic agricultural production can become more efficient by reducing cost, enhancing quality. A target self sufficiency ratio will also be set by the government.

Administered price policies will be re-examined with a view to improving market orientation and policy measures to *stabilise the farm economy* are to be introduced. The first step will be to revise each price policy by commodity basis and the second step will be to investigate the possibility of introducing measures which are not based on specific commodities, but on farm income.

Agri-environmental measures are also regarded as important. The action plan suggests introducing various measures, both to enhance the positive effects of agriculture and to reduce the negative effects of agriculture.

With regard to the *multifunctionality* of agriculture and rural area, the plan stresses that it is necessary to identify and properly evaluate the multiple roles of agriculture. Well-planned land use in rural areas is regarded as one of the most important conditions for enhancing their multifunctionality. A direct payment for farmers living in hilly and mountainous areas will be introduced in this context from the fiscal year 2000. The specific conditions for farmers to receive this payment will be decided by that date.

Preliminary evaluation. While it is not clear whether the total level of support, including border measures, will be reduced, these general directions have the potential to lead to results along the lines of the policy principles adopted in the OECD Agricultural Ministerial meeting in 1998. Considering the high level of support for the agricultural sector in Japan, reforms need to improve the exposure of the sector to market forces. Simplification and integration of policy measures also seems important because they should make policies more cost-effective, transparent, tailored and flexible.

Korea: Agricultural and Rural Basic Law

To cope with the agricultural market opening that is expected to accelerate as a result of the upcoming WTO negotiations on agriculture, remaining protective policy measures such as market price support and import restrictions need to be replaced by market-oriented policy measures.[26] It has also been increasingly recognised that agriculture has multiple functions, such as food safety, rural amenity and environment conservation, in addition to its primary function of producing food and fibre, and that the concept of the agricultural industry must be broadened beyond primary production to include marketing and processing.

To keep up with these internal and external changes, the Korean government has drawn up a new Agricultural and Rural Basic Law to replace the Agricultural Basic Law of 1967. This new law will be put into effect from January 2000. Reflection on a new framework law was launched in June 1997 and intensified under the new government formed in February 1998. The Committee for Agricultural Policy Reforms, which was set up to recommend the direction in which agricultural policies should evolve, played a major role in the process of reviewing and examining the draft Law. It was approved by the National Assembly in December 1998.

The Law is basically a general declaration or statement of policy principles presenting the main directions of future agricultural policies to the central and local governments, farmers and consumers. A number of agriculture-related domestic laws are scheduled to be changed to conform to the basic underlying ideas contained in the new Law.

Market principles together with the recognition of the agriculture sector's multifunctionality will influence the process of agricultural policy design and implementation. Direct payments will be emphasised. The main policy developments are:

- a stable food supply and maintenance of an appropriate level of food stockholding are stipulated as one of the most important policy objectives;
- environment-friendly farming practices are stressed and co-operation in the area of agriculture between south Korea and north Korea is encouraged in preparation for unification;
- the conservation of farmland to ensure the domestic food supply is also stipulated as one of the most important policy objectives. In addition, support to venture enterprises for the development of scientific technology and protection of intellectual property rights are ensured;
- a basis for the development of a system of geographical "labels of origin" is stipulated in order to encourage the production of local and regional food products and to provide accurate information concerning agricultural products to consumers;
- international co-operation in the field of human and technological resources and overseas direct investments are stressed. The promotion of agricultural exports is identified as a national priority;
- support for farm tourism is provided in pursuit of rural development. Market price support will be reduced while targeted and tailored direct payments will be expanded.

Preliminary evaluation. The Agricultural and Rural Basic Law provides the general framework for the development of Korean agricultural policies in the 21st century. The Law has special significance because it provides the general framework and basic criteria on which all acts and laws relating to agriculture are based. The directions reflect to some degree the policy principles adopted in the 1998 OECD Agricultural Ministerial meeting. In particular, it is notable that Korean agricultural policies are set to move towards direct payments and environment-friendly farming, and away from market price support.

Switzerland: Agricultural Policy 2002 Programme

The process of agricultural policy reform in Switzerland is scheduled to continue with the implementation of the *Agricultural Policy 2002* (AP 2002) programme. This policy reform is intended to abolish all state price guarantees and further reduce market price support for agricultural producers, establish stronger links between direct payments and environmental performance criteria, and change the allocation method for concessionary credits. The reform package is thereby intended to improve the international competitiveness of Swiss agro-food producers, respond to increased concern for the state of the environment, and facilitate structural adjustment.

The Swiss government first proposed AP 2002 in June 1996 and subsequently submitted the reform programme to Parliament. After intense debate, the legislature adopted the proposal in April 1998. A competing policy reform proposition, which called for an increase in direct payments in combination with strict farm size-based eligibility criteria, was rejected by the Swiss people in a referendum in September 1998. The transition towards AP 2002 started on 1 January 1999 (1 May 1999 for milk and dairy products) and is scheduled to be completed by 2002.

AP 2002 involves a deregulation of the agro-food sector. Producer prices and processing margins are no longer guaranteed by the government and agro-food producers are not obliged any more to deliver their output to particular collection centres (as used to be the case for milk) or purchase a certain share of their raw materials domestically (as under the previous grain milling arrangements). The state sanctioned foreign trade monopolies for certain cheeses (Union Suisse du Commerce de Fromage) and butter (Centrale Suisse du Ravitaillement en Beurre – BUTYRA) are to be dissolved during 1999 after having disposed of remaining stocks. Afterwards, private companies will engage in all dairy product trade. The milk quota system will be retained, but quotas have for the first time become transferable among producers within the mountainous and lowland zones, respectively. Border protection for agro-food producers will be adjusted in accordance with WTO commitments, but will otherwise remain unchanged.

Direct payments will be increased and more strongly linked to environmental criteria. The price supplement for milk delivered to cheese producers will increase from SF 120 (US$83) per tonne in 1999 to

SF 200 (US$138) per tonne in 2002. The payment goes to farmers in order to compensate them for prospective reductions in milk revenues. Moreover, direct payments for cows whose milk is not marketed are extended to all roughage consuming animals (excluding milk cows). With respect to so called complementary direct payments, the previously existing farm and area based payments, which were crop specific, are consolidated into a uniform area payment. Farmers in mountainous areas will continue to receive additional support payments. However, farmers have to satisfy a set of environmental minimum standards (corresponding to the previously existing "integrated production" programme) in order to be eligible for any of these direct payments under AP 2002. On the other hand, if they provide additional ecological services, such as refraining from the use of synthetic chemicals, they can receive supplementary payments.

A third central element of AP 2002 besides deregulation of the domestic market and cross-compliance of direct payments concerns subsidised credits for investments in farm buildings or improvements. The budgetary funds available for concessionary credits will be increased and their allocation method changed. Interest-free credits will no longer be available to cover the share of investment costs that can not be financed from farmer's own funds. Instead, investments will henceforth be fostered through fixed amounts of subsidised credit per unit of investment, which are independent of construction costs, and hence do not encourage over-investment to the same extent as the previous method.

AP 2002 will lead to an increase of budgetary expenditure in 1999, in particular to finance the dissolution of the foreign trade monopolies for cheese and butter. But according to a financial envelope submitted to the Parliament in November 1998, the agricultural budget for 2000-2002 will be held stable at its 1998-level of about SF 3.5 billion (US$2.4 billion).

Preliminary evaluation. While border protection remains high in Switzerland, AP 2002 is intended to improve the market orientation of agro-food producers by removing minimum guarantee prices, fixed processing margins and other state regulations, thereby allowing for a freer interaction of supply and demand in domestic agro-food markets. Similarly, the extension of direct payments for cows whose milk is not marketed to all roughage consuming animals, as well as the consolidation of various complementary direct payments into a uniform area payment leaves more room for farmers to make production decisions based on market signals rate than governmental payment rates. With respect to the agri-environmental element in AP 2002, cross compliance will probably only have a modest environmental impact, since about three-quarter of Swiss farmers have been using integrated production methods already before 1999. Moreover, payments for particular agri-environmental production methods, such as organic farming, have been granted for several years, so that AP 2002 does not introduce anything fundamentally new.

Overall, support for agricultural producers in Switzerland continues to be considerably above the OECD average, not least because of high import barriers. But AP 2002 introduces increased competition and market orientation into the domestic agro-food sector. This will help to prepare Swiss agro-food producers for a stronger exposure to international markets that could result from possible future steps of trade liberalisation and European integration.

4. POLICY FEATURES

Food safety and quality issues

Public demands for increased food safety have gained momentum across OECD countries in recent years due to a number of highly-publicised outbreaks of food-borne diseases (*e.g. BSE, E Coli 0157, salmonella, listeria*). The ban imposed by the European Union on exports of beef and certain derived products from the UK continues, limited bans on beef and live animal exports from Portugal were set to be imposed due to a rising incidence of BSE, and new cases had been reported by the Dutch authorities. With a constant stream of critical media reports about such issues as food irradiation, growth hormones and animal feed antibiotics, governments have come under intense pressure to ensure safe food at a minimum cost to consumers and industry.

In fact, consumer concerns go well beyond basic food safety. The quality of food and how it is produced, animal welfare, cultural preferences, resource sustainability and protection of the environment have all become issues in the public debate over regulation of the food industry. New production and processing methods driven by technology (*e.g.* the use of biotechnology, genetically modified organisms (GMOs), hormones and other growth promoters) have added to consumer unease. The issues are complex with the appropriate policy response especially difficult to ascertain in cases where there are persuasive consumer advocates and/or inconclusive scientific evidence of health risk. Labelling is often recommended as an appropriate solution as it allows for consumer choice while not constraining producers, but problems of establishing standards, measurement, traceability (of components) and enforcement can reduce the effectiveness as well as increase the costs involved.

Governments have responded to public pressures for more effective regulation (Box I.6). In recent years, **Canada, France** and **Ireland** have established new food agencies with varying mandates for health, safety and inspection responsibilities while plans for new food agencies in **New Zealand** and the **UK** are under consideration. In 1998, the **EU** Farm Ministers agreed to establish common standards for animal welfare (to apply in the year 2000) and a food safety campaign across all 15 EU member states was launched, aimed at improving awareness of food hygiene and food labelling. The EU also introduced new labels for *Protected Designation of Origin* (food produced, processed and prepared in a given region) and *Protected Geographical Indication* (at least one stage of production in a given region) certificates to improve marketing and consumer information. Such labels have been granted to around 500 food products since 1992. The **US** announced a new initiative to address health risks associated with food involving several federal agencies with related responsibilities and the authority of the USDA in this area has been enhanced. Mandatory Hazard Analysis Critical Control Points (HACCP) schemes to improve food safety are a key part of the US initiative.

However, consumer acceptance of risk and government approaches to food safety and quality regulation vary significantly between countries. The dispute between the **European Union** and the **United States/ Canada** on the use of growth hormones in cattle has been going on for ten years. National regulations on authorised pesticide residues differ widely. Food safety and quality control systems have different specifications and may not be recognised by trading partners. Cheese made from unpasteurised milk is widespread in **France, Switzerland** and **Italy,** where the risks have been given considerable media coverage, but consumers in other countries are less willing to accept the same level of risk. Irradiation is used on some products (*e.g.* spices, onions) and in some countries (*e.g.* **Belgium**), but not others. New animal welfare regulations (*e.g.* leghold traps, dolphin-safe fishing nets, size of battery cages for poultry), which could affect the export competitiveness of the producers concerned, have been established in several countries.

Box I.6. **Regulating biotechnology**

Perhaps the biggest emerging issue surrounding food safety and quality is the use of modern biotechnology, in particular genetic engineering. Genetic engineering is being developed with the objectives of increasing the food supply, reducing environmental damage and enhancing the healthful properties of food; and its commercial use is expanding rapidly. Total area of major, genetically modified crops was estimated at 28 million hectares in 1998 – roughly equivalent to the agricultural land area of Austria, Ireland and Japan combined. Yet attitudes towards GMOs are widely diverse, among and between farmers, consumers and governments. While the North American approach is relatively open and a 1998 Swiss referendum rejected a ban, GMOs are heavily restricted by the European Union and banned in Austria and Luxembourg. Other OECD countries such as France and the UK have imposed bans or planting restrictions on specific GM crops. GMO labelling regulations are under consideration in most OECD countries. New EU legislation will require food products to indicate GM soya or maize ingredients while Germany introduced regulations for voluntary labelling of GM-free foods.

The commercialisation of modern biotechnology has challenged the capacity of regulatory frameworks and led to the creation of trade barriers for GMOs in some countries. Trade disputes have prompted countries to look to international agreements for solutions and discussions of international harmonisation have been undertaken within the *Codex Alimentarius*, the International Organization for Epizootics, the OECD Working Group on Harmonization of Regulatory Oversight in Biotechnology, Asia Pacific Economic Co-operation Experts Group on Agricultural Technical Cooperation and the UN Environmental Programme. Harmonization addresses potential market access barriers by streamlining regulatory approval processes, which in turn can increase consumer awareness of, and confidence in, the safety and efficacy of GMOs.

Estimated Area of Genetically Modified Crops (million ha)[1]

Crop	**1997**	**1998**
Maize	3.2	8.3
Soybean	5.1	14.5
Potato	<.1	<.1
Canola	1.2	2.4
Cotton	1.4	2.5
Total	**11.0**	**27.8**

1. C. James, "Global Review of Commercialised Transgenic Crops: 1998", *IAAA Briefs*, No. 8-1998.

As part of the 1994 Uruguay Round Agreement, the Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT) Agreements guard against regulatory protectionism while encouraging the use of international standards (Box I.7). A number of disputes involving several OECD countries have already been brought before the WTO since the dispute settlement procedure was established in 1995, though a number of conflicts have been resolved on a bilateral basis in the desire to avoid establishment of a formal panel process. Only three panel reports have been released to date in the context of the SPS Agreement (**EU/US/Canada** hormone treated beef, **Canada/Australia** salmon imports, **US/Japan** quarantine regulations) but these WTO cases have helped to clarify some provisions of the SPS Agreement and, to a certain extent, they have provided some guidance to governments for the conception and implementation of their SPS policy. However, these judgements do not exhaust the various questions and problems that can arise from the implementation of the SPS Agreement nor are they necessarily applicable to other conflicts, each of which must be arbitrated by the WTO on a case-by-case basis. The economic stakes are high and such disputes are likely to remain a priority in the future trade agenda.

There are problems associated with the implementation of these international standards. The SPS Agreement explicitly requires Members to base their SPS measures on risk assessment as appropriate to the circumstances of the risk to human, animal and plant health in those cases where a country adopts measures different from international standards. However, there is no agreement on what constitutes "acceptable risk" and there are ongoing debates over methodological issues. Within the OECD, approaches can differ widely with some countries preferring to eliminate risk (*i.e.* sterilisation, irradiation, outright bans), while others emphasise risk control (*i.e.* HACCP). In addition, the standards accepted by

scientists do not always have an indisputable scientific foundation (in the past some standards have had to be completely revised) and scientific unanimity is seldom achievable. The SPS Agreement (Article 5.7) allows the adoption of provisional measures (precautionary principle) where relevant scientific evidence is insufficient. Moreover, a country may introduce regulations that are more stringent than international standards on cultural, moral or religious grounds only under limited conditions. The SPS Agreement does not recognise the validity of consumer concerns on these ethical grounds (although the TBT Agreement refers to other legitimate objectives (Article 2.2) where such considerations may be taken into consideration by authorising different labelling).

As expected, the mere existence of the SPS Agreements and the binding dispute settlement procedure has led to some unilateral reforms and bilateral resolutions of disagreements which will reduce trade barriers.[27] The **US** recently introduced new regulations and standards which allow the restricted import of Mexican avocados and Argentinean beef. **Japan** lifted a 46-year ban on **US** tomatoes. Regulatory reforms also resulted in acceptance of Canadian salmon by **New Zealand** and **Australian** acceptance of imported cooked poultry meats from Denmark, Thailand and the US. Many developed and developing countries are also negotiating bilateral or multilateral agreements on mutual recognition of animal and plant health legislation, inspection procedures, risk assessment procedures and test data. **Canada,** the **Czech Republic** and **New Zealand** have recently signed veterinary equivalence agreements with the EU and similar agreements are under discussion with **Australia** and the **US,** as well as **Argentina, Uruguay** and **Chile**. The Norwegian government has proposed to adopt EU veterinary legislation, thereby removing the need for border controls for meat, live animals and fish.

Box I.7. **Food safety and international agreements**

The ***Sanitary and Phytosanitary Agreement*** asserts the right of governments to introduce measures which exceed international standards where deemed necessary to protect human, animal or plant health. However, such measures must be transparent and based on scientific risk assessment. There must be equal treatment for all nations and between imports and domestic products. The SPS Agreement also encourages mutual recognition of national regulations (equivalence principle). With respect to food, it covers health risks (food safety) arising from additives, contaminants, toxins and pathogens contained in food products.

The ***Technical Barriers to Trade Agreement*** is much broader, covering all technical regulations, voluntary standards, conformity assessment procedures and any other measures not covered by the SPS Agreement. It seeks to ensure that national measures are transparent, non-discriminatory, have a legitimate aim and minimise restrictions on trade. Compliance with relevant international standards is encouraged. In terms of food, the TBT Agreement covers packaging, composition and labelling as well as quality requirements (*i.e.* production and processing methods as well as final product characteristics).

As traditional barriers to trade come down, regulations and standards can take on a more important role in trade. Standards and procedures can facilitate trade, but in some cases they may also reduce international competition, distort trade and prevent firms, notably foreign firms, from entering the market. With the strengthening of international rules, increased trade in consumer food products and the growing use of biotechnology, trade conflicts over food regulatory issues and their reform are likely to become more common. However, ignoring legitimate consumer food safety concerns would result in a falling away of their support for the process of trade liberalisation. The challenge for governments is to find the right balance between consumer protection and reducing technical barriers to trade.

Measuring the environmental impacts of agriculture

Improving environmental performance in agriculture is a key objective in agricultural policy reform programmes underway in many OECD countries. Environmental policies and regulations are increasingly impacting on the agro-food sector, while international environmental agreements, such as the Kyoto Protocol commitments to reduce greenhouse gases, could have implications for agriculture in the future.

The importance of these issues was highlighted at meetings in 1998 of OECD Agriculture Ministers and Environment Ministers. The Agriculture Ministers agreed that governments should ensure that the agro-food sector contributes to the sustainable management of natural resources and the quality of the environment. Actions are needed so that farmers take both environmental costs and benefits into account in their decisions.

This requires, *first*, better knowledge of the magnitude and trends in the environmental effects of agriculture. *Second*, improved understanding of the impact of agricultural policies on the environment, and *third*, the development of tools to monitor and evaluate policies to help facilitate their effectiveness in promoting sustainable agriculture.

To help improve information on the current impacts and trends in the environmental effects of agriculture, the OECD is developing a set of agri-environmental indicators within the Driving force-State-Response framework (Box I.8).

Box I.8. **The OECD framework to develop agri-environmental indicators**

Driving force – State – Response (DSR) framework addresses a set of questions related to causes, effects and actions of agriculture on the environment:

- What is causing environmental conditions in agriculture to change, *e.g.* changes in pesticide use (*Driving forces*)?
- What are the effects of agriculture on the environment, *e.g.* impacts on soil, water, and natural habitats (*State*)?
- What actions are being taken to respond to the changes in the state of the environment by farmers, consumers, industry and governments, *e.g.* promoting sustainable agriculture by community based approaches (*Responses*)?

The OECD is developing indicators to cover primary agriculture's:

- *use of natural resources and farm inputs:* nutrients, pesticides, water and land;
- *environmental impact on:* soil and water quality, land conservation; greenhouse gases, biodiversity, wildlife habitats and landscape; and,
- *interaction between the environment, economic and social factors:* farm management practices; farm financial resources; and socio-cultural aspects.

Source: OECD (1997), *Environmental Indicators for Agriculture*, OECD Publications, Paris.

Preliminary results

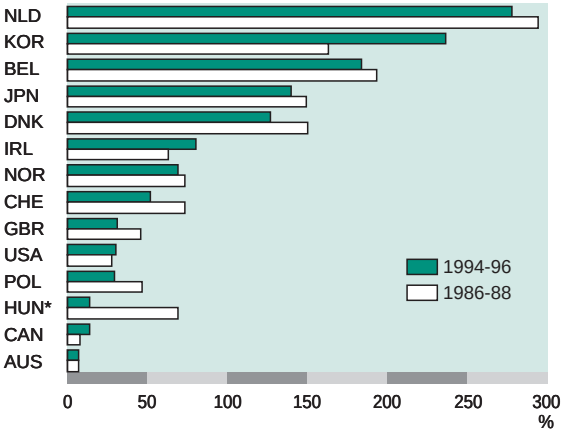
Progress in establishing indicators across different areas is variable, in particular, because research on issues such as agricultural biodiversity is relatively recent compared to, for example, farm nutrient use. Some preliminary results of the OECD agri-environmental indicator work, however, reveal that the environmental performance in agriculture has generally tended to improve over the past 10-15 years for many OECD countries, although the magnitude of improvement varies among countries (Box I.9).

The potential *nitrogen loading* on the environment from agriculture, for example, as measured by the nitrogen soil surface balance indicator, has declined for most countries.[28] For certain countries, such as **Hungary** and **Poland,** this reduction in nitrogen surplus has been particularly large, affected by the collapse in agricultural support levels, the elimination of input subsidies and increasing debt levels in the farm sector following the transition toward a market economy.[29]

The quantities of *pesticides* used by agriculture (measured in active ingredients) have also decreased for many OECD countries. However, a change in pesticide use may not reflect a change in environmental damage from pesticides because of the variable environmental risk associated with different pesticides. Even so, research in **Denmark** and **Sweden,** for example, has revealed a close correlation between declining pesticide use and environmental risk.

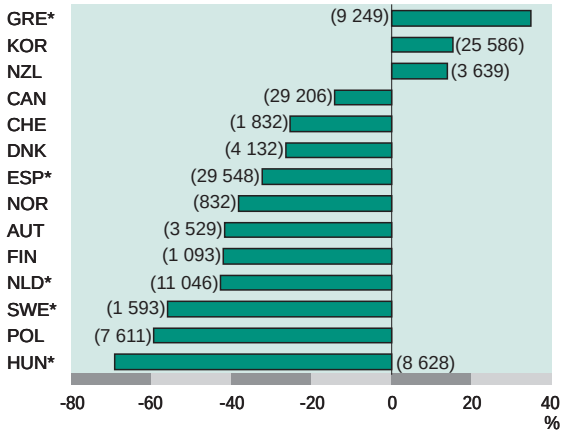
Box I.9. Preliminary OECD agri-environmental indicators

Agricultural nitrogen balance
1986-88 and 1994-96, kg nitrogen/ha



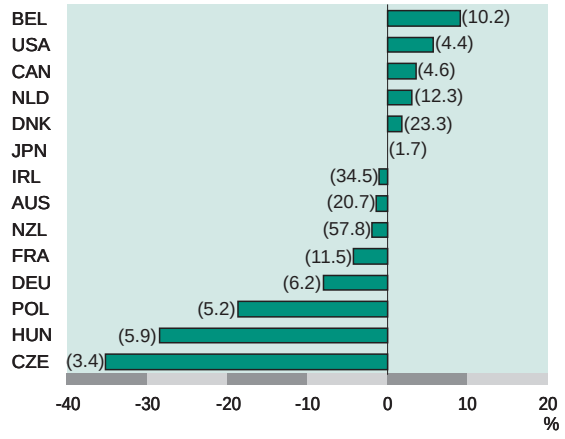
Notes: Nitrogen (N) balance in kg per hectare of total agricultural land = N inputs (fertiliser, manure, etc.) minus N plant uptake, which if > 0 = N surplus; if < 0 = N deficit.
* 1986-88 to 1993-95.
Data are preliminary estimates.
Source: OECD Agri-environmental Indicator Database.

Pesticide use in agriculture
% change 1986-88 to 1994-96



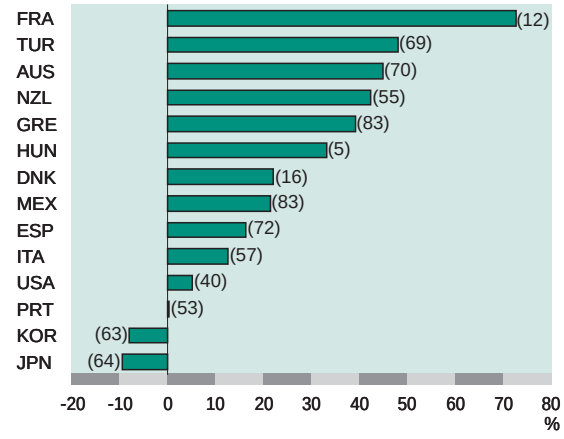
Notes: 1994-96 time series are not available for Australia, Belgium, Iceland, Japan, Luxembourg, Mexico and United States.
(..) Total use of pesticides in tonnes of active ingredients 1994-96, except Canada 1994.
* Total use of pesticides in tonnes of active ingredients 1994-95.
Source: OECD, Environmental Database.

Gross emissions of greenhouse gases from agriculture
% change 1990-92 to 1993-95



Notes: Gross greenhouse gas (GHG) emission data (excluding GHG sinks) covers the main agricultural GHG gases – carbon dioxide (CO_2), methane, nitrous oxide – converted to CO_2 equivalent using Global Warming Potentials for 100 years.
(..) Share of agricultural gross emissions in total gross emissions 1993-95.
Source: OECD Agri-environmental Indicator Database.

Irrigated agricultural land area
% change 1980-82 to 1994-96



Notes: (..) % of irrigation water for agriculture in total abstractions 1995, except Greece and Italy 1980, Australia 1985, Portugal and United States 1990.
Source: OECD, Environmental Database.

There has generally been a small reduction in emissions of *greenhouse gases* from agriculture during the past six years. The contribution of agriculture in helping towards meeting national commitments under the Kyoto Climate Change Protocol might be important in the new millennium, especially for countries where the share of agricultural greenhouse gas emissions in total emissions is significant, notably for **Australia, Denmark, Ireland,** and **New Zealand,** although overall greenhouse gas emissions are low in these countries.

In the area of agricultural *water use*, there has been a substantial expansion of agricultural land under irrigation in a number of OECD countries over the last two decades. This underlines the potential future risks in view of competing and growing demands for water from farmers, industry, households and other water users.[30]

Next steps

An OECD Workshop, held in York, United Kingdom, in September 1998, led to considerable progress in both the identification and specification of policy relevant indicators which will provide a solid basis for future OECD work (Box I.10). The OECD is now moving the work into a more intensive data collection and indicator measurement phase, recognising that the process of developing indicators will be one of evolution and refinement, and that some indicators will evolve more rapidly than others. As different indicators are developed the linkages between them will be analysed to help better interpret trends in specific indicators. For example, changes in indicators of nutrient use (*driving force*), can be linked to variations in water quality (*state*) and related to the alteration in farm management practices (*responses*).

Box I.10. **The way forward: the results of the York Workshop**

Some key results of the OECD Workshop on agri-environmental indicators include:

- Developing a set of indicators for the short and long term, which command broad consensus in terms of feasibility and policy relevance.
- Recognising that indicator development is a process of evolution and refinement, and that indicators should convey the diversity in agri-environmental conditions at the sub-national level.
- Establishing some "contextual data sets", such as farm financial viability, which will be valuable in interpreting trends in agricultural sustainability.
- Continuing to draw on work underway on indicators in OECD Member countries and other international fora, as a basis to ensure that a common indicator methodology is applicable to all OECD countries.
- Emphasising the need for flexibility in using indicators for policy analysis and developing an iterative process between indicator construction, policy modelling and policy decision making.
- Stressing the importance of indicator transparency so that all "stakeholders" can understand the indicators and the policy implications based on them.

Source: OECD (1999), *Measuring the Environmental Impacts of Agriculture: The York Workshop*, Paris.

As more indicators become operational they will enrich the information in the OECD monitoring and policy analysis work. The indicators can provide essential data to measure the environmental impacts of changes in different agricultural policies, such as market price support measures and direct payments. Also the use of indicators in commodity projection work is being investigated through the OECD model for medium term agricultural commodity markets and trade (AGLINK), such as examining the implications for agricultural markets and trade of reducing agricultural greenhouse gas emissions.[31]

The OECD agri-environmental indicators are also providing a building block in developing a set of OECD sustainable development indicators, which is part of the OECD horizontal project on sustainable development.[32] The final report from this project, which is planned as an input to the UN Conference on Environment and Development in 2002, will contribute to developing a policy strategy to help achieve sustainable development with emphasis on the economic, social and environmental dimensions.

Agricultural trade developments with non-OECD economies

Over the past decade, a number of factors have contributed to closer trade links with non-member economies. High economic growth in emerging markets in conjunction with domestic policy reform as well as commitments taken in regional and multilateral trade negotiations contributed to higher world prices for many agricultural commodities during the mid 1990s. This high price environment was conducive to the creation of new trade agreements, and the deepening of existing ones, with non-OECD countries. These conditions have fundamentally changed with the financial and economic crises in 1997/98 and have given rise to concerns that momentum for future trade liberalisation could weaken.

Market developments

In 1998, trade relations with non-member countries were strongly affected by the financial and economic crises in Asia, Russia and emerging economies in Latin America. Some non-member economies were directly affected by the crisis and experienced sharp currency devaluations, capital outflows, a squeeze in the domestic credit markets, contractions in GDP and lower disposable consumer incomes. Where countries managed to escape the direct effects of the crisis, high real interest rates necessary to defend the domestic currency placed a heavy burden on domestic producers and also contributed to an overall slowdown in economic growth. In general, the effects of lower GDP and devalued exchange rates reduced imports by non-member economies and put a brake on farm exports from OECD countries. There were, however, important differences in the exposure to the crisis; a few examples may help to illustrate the differences in the impacts on agricultural trade with OECD economies.

Agricultural trade with **Russia** was heavily affected by the crisis. In 1997, with agro-food imports of US$12.7 billion, Russia was one of the major agro-food importers in the world. About 55 per cent of imports originated from OECD countries and Russia's share in total OECD agro-food exports to countries outside the OECD area increased from 6 to 17 per cent between 1992 and 1997. The acute financial crisis that erupted mid-August resulted in a strong reduction in food imports into Russia. The decline in real incomes induced a squeeze in demand for income elastic products such as meat and milk; the strong devaluation of the rouble made imports much less competitive; 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.

The crises spilled-over into Brazil's agriculture. **Brazil** is a major agricultural exporter and an important trading partner for many OECD countries. It is the most important source for OECD imports of citrus, tropical beverages and soybeans, while it imports temperate zone commodities from OECD countries. The crises in Asia and Russia had largely indirect impact on Brazil's agricultural trade. High interest rates to defend the exchange rate of the "Real" *vis-à-vis* the US dollar brought about sharply rising production costs for large-scale, capital intensive producers. To offset – at least a part of – these extra costs for producers the government launched a package of measures to support agricultural exports. This included increased funds for export credits and an Export Credit Advance mechanism (ACC). These measures helped to offset the effects of the over-valued "Real" and resulted in largely unchanged agricultural trade volumes for 1998.

China, however, remained largely immune. OECD countries have become the most important export destination for China, absorbing more than 50 per cent of China's agricultural exports. Japan alone accounts for 30 per cent of China's agricultural exports, followed by Europe with about 19 per cent. At the same time, about 30 per cent of China's agricultural imports originate from OECD countries. So far, China has managed to remain 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.

Trade agreements with non-member economies

Despite the financial and economic crises in 1997/98, a number of new efforts towards freer trade with non-member economies were launched or intensified in 1998. This included negotiations with

non-members on a regional basis as well as new bilateral trade agreements. The most important events in 1998 were the launch of formal negotiations for a Free Trade Area of the Americas (FTAA), a free trade agreement between Chile and Canada, the continuation of the EU-MERCOSUR trade talks and continuing developments in a number of trade agreements involving central and eastern European countries.

The launch of the FTAA

Formal negotiations for a Free Trade Area of the Americas were launched in April 1998. The draft agreement stipulates the creation of a free trade area of 34 countries of the Americas by 2005. The trade ministers of the participating countries called for the FTAA negotiations to be consistent with commitments taken in parallel in multilateral negotiations, which essentially require that free trade areas cover all trade among members and that trade barriers *vis-à-vis* outsiders not be increased. Discussions for the FTAA will proceed in nine negotiating groups, including a separate group on agriculture.

Chile's Free Trade Agreement with Canada

Chile's Congress ratified the Free Trade Agreement with Canada in July 1998. About 92 per cent of Chile's exports to Canada will face zero duty from the effective date of the agreement, including fruits, wine, fishmeal, salmon and other fish products. By 2003, almost all agricultural exports to Canada will be duty-free. As regards Canada's agricultural exports to Chile, only 45 per cent will have zero duty from the effective date onward. Among sensitive agricultural products are beef and pork, vegetable oils, peas, corn and corn products and sugar. All other products will have phase-out periods of 2 to 18 years.

Continuation of EU-MERCOSUR trade talks in 1998

In 1994 the European Commission established a two step strategy to strengthen its trade links with MERCOSUR countries. The first step was successfully concluded with the interregional framework agreement, signed in December 1995. The second step foresees the creation of an interregional association agreement, envisaged to include: partnership on political and security issues, an enhanced process of co-operation on economic and social matters, and a free trade area (FTA) for goods and services. A comprehensive review of recent trade developments and possible implications of an FTA was undertaken in 1998. While the review underlined that substantial progress has been made towards freer trade between the two regions (*e.g.* 63 per cent of EU imports are already duty free), it also revealed that agricultural trade – accounting for 80 per cent of total sensitive EU imports – could become the main stumbling block towards a successful conclusion of the FTA. With depressed prices and farm incomes in the European Union, there are growing concerns that future negotiations towards an FTA of the two blocs may become increasingly difficult. Depending on the authorisation by the EC Council, these negotiations are scheduled to commence in 1999.

Central and Eastern European Trade Agreements

An important regional trading agreement, which provides some liberalisation of agricultural products, is the Central European Free Trade Agreement (CEFTA), founded by **Hungary, Poland** and the **Czech** and **Slovak Republics** in 1992. **Slovenia** became a member in 1996, Romania in 1997 and **Bulgaria** joined in 1998. The main goal of the agreement is for a gradual reduction in impediments to trade in agro-food products leading to free trade by 2000. Depressed market conditions for agricultural and food products in the CEEC region in 1998 led to several CEFTA members raising import tariffs and introducing quotas on certain agricultural imports from the other CEFTA members. In 1998, Bulgaria completed the abolition of price controls and the liberalisation of trade in line with its obligations under the CEFTA Agreement.

In January 1997, the Baltic Free Trade Agreement (BAFTA) on agricultural and food products came into force. This agreement allows for comprehensive free trade between **Estonia, Latvia** and **Lithuania** on agricultural products of domestic origin. Since the implementation of the Agreement, trade in agricultural and food products between the three Baltic countries has increased substantially, albeit from a low level. Implementation of the agreement has also led to some convergence in farmgate and retail prices across the region, and to some extent domestic policies. The harmonisation of veterinary controls

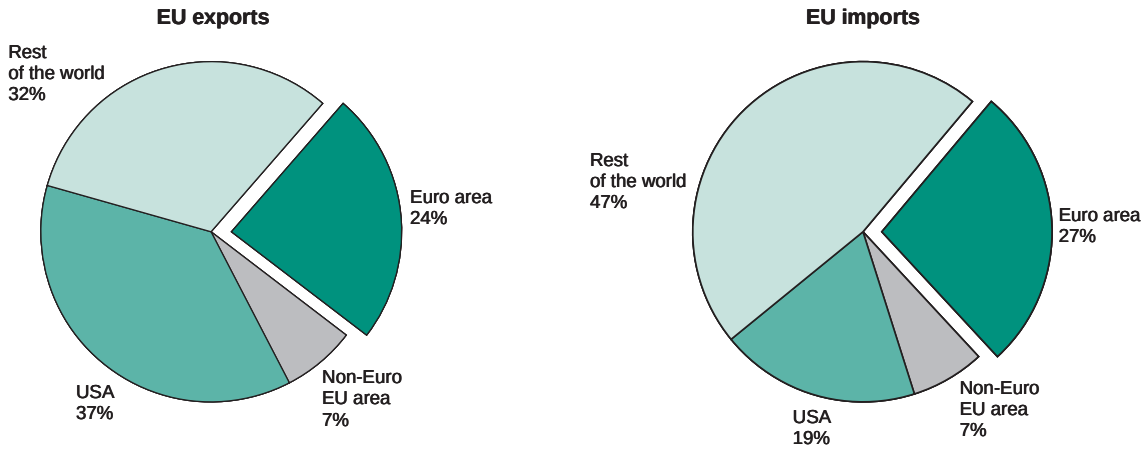
between the three countries in 1998 should further enhance the growth in trade of agro-food products between the countries. All three countries have started to implement domestic agricultural policies in line with those of the EU, with Estonia being more advanced in this respect.

Economic implications of the single European currency (euro) for the agro-food sector

With the advent of European Economic and Monetary Union (EMU) on 1 January 1999, the single European currency, euro, was introduced. On this date, the EU participating countries irrevocably fixed their exchange rates against the euro and lost sovereignty over monetary and exchange rate policies. The Euro area comprises 11 countries which account for approximately 16 per cent of global GDP, has a total population of 290 million; intra-EU trade is more important than extra-EU trade, with imports from non-EU countries accounting for about 15 per cent of GDP.

Given the economic importance of the Euro area, the introduction of the single currency will have widespread effects on all EU member states as well as on countries outside of the EU. The economic debate behind EMU centres to a large extent on judging the balance between micro-economic gains to the EU against macro-economic risks. The main potential gain is to improve the efficiency of the single market by reducing exchange rate uncertainty, improving price transparency and reducing the transaction costs of converting currencies associated with intra-EU trade. The adoption of the euro has important implications for the functioning of the EU Common Agricultural Policy (CAP) and for the competitiveness of the agro-food sector in general.[33] It provides opportunities to the agro-food sector but it also poses important challenges. The agri-monetary system will be completely phased out in three years for the participating countries. The launch of the euro creates a single currency area whose economy is comparable to that of the US (Graph I.17).

Graph I.17. **Share of Euro area in EU agricultural trade, 1996**



Notes: Agricultural trade comprises primary and processed agricultural products.
Euro area: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain.
Non-Euro area: Denmark, Greece, Sweden and the United Kingdom.
For the categorisation of commodities, see notes to Table I.4.
Source: OECD, *Foreign Trade Statistics*.

Agri-monetary system: at the farm level, the most immediate effects stem from changes to the agri-monetary regime. Under the agri-monetary system which was in place until the end of 1998, the ECU was used as a unit of account for setting prices, while payments were made in national currencies using

the agricultural conversion rates, the so-called "green ECU". The agricultural conversion rates followed the evolution of the daily exchange rate. Whenever a revaluation gave rise to a significant decrease in the agricultural conversion rate, and hence in the level of prices and payments expressed in national currency, temporary financial support was granted to compensate farmers for revenue losses.

The system reduced volatility in the conversion rate applied to CAP support prices and payments. However, it was complex to administer and it had the potential to distort trade when there have been very large gaps over long periods between the value of green rates and market rates in different member States. Moreover, it has generated substantial additional costs to the EU budget amounting to ECU 1.3 billion (US$1.1 billion), or 3.2 per cent of EAGGF Guarantee Fund spending in 1997. The majority of these effects can be attributed to a few key features of the regime, in particular, the asymmetry of the system, with its bias against revaluations. The euro required an overhaul of the agri-monetary regime and new, simpler arrangements were implemented. Green rates were abolished and replaced by the market exchange rate. Frozen green rates were removed, although compensation will be paid degressively over three years.

Exchange rate risk: agro-food sector is one of the most traded sectors in OECD countries and thus is particularly sensitive to exchange rate movements. If EU member states are pursuing different monetary policies or economic conditions are different, their exchange rates will fluctuate. Uncertainty about currency values can undermine the operation of the single market. The economies of a number of EU member countries, for example, were beset by the turmoil of the exchange rates between the European currencies which took place between September 1992 and May 1995.

One of the main advantages of the euro is that it eliminates exchange rate risk and uncertainty, potentially contributing to a more stable economic environment for the participating countries. Lower exchange rate risk also implies that interest rate risk *premia* should be small, and therefore borrowing costs lower. The elimination of the exchange rate risk will particularly benefit companies which operate in several countries of the Euro zone. Small and medium size enterprises in the food processing sector who are less sophisticated in exchange rate management will benefit to a lesser extent than multinational food companies.

However, participating countries will still be at risk from the movements of the euro in trade with countries outside the Euro area. Moreover, country or region-specific, asymmetric economic shocks could pose major challenges due to the loss of sovereign monetary policy. This is particularly relevant for those regions whose economies are not diversified and are heavily dependent on one exportable sector. Nevertheless, the economic performance of the Euro area will be less sensitive to exchange-rate fluctuations than before.

Non-participating EU members might be at a competitive disadvantage in trading with the other EU countries within the Euro zone, as they have to cover both the costs of currency exchange and currency hedging. Non-participating EU member states may also face more volatile exchange rates. As external trade represents a relatively small proportion of total output for both the EU and the US, it can be argued that the exchange rate between the US dollar and the euro will be of relatively low priority to policy makers. In fact, mechanically, the creation of the euro reduces the share of "imports" for EU countries insofar as the trade between EU member states of the Euro zone is no longer paid in foreign currencies. In this situation, the currencies of the non participating EU countries could become more volatile, affected by both the dollar and the euro. However, the ultimate effect will largely depend on the specific currency in which the underlying market operates.

Intra-EU trade: one of the principal motivations of the EMU is to facilitate intra-EU trade. The euro makes it possible to improve price transparency and stability within the single market, to eliminate significant transaction costs and to generate economies of scale. Different national currencies make it more difficult for consumers to compare prices across national boundaries and make it easier for suppliers to practice price discrimination by charging different prices to customers in different EU member states. Moreover, bank charges for currency conversions, which represent an additional overhead for intra-EU trade, will be eliminated. Notwithstanding, the one-off costs of changes to administration and hardware and software systems necessary with the switch to the euro, greater competition in the services, in particular in banking and insurance, will allow reductions of charges and costs.

The relative competitive position of the upstream and downstream agro-food sectors is likely to change. With more transparent prices and no exchange rate risk, cross-border competition is expected to intensify. The increased competition that the euro will unleash may accelerate the process of rationalisation and concentration in the food processing and retail sectors. Further, distribution and purchasing arrangements in the food sector may become simpler and cheaper inside the Euro zone due to the elimination of exchange rate risk.

The euro will have differential impacts on the upstream agro-food sector, depending on the degree of tradeability of the goods in question. For those agricultural inputs which are already extensively traded within the EU such as fertilisers, it is expected that the single currency will provide opportunities for farmers to search for the cheapest sources over a wider economic area. For those inputs such as veterinary and chemical products which are tradeable within the EU but for which barriers to trade prevail, often attributable to national legislation on licensing or differences in tax regimes, completion of the single market in these inputs may also require significant regulatory harmonisation. Different legal and fiscal systems can also thwart trade in property rights to land. However, the creation of a single currency may in itself give impetus to this development by highlighting price differences. Concerning labour, it is unlikely that agricultural workers will move in significant numbers across the EU. The expectation is that agricultural labour will continue to move out of the sector into other economic activities.

The single currency may induce geographical shifts in agro-food production. In general, the incidence of country or region-specific economic disturbances is lower the more the regions are integrated with each other and diversified within themselves.[34] Some economists, however, have argued that closer economic integration could result in greater regional specialisation and thus greater vulnerability in regions of the monetary area to asymmetric shocks.[35] It is argued that regional specialisation has been limited by national obstacles to trade and high transportation costs. As the single market makes prices more transparent, the incentive to reap scale economies and agglomeration benefits may rise and production could thus be concentrated in the regions closest to largest markets.

Extra-EU trade: The creation of a single currency will also have implications for extra-EU trade. The main transmission mechanism of international trade of the euro to non-EU countries include the impact of higher growth in the Euro area, the spillover effects from the higher synchronisation of economic cycles in the EU and the use of the euro in trade invoicing. Economic growth in the EU could follow from the completion of the EMU, thereby stimulating international trade. However, this trade creation effect may be offset to a certain extent by a trade diversion effect resulting from the increased competitiveness of the Euro area countries. Furthermore, economic growth in the Euro area will increasingly affect other regions in the world due to spillover effects from higher synchronisation of business cycles within the Euro area. As a result of the higher trade interdependencies, increasing financial market integration and increasing policy convergence of economic policies within the EU, business cycles have tended to become more synchronised within the EU. In such a case cyclical fluctuations within the Euro area will increasingly affect non-EU countries. The impact of euro on non-EU countries will depend crucially on the share of these countries' trade with the countries of the Euro area in their total external trade, and on the trade elasticity of the countries' economic growth.

The potential use of the euro as a vehicle currency may induce that certain countries, particularly those which trade with the EU is important, like Eastern Europe, the Mediterranean basin and countries in Africa, could choose to limit the fluctuations of their rates of exchange by using the euro as an exchange rate anchor. Moreover, they could choose commercial contracts made out in euros, including for agricultural produce. However, it can be expected that international trade implications of the euro will be felt gradually over time.

The long-term trend of the euro depends on both domestic and international development and economic policies. While the current macroeconomic conditions are fairly favourable, there is a potential risk either of exchange rate instability between the euro and other major currencies (US dollar, yen), or of a deviations of the level of the value of the euro away from what is considered appropriate. A tight monetary policy stance, for example, would result in higher interest rates than would otherwise be justified. This would result in an inflow of capital and associated pressure on the exchange rate. This could hamper EU's export competitiveness, including agricultural trade.

NOTES

1. A detailed analysis of agricultural markets and related policy issues is presented in OECD, *The OECD Agricultural Outlook 1999-2004*, Paris, 1999.
2. OECD, *National Policies and Agricultural Trade*, Paris, 1987.
3. OECD, *Agricultural Policies in OECD Countries*, 1998; and OECD, *Modelling the Effects of Agricultural Policies*, OECD Economic Studies, Special Issue, No.13/Winter 1989-1990.
4. Corden, W.M., *The Theory of Protection*. Oxford University Press, 1971; FAO, *Agricultural Protection: Domestic Policy and International Trade*. 1973; and FAO, *Agricultural Protection and Stabilisation Policies: A Framework of Measurement in the Context of Agricultural Adjustment*, 1975.
5. All these indicators by country now cover all agricultural production, while formerly the PSE (including General Services) only covered a share of total production (corresponding to a set of common commodities indicated in Graphs I.10 and I.11) ranging from 50 per cent in Turkey to 86 per cent in Switzerland in 1998. Currently the MPS calculated for the common set of commodities is increased to all production according to the share of the common set of commodities in the total value of agricultural production, regardless of the differences of the level of market price support between the common set of commodities and other commodities. The average MPS for all commodities is thus considered as being equal to the average MPS calculated for the common set of commodities. This was the method formerly used to calculate the former "Total Transfers".
6. The value of the Producer Support Estimate (PSE) has been estimated to cover all production (and not only the common set of commodities), but excludes some measures formerly in the General Services category in the formerly titled Producer Subsidy Equivalent and now included in the GSSE (for example, research and development, marketing and promotion). The denominator of the percentage PSE includes all payments to producers. The value of the CSE covers all consumption of domestically produced commodities, but does not include the amount of the intra-sectoral transfers associated with market price support on the quantities of domestic crop production used as feed. The denominator of the percentage CSE includes the amount of budgetary transfers to consumers. The GSSE corresponds to the former General Services in the former PSE, minus the payments associated with on-farm services (for example, extension services) now included in the PSE, plus the payments formerly included only under Total Transfers (see Part II.2).
7. Changes in the percentage TSE reflect trends in the level of support to agriculture as well as in the performance of the growth of the general economy, as measured by the GDP.
8. Gross farm receipts are measured by the value of total production at domestic producer prices (cash receipts), adjusted to include budgetary transfers to producers.
9. In 1998, the rate of inflation is estimated at 8 percent in Czech Republic, 12 per cent in Poland, 15 per cent in Hungary and Mexico, and 84 per cent in Turkey (*OECD Economic Outlook*, December 1998). While the evolution of support over time in nominal terms needs to be interpreted with caution, due to the effects of inflation, the evolution in percentage terms nets out the inflation effects.
10. Although some of the PSE transfers are specific to a commodity or a specific group of commodities, other are not, but influence overall farming receipts and are related to all commodities, and have been allocated among commodities. This allocation is made in a case by case basis according to the specific implementation criteria of the policy measure in question (Part I.2).
11. See footnote 5. "Other commodities" are all commodities produced in OECD countries but not in the common set of commodities.
12. More in-depth evaluations of past policy developments are available in the background document for the 5-6 March, 1998 meeting of the Committee of Agriculture at Ministerial level, *Agricultural Policy Reform: Stocktaking of Achievements*, Paris, 1998 and the OECD publication, *Agricultural Policies in OECD Countries: Monitoring and Evaluation 1998*, Paris, 1998.

13. The impact of the Uruguay Round Agreement of Agriculture on agriculture in OECD countries is examined in (OECD), *The Uruguay Round: A preliminary Evaluation of the Impacts of the Agreement on Agriculture in the OECD Countries,* Paris, 1995.

14. For more in-depth discussion, see Tim Josling, *The Uruguay Round Agreement on Agriculture: A Forward Looking Assessment;* a consultant's report presented to the OECD Workshop on Emerging Trade Issues in Agriculture, 26-27 October 1998, Paris (workshop papers are available at www.oecd.org/agr/trade).

15. The impact of the URAA on trade in processed food products is examined in (OECD), *The Uruguay Round Agreement on Agriculture and Processed Agricultural Products,* Paris, 1997.

16. The issue of regional integration and the international trading system is examined in (OECD), *Regional Integration and the Multilateral Trading System: Synergy and Diversion,* Paris, 1995.

17. The characteristics of direct payments in agriculture, analysed on the basis of the 1987 OECD Ministerial principles, have been examined in (OECD), *Agricultural Policy Reform: New Approaches – The Role of Direct Income Payments,* Paris, 1994.

18. There can also be significant administrative costs associated with market price support and related supply controls. Administration costs are not included in the OECD Producer Support Estimate (PSE) which measures the monetary value of transfers to agricultural producers. Nor are they included under the General Services Support Estimate, which does, however, include the administrative costs associated with research, education, inspection and other general services provided to agriculture.

19. For a discussion of agriculture and water issues, see (OECD), *Sustainable Management of Water in Agriculture: Issues and Policies – The Athens Workshop,* Paris, 1998.

20. Recent OECD studies concerning agriculture and the environment include: *Environmental Indicators for Agriculture,* Paris, 1997; *The Environmental Effects of Land Diversion Schemes,* Paris, 1997; *Environmental Benefits of Agriculture: Issues and Policies* – The Helsinki Seminar, Paris, 1997; *Agriculture, Pesticides and the Environment: Policy Options,* Paris, 1997; *The Environmental Effects of Reforming Agricultural Policies,* Paris, 1998; *Co-operative Approaches to Sustainable Agriculture,* Paris, 1998; *Agriculture and the Environment: Issues and Policies,* Paris, 1998.

21. The polluter-pays-principle (PPP), as endorsed by OECD Member countries in 1974, states that the polluter should bear the cost of meeting the level of environmental protection decided upon by government. Consistency with the PPP implies that direct payments to farmers should not normally be used to compensate farmers for the cost of reducing pollution to permitted levels.

22. The relationship between agricultural policy and rural development is examined in (OECD), *Agricultural Policy Reform and the Rural Economy in OECD Countries,* Paris, 1998.

23. Regulatory reform in the economy, including the agro-food sector, is examined in (OECD), *The OECD Report on Regulatory Reform,* Paris, 1997.

24. A detailed analysis of agricultural markets and related policy issues is presented in (OECD), *The OECD Agricultural Outlook 1999-2004,* Paris,1999.

25. As reported in, *The Organic Food and Farming Report,* Soil Association, Bristol, 1998.

26. For a detailed assessment of Korean agriculture and related policy reforms, see (OECD), *Review of Agricultural Policies in Korea,* Paris, 1999.

27. For a discussion of the SPS Agreement as a catalyst for regulatory reform, see Donna Roberts, "Preliminary Assessment of the Effects of the WTO Agreement on Sanitary and Phytosanitary Trade Regulations" in *Journal of International Economic Law,* Oxford University Press, December, 1998.

28. The *agricultural nitrogen soil surface balance indicator* involves calculating the difference between all nitrogen inputs (mainly chemical fertilisers, livestock manure, nitrogen in rainfall and legume crops) and nitrogen uptake by agricultural crops (largely annual arable crops, such as cereals, and pasture used for livestock grazing). In all OECD countries this calculation shows a national nitrogen surplus (inputs of nitrogen are greater than uptake), but a nitrogen surplus only reveals the "potential" nitrogen loading on the environment (*i.e.* in the air, soil, water), as the "actual" loading or pollution will depend on a number of factors, such as local soil and climatic conditions, how and when livestock manure is spread on the soil.

29. OECD (1998), *The Environmental Effects of Reforming Agricultural Policies,* Paris.

30. OECD (1998), *Sustainable Management of Water in Agriculture: Issues and Policies,* Paris.

31. OECD (1999), *The Agricultural Outlook 1999-2004,* Paris.

32. OECD (1998), *Work on Sustainable Development,* OECD website: htttp://www.oecd.org.

33. OECD (Forthcoming 1999), *The Economic Consequences of the Implementation of the Euro for the Agro-Food Sector*, Paris.

34. There is a growing literature on the macroeconomic effects of EMU. For a comprehensive discussion of the issues involved, see (OECD), *EMU: Effects, Challenges and Policies*, Paris, 1999.

35. Krugman, P. (1991), *Geography and Trade*, MIT Press.