

**AGRICULTURAL POLICIES IN OECD COUNTRIES**

**MONITORING AND EVALUATION 2003**

***HIGHLIGHTS***

**ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT**

## **ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT**

Pursuant to Article 1 of the Convention signed in Paris on 14<sup>th</sup> December 1960, and which came into force on 30<sup>th</sup> 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 (28<sup>th</sup> April 1964), Finland (28<sup>th</sup> January 1969), Australia (7<sup>th</sup> June 1971), New Zealand (29<sup>th</sup> May 1973) Mexico (18<sup>th</sup> May 1994), the Czech Republic (21<sup>st</sup> December 1995), Hungary (7<sup>th</sup> May 1996), Poland (22<sup>nd</sup> November 1996), Korea (12<sup>th</sup> December 1996) and the Slovak Republic (14<sup>th</sup> December 2000). The Commission of the European Communities takes part in the work of the OECD (Article 13 of the OECD Convention).

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## **FOREWORD**

These Highlights are from the 16<sup>th</sup> edition of *Agricultural Policies in OECD Countries: Monitoring and Evaluation*. The OECD Council at Ministerial level requested the OECD Secretariat to monitor annually the implementation of the principles for agricultural policy reform adopted in 1987. In 1998, OECD Agriculture Ministers agreed to a set of shared goals for the agro-food sector and operational criteria for policy instruments, which also serve as a reference for the evaluation. The Secretariat has used a comprehensive system for classifying support to agriculture in order to measure and provide insights into increasingly complex policy measures. The material which follows has been approved for publication by all thirty member countries of the OECD.

Part I of the Highlights provides an assessment of policy developments in OECD countries, including a special focus on agri-environmental policies. Part II analyses the United States Farm Security and Rural Investment Act of 2002.

## PART I. AGRICULTURAL POLICIES IN OECD COUNTRIES — MONITORING AND EVALUATION 2003

### EXECUTIVE SUMMARY

*The level of support to farmers in OECD as a whole has not changed since 2000. Despite some major policy initiatives in 2002 there were no notable changes in the main policy instruments in most countries. Consequently, changes in the level of country and commodity support largely reflected market developments (weakening US dollar, world prices considerably lower for livestock products and significantly higher for crops). Overall, there was neither a reduction in market protection nor an improvement in market orientation, although there has been some progress since the mid-1980s. Wide differences in support levels continued across countries and between commodities. More market orientation and policies better targeted to specific objectives are needed in many OECD countries to reduce the costs to domestic consumers and taxpayers, to further integrate domestic and world agricultural markets, to improve the prospects for developing countries, to reduce environmental pressure and to achieve various goals that governments have set for themselves. The WTO negotiations underway on agricultural trade offer an opportunity to pursue these goals.*

*Major changes in the United States and ongoing discussion on the European Union's reform proposals.* The major policy development in 2002 was the signing of the new Farm Act in the United States, but support policies in the United States were still largely influenced by the previous legislation. The new Act will play an important role in the evolution of United States agriculture and world markets over its six year life. Compared to the previous legislation, it has, among other things, introduced country of origin labelling, expanded the coverage of some support measures to a wider group of commodities, and could increase support leading to higher production and some downward pressure on world prices. Discussion to further reform the European Union's Common Agricultural Policy started in 2002, and the process is ongoing with a decision expected in 2003.

*More integrated policy framework in some countries.* In a number of OECD countries more attention is being given to environmental and rural issues and to the diversification of farm and non-farm sources of income for farm households. These developments offer the opportunity for better targeted policies and further policy reform in OECD countries, as well as for exploring the creation of markets, and embracing economy-wide policies.

*Support levels unchanged in recent years but down over the longer term.* Compared with the 1986-88 period, 2000-02 was characterised by a lower overall level of support to producers together with movement towards policy measures that are less production and trade distorting. This progress was underpinned by the URAA, implemented since 1995. Support to farmers (PSE) reached USD 235 billion (EUR 249 million) which is around the same level as in 2001. This support represented 31% of total farm receipts (%PSE) in the OECD area, the same as in 2001 but down from 38% in 1986-88.

*A marginal increase in the overall rate of protection.* Prices received by OECD farmers in 2002 were on average 31% above world prices, (30% in 2001). While this is a significant reduction from the mid-1980s when producer prices were 57% higher (with large variations in the intermediate period,

and the lowest price gap being recorded in the mid-nineties), farmers in many countries remain shielded from world market signals. Whereas prices received by farmers were, on average, the same as those at the border in Australia and New Zealand, they were 10% higher in the United States, 35% higher in the European Union, and more than 100% higher in Iceland, Japan, Korea, Norway and Switzerland.

**Significant differences remain across countries and commodities.** The level of support (%PSE) increased in 2002 for all countries except Japan and New Zealand where it stayed the same, and in Poland and the United States where it decreased. Support varied from 1% in New Zealand to 18% in the United States, 36% in the European Union and over 70% in Norway and Switzerland. By commodity, support ranged from an average of 6% for wool, to 48% for sugar and milk, and 80% for rice. Mainly reflecting developments in world markets, support levels fell for most cereals and sheep meat in 2002, but increased for other products. Variation in commodity support levels has decreased since 1986-88 in most OECD countries, but has increased in the European Union, Japan and Korea.

**Production-linked support still dominant.** The share of output-based support (market price support and output payments) and input subsidies remained at 76% of producer support, down from 90% in 1986-88. These measures are among the most production and trade distorting, and are the least effective in transferring income to farmers or in targeting the provision of environmental benefits. The share of these measures in producer support varies across countries, with sizeable progress being made in some countries to lower the reliance on such distorting measures. **Payments based on area planted or animal numbers** increased and account for 14% of support to producers, the share doubling since 1986-88, while **payments based on historical entitlements** (past support, area/animal numbers and yields) have remained at around 5% of support to producers. **Payments based on input constraints** (for the withdrawal of inputs or to offset conditions placed on their use, such as land for environmental purposes) and **payments based on overall farm income** increased, although their combined share remained very low and stable at 5% of producer support. Payments based on input constraints exist only in a limited range of countries and do not exceed 4% of producer support in any one country, while payments based on farm income are significant only in Australia and Canada.

**Overall, a smaller but still significant share of receipts comes from government intervention.** Gross farm receipts were on average 46% higher in 2002 than they would have been at world prices without any support, up by 2 percentage points from 2001. But this is a decrease of 15 percentage points from the 1986-88 average, indicating progress towards greater **market orientation** in the OECD area. However, while agriculture in Australia and New Zealand is largely dependent on the market, in Iceland, Japan, Korea, Norway, and Switzerland farm receipts are more than double those generated in the market without support.

**Overall costs to taxpayers and consumers increased.** Although budgetary payments to producers decreased, the overall **costs to taxpayers** of agricultural support policies rose due to an increase in support to general services provided to agriculture and to promote consumption. This increase in support for consumers only partially offset the gap between domestic and world prices and so **costs to consumers** also increased. Overall, consumers were implicitly taxed at 24% (%CSE), compared with 33% in 1986-88. The %CSE varied, however, from a small consumer subsidy in the United States to an implicit consumer tax of over 60% in Korea and Switzerland.

**Total support to agriculture remains high.** The Total Support Estimate (TSE) amounted to USD 318 billion (Euro 338 billion) in 2002. Around three-quarters went to producers while 17% went to **general services** — sector-wide policies and institutional services such as research, education, inspection and control, and marketing. Total support to agriculture accounted for 1.2% of the GDP in the OECD area in 2001 and 2002, compared with 2.3% in 1986-88, but with wide variations across countries.

## EVALUATION OF POLICY DEVELOPMENTS

Agricultural policies in 2002 were implemented in the context of a weakening US dollar and world prices that were considerably lower for livestock products, especially for pork, poultry and milk powders, but significantly higher for crops, in particular for wheat. There were no major changes in the main policy instruments used by OECD countries with the important exception of the 2002 Farm Act in the United States. However, 2002 was a transitional year, covered by both the 1996 and 2002 Farm Acts, but still largely influenced by the 1996 legislation. The 2002 Farm Act will play a significant role in the evolution of United States agriculture and world markets over the next six years.

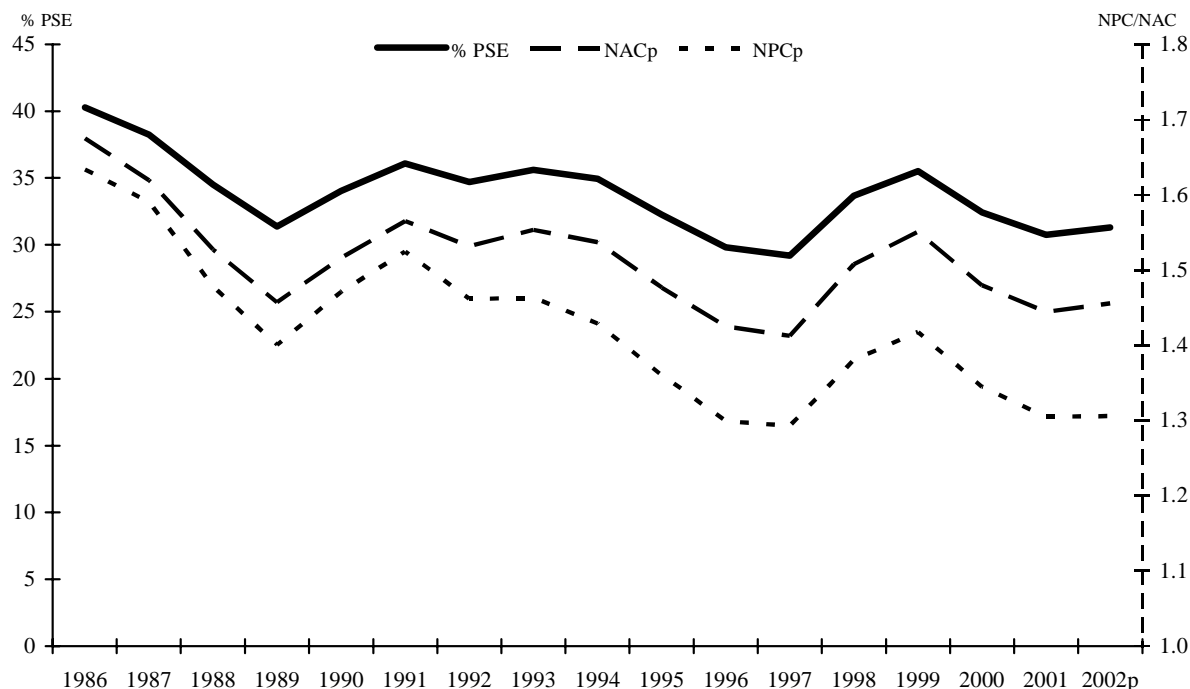
Overall, 2002 was characterised by little change in terms of the degree of market orientation, protection and support to producers, and the wide differences across countries and commodities. The level of support and degrees of market protection and market orientation have remained relatively unchanged since 2000. Compared with the 1986-88 period, by 2000-02 the overall level of support to producers has declined with some shift towards policy measures that are less production and trade distorting. This progress was underpinned by the URAA. The launch of the WTO Doha Development Agenda in 2001 and the domestic policy initiatives underway in many OECD countries indicate the need to achieve further domestic and trade policy reform. More market orientated and better targeted policies are a necessary step to further integrate domestic and world agricultural markets, with the potential for reducing environmental pressure and achieving various specific policy goals, including that of transferring income to farmers.

### *The level of support to producers stabilised, on average, ...*

**Support to producers** for the OECD as a whole, as measured by the %PSE, remained unchanged at 31% in 2002 compared to 2001. (Graph I.1) For the three-year period 2000-02, the %PSE averaged 31% compared with the 1986-88 average of 38%. Between 2001 and 2002 market price support (MPS) increased due to a larger overall decline in world prices than in domestic prices denoting isolation between these markets. Payments based on output, however, decreased 50% mainly due to a significant decline of these payments in the United States as a result of higher domestic and world prices for crops. These payments together with MPS — output-linked support — continue to account for over two-thirds of overall support to OECD producers. Although partially offset by a rise in assistance to domestic consumption, the increase in MPS resulted in a rise in the implicit tax on consumption, as measured by a %CSE of 24% in 2002. This is some 9 percentage points below the average level for 1986-88.

**Graph I.1. Evolution of Producer Support Estimate (%PSE),  
Producer Nominal Coefficient (NPCp) and Producer Nominal Assistance Coefficient (NACp)**

1986-2002



p: provisional.

Source: OECD PSE/CSE database, 2003

**... but with a slight increase in protection, ...**

Reflecting these developments in output-linked support, the nominal rate of protection, as measured by the producer NPC, increased slightly with average producer prices 31% above world prices in 2002 compared to 30% in 2001. Output-linked support reduces the transmission of world price changes to producers and thus dampens the influence of world market prices on domestic production decisions. Over the longer-term market protection has decreased as prices in domestic markets were, on average, 57% higher in 1986-88 (Graph I.1). Nevertheless, the current level of market protection is still an important factor in encouraging domestic production, distorting trade and depressing world prices of agricultural commodities. These create costs not only to domestic consumers and taxpayers, but also to other countries, in particular those producing the same commodities. Increased production and protection reduce production incentives elsewhere, may effect consumption patterns and food security, and can limit growth opportunities in developing countries. Moreover, market protection is regressive as it mainly benefits large farms and impacts most strongly on low-income consumers for whom food constitutes a larger share of their total household expenditure.

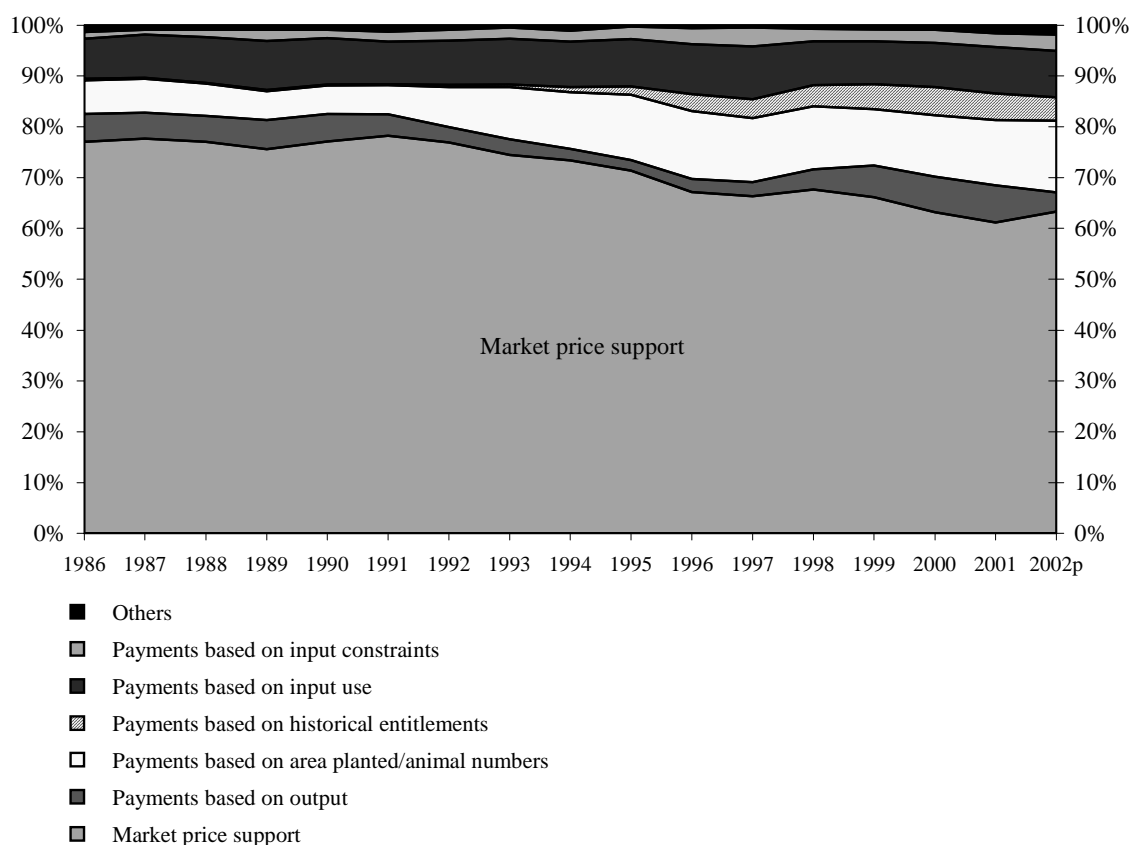
**... and a slight reduction in market orientation.**

For the OECD as a whole, the nominal rate of assistance, as measured by the producer NAC, also slightly increased in 2002 compared to 2001 indicating a slight reduction in market orientation. Total farm receipts in 2000-02 were on average 46% higher than they would be if entirely generated in markets without any support, while they were 61% higher in 1986-88 (Graph I.1). This is an indication

of an improvement in market orientation in terms of a greater share of farm receipts generated in markets than created by government intervention. Moreover, there has been some move away from the more distorting forms of support, market price support, output payments and input-based payments (Graph I.2). Nevertheless, government intervention continues to be significant, still creates important unwanted spill-over effects on production, trade and the environment, and is generally not the most effective way of transferring income to farmers.

**Graph I.2. Composition of Producer Support Estimate for the OECD**

1986-2002



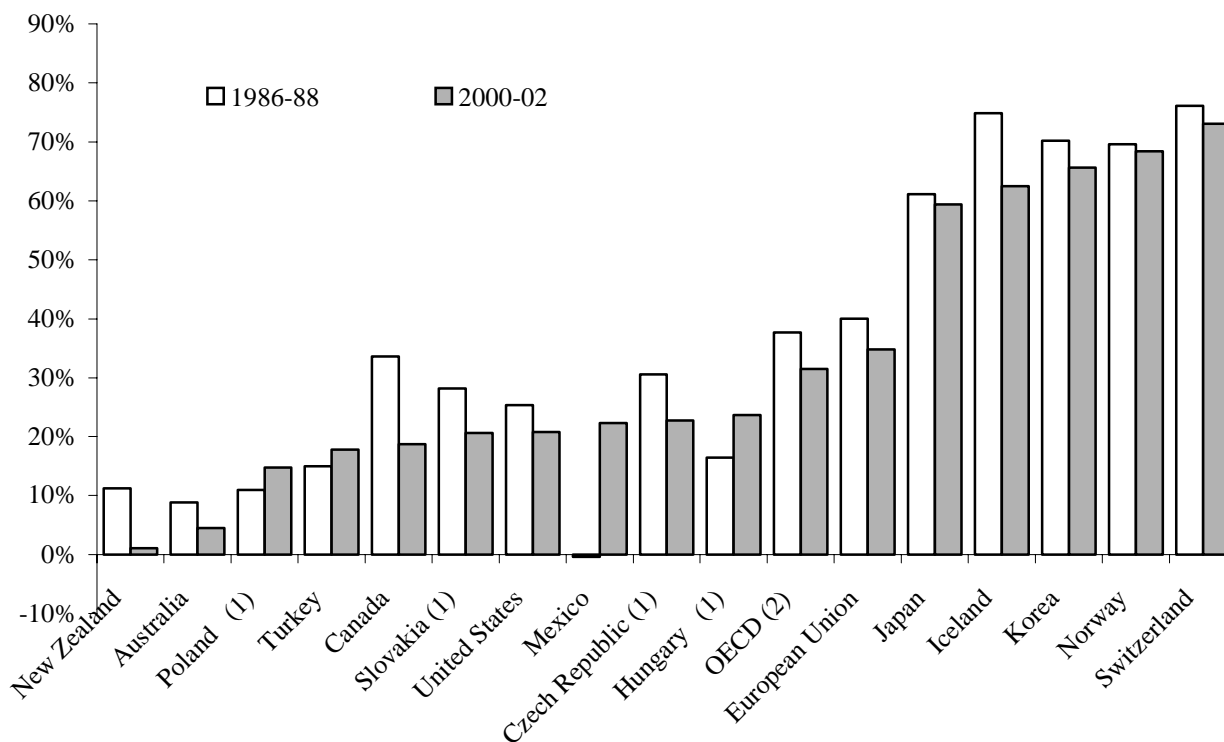
p: provisional.

Source: OECD PSE/CSE database, 2003

***Support and protection continue varying widely among countries, ...***

There are large and increasing differences in the levels of support and degrees of market protection and market orientation among OECD countries (Graph I.3), reflecting different historical uses of policy instruments, and the varying pace and degrees of progress in agricultural policy reform. In 2002, support to producers as measured by the %PSE, remained unchanged for **Japan** and **New Zealand**, decreased for **Poland** and the **United States**, and increased for all other countries. The %PSE remained above the OECD average in the **European Union**, **Iceland**, **Japan**, **Korea**, **Norway** and **Switzerland**. The average %PSE in 2000-02 is lower than the 1986-88 average in all countries, except **Hungary**, **Mexico**, **Poland** and **Turkey** where support nevertheless was and continues to be relatively low.

**Graph I.3. Producer Support Estimate by country**  
(Percent of value of gross farm receipts)



Notes: Countries are ranked according to 2000-2002 levels. For more detail, see Annex Table 2.

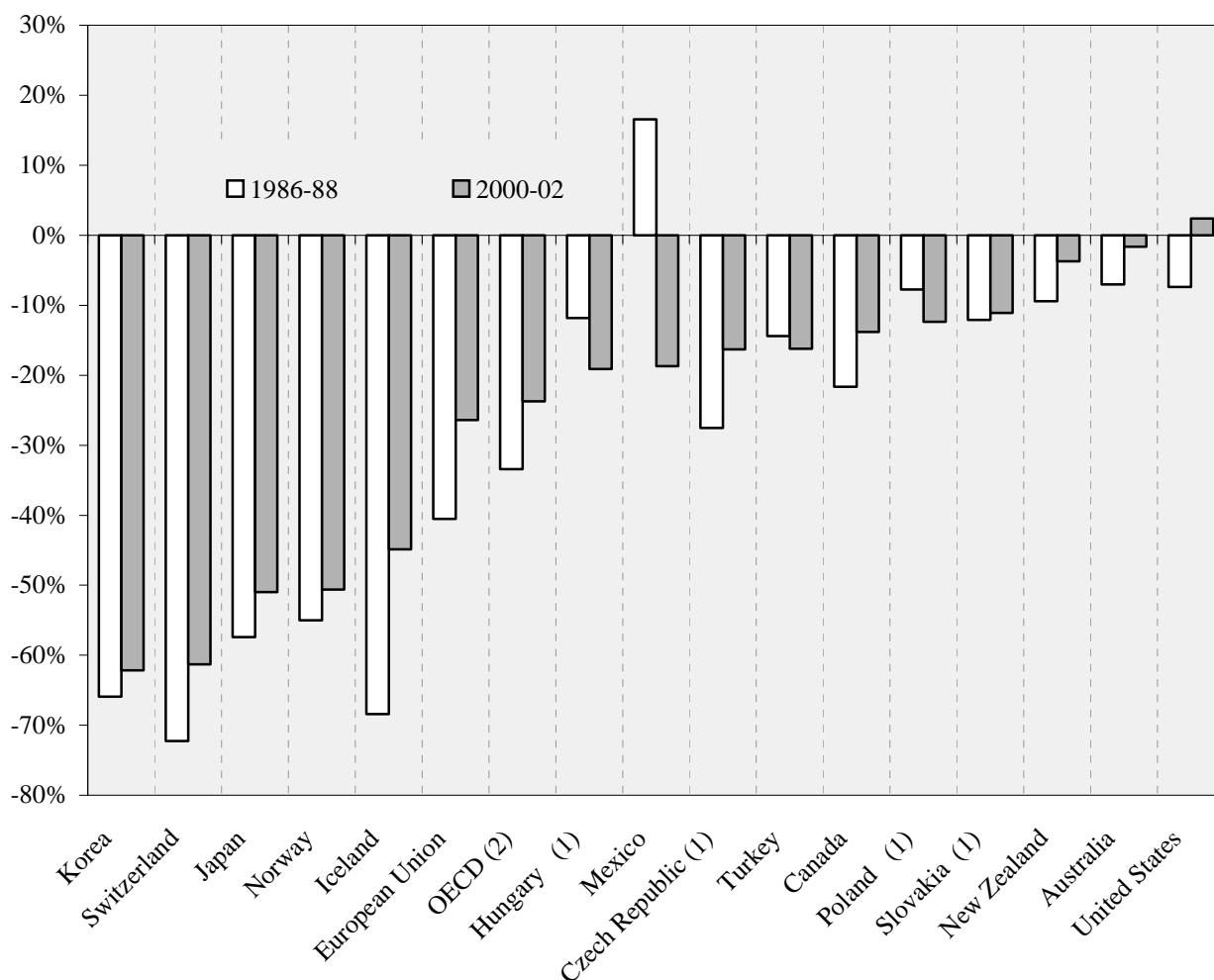
1. For the Czech Republic, Hungary, Poland and the Slovak Republic, the reference years are 1991-93.

2. For 1986-88, the Czech Republic, Hungary, Poland and the Slovak Republic are excluded.

Source: OECD PSE/CSE database, 2003.

For the 2000-02 period, the average PSE was below 5% in **Australia** and **New Zealand** and below 25% in **Canada**, the **Czech Republic**, **Hungary**, **Mexico**, **Poland**, the **Slovak Republic**, **Turkey** and the **United States**. It was 35% in the **European Union** and around 60% or more in **Iceland**, **Japan**, **Korea**, **Norway** and **Switzerland**. The countries with the highest level of support have also persistently shown the highest degree of market protection, the lowest degree of market orientation, and impose the greatest implicit tax on consumers (Graph I.4). In these countries, both the prices received by producers and those paid by consumers are, on average, over twice the world prices, and farm receipts are also around three times higher than they would be if entirely generated in markets without any support. However, while the share of the most distorting forms of support is persistently high in Korea and Japan, it decreased in Iceland, Norway and Switzerland due to a shift towards less output-linked policy measures (Graph I.5). While this shift in the composition of support is in line with the long-term reform principles, the same cannot be said in relation to the persistently low degree of market orientation associated with high levels of support and protection.

**Graph I.4. Consumer Support Estimate by country**  
(Percentage of consumption expenditure at farm gate)



*Notes:*

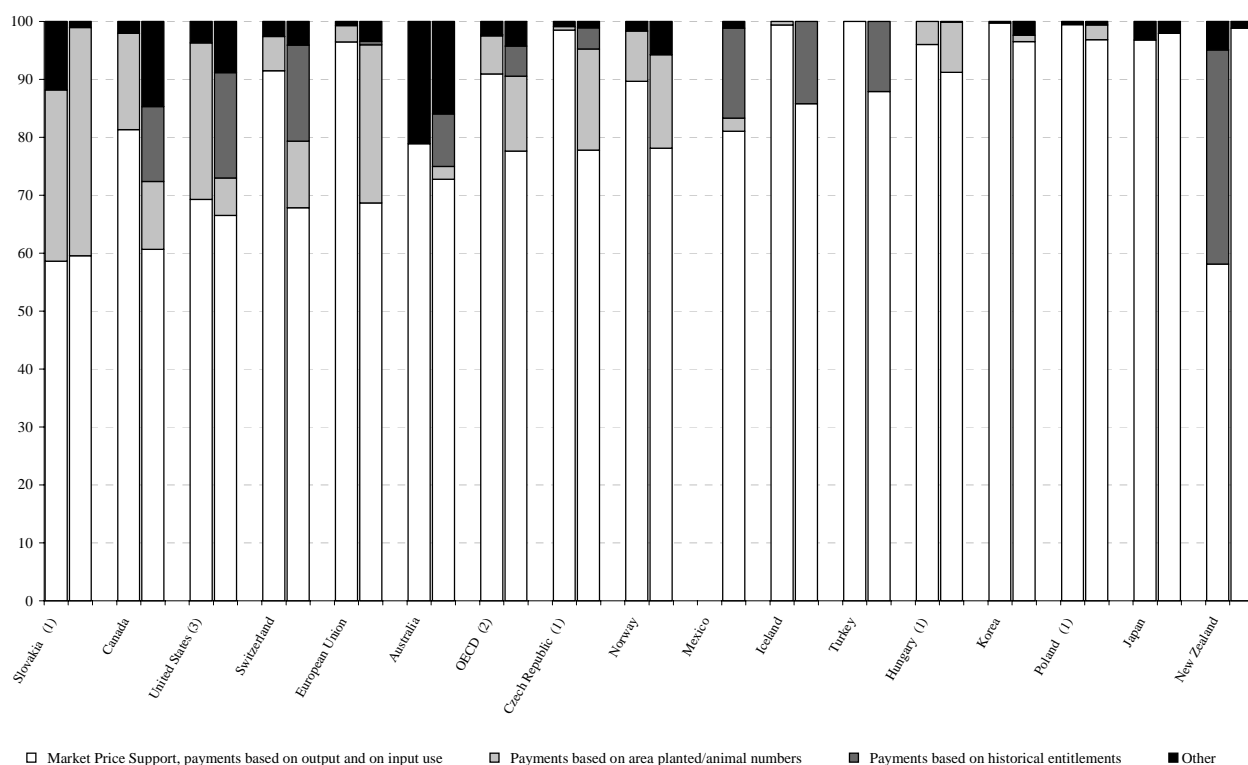
Countries are ranked according to 2000-02 levels. For more detail, see Annex Table 6. A negative percentage CSE is an implicit tax on consumption.

1. For the Czech Republic, Hungary, Poland and the Slovak Republic, the reference years are 1991-93.

2. For 1986-88, the Czech Republic, Hungary, Poland and the Slovak Republic are excluded.

Source: OECD PSE/CSE database, 2003.

**Graph I.5. Composition of Producer Support Estimate by country, 1986-88 and 2000-02**  
(Percentage share in PSE)



*Notes:* Countries are ranked according to 2000-2002 shares of market price support and payments based on output. For more detail, see Annex Table 4.

1. For the Czech Republic, Hungary, Poland and the Slovak Republic, the reference years are 1991-93.

2. For 1986-88, the Czech Republic, Hungary, Poland and the Slovak Republic are excluded.

3. Payments based on area planted for the 2000-2002 average provisionally include "Counter cyclical payments" granted in 2002.

*Source:* OECD PSE/CSE database, 2003.

### *... and across commodities.*

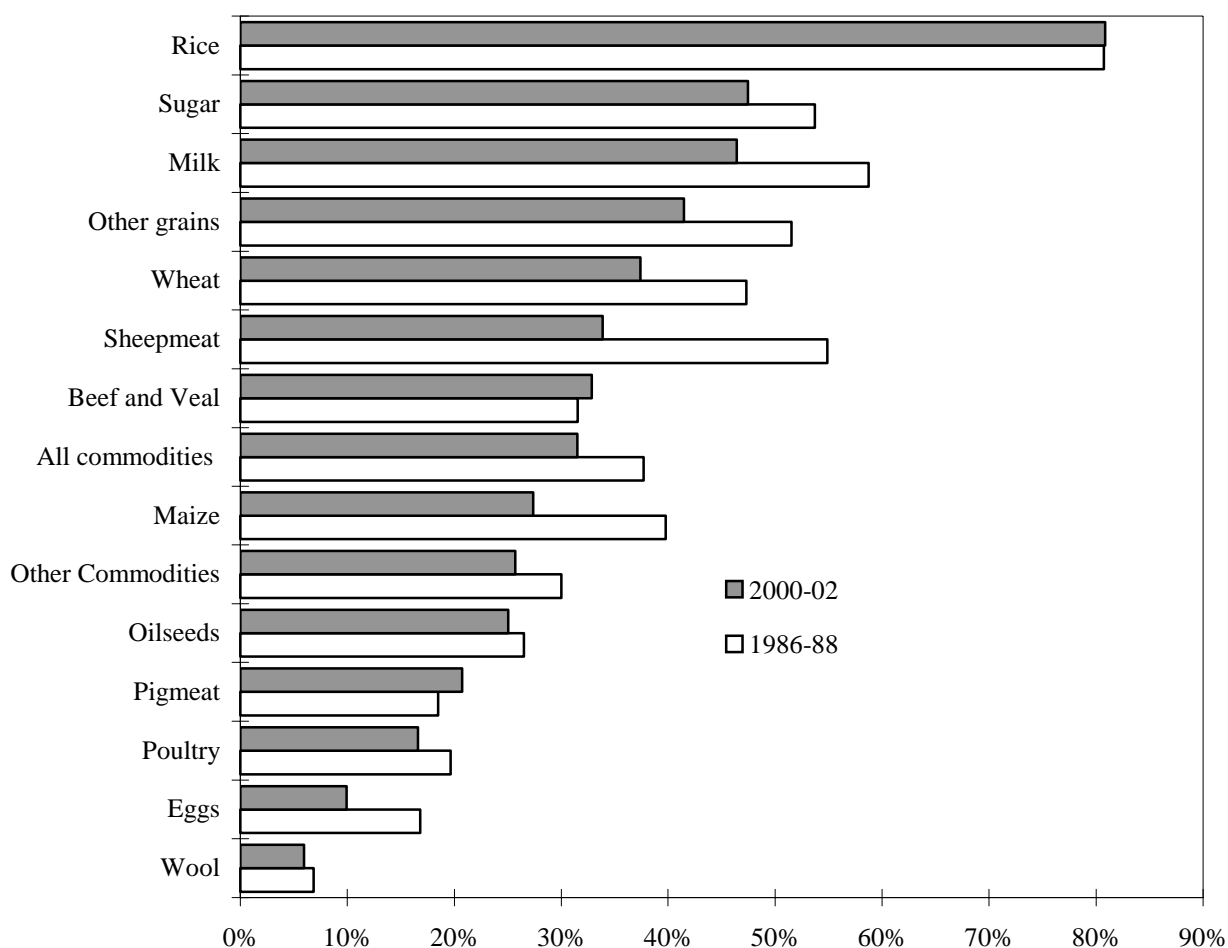
There is also wide variation in the levels of support and protection across commodities for which PSEs are calculated. Compared with 2001, support to producers in 2002 increased for sugar, milk, beef and veal, wool, pigmeat, and poultry, while it decreased for maize, rice, oilseeds, and sheepmeat. Average support levels in 2000-02 decreased compared with 1986-88 for all commodities except rice, beef and veal, and pigmeat (Graph I.6). For 2000-02, the average producer support was less than 20% for wool, eggs and poultry, between 20% and 35% for maize, oilseeds, beef and veal, sheepmeat, and pigmeat, between 36% and 50% for wheat, sugar and milk, and over 80% for rice.

While sugar and milk benefit from high levels of support in most OECD countries, rice is produced in relatively few OECD countries but generally benefits from high support, particularly in **Japan** and **Korea**. As support for these three commodities is mainly provided through price support, the associated levels of market protection (NPC) are also the highest. Prices received by producers and those paid by consumers were, on average in 2000-02, around twice the level of world market prices

for sugar and milk and about five times higher than the world prices for rice. Farm receipts from sugar and milk were also twice what they would be without support, while those of rice were five times higher.

The levels and composition of support together with variations in the rates of support and protection across commodities within the agricultural sector of a country are important causes of distortions in resource allocation between commodities. For a given country, the wider the variation in support between commodities, the greater the potential production distortions within the sector. Graph I.7 compares the coefficient of variation in commodity support within individual countries for periods 1986-88 and 2000-02. It shows that variation in commodity support in 1986-88 was highest in **Japan** and **Korea**, and lowest in **Australia**. Since then, variation has fallen in some countries, except in the **European Union**, **Japan**, **Korea**, **Hungary** and **Iceland** where it increased, while in **Mexico**, **Norway** and **Turkey** it changed very little.

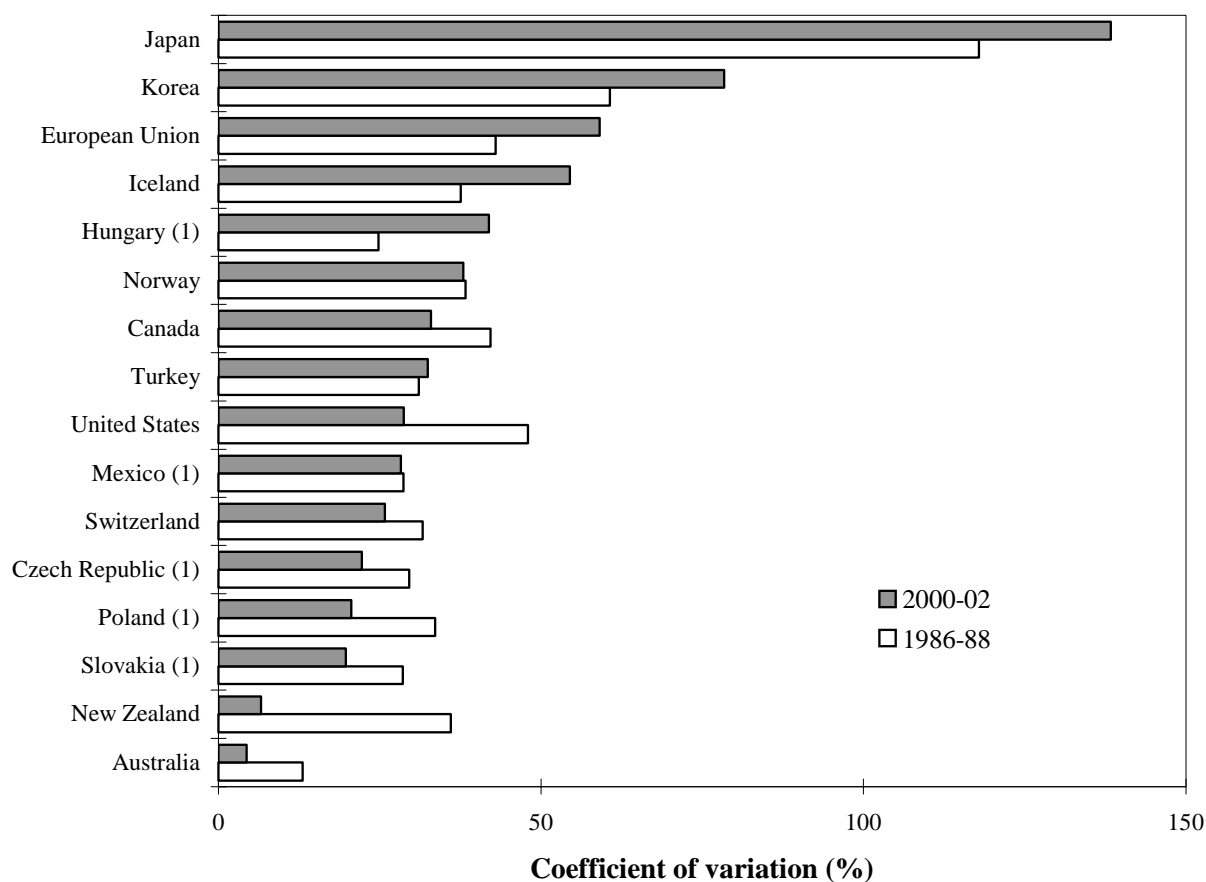
**Graph I.6. Producer Support Estimate by commodity**  
(OECD average as % of value of gross farm receipts)



*Note:* Products are ranked according to 2000-2002 levels. For more detail, see Annex Table 3.

*Source:* OECD PSE/CSE database, 2003.

**Graph I.7. Variation in commodity support by country**



Notes: Variation in support is measured by the coefficient of variation of commodity producer NACs, weighted by value of production.

1. For the Czech Republic, Hungary, Mexico, Poland and the Slovak Republic, the reference years are 1991-93.

Source: OECD PSE/CSE database, 2003.

***The most distorting forms of support have declined, but still dominate ...***

The share of market price support and output payments taken together decreased from 82% of support to producers in 1986-88 to 67% in 2000-02, while the share of input payments increased from 8% to 9%. The combined share of these three forms of support decreased from 90% to 76% (Graph I.5). This is a step in the direction of the long-term reform objective of reducing the most distorting forms of support, because these forms of support potentially have the greatest effects in stimulating production and input use, which distort trade and often contribute to environmental pressure. Moreover, these measures are the least effective in targeting income to farmers or in targeting the provision of specific environmental benefits. While the combined share of the most distorting forms of support increased between 1986-88 and 2000-02 in **Japan** to 98%, it decreased to 97% in **Korea**, 85% in **Iceland**, 78% in **Norway** and 68% in **Switzerland**.

***... although other forms of support have increased.***

The reduction in the most distorting forms of support in some countries has been accompanied by the introduction of other forms of support, which are potentially less distorting. In 2000-02, the share

of payments based on area planted or animal numbers was 13% of support to producers, compared to 7% in 1986-88. These payments were particularly important in the **Slovak Republic** (39% of PSE), the **European Union** (27% of PSE), and the **Czech Republic** (17% of PSE). Payments based on historical entitlements (area, animal numbers, yields, support or receipts) were first introduced in 1993 and represented about 5% of support to producers in 2000-02. These payments were mainly used in the **United States** (18% of PSE), **Switzerland** (17% of PSE) and **Mexico** (16% of PSE). In 2002, their second year of implementation in **Turkey**, these payments represented 20% of the Turkish PSE.

While payments based on historical entitlements depend on past support or farm receipts, and past area and yields of specific commodities and are independent of current prices, area/headage payments are based on current prices or planting, and past area and yields of specific commodities. Both forms of payments may affect current production decisions through lowering production risks in so far as they reduce the variability of revenues. However, the link to current production parameters makes payments based on area/animal numbers potentially more production distorting than payments based on historical entitlements, although both forms of support are less distorting than output and input-linked support.

Given the size of these two forms of payments in the **European Union** and the **United States**, they may well contribute to depressing prices in world markets. Although these payments can be targeted to specific income or environmental situations, they are often sector-wide and also benefit landowners who are not always farmers. Also, they benefit large farms more than small ones. They may also encourage the use of environmentally fragile land, although payments are sometimes conditional upon farmers undertaking some type of environmental compliance.

Some countries are increasingly using payments based on input constraints for sharing the costs of reducing, replacing or withdrawing resources from production, or changing production techniques, including for environmental purposes. With an increase of 20%, these payments were the category of support showing the greatest increase in 2002, but they continued to represent only 3% of PSE. In 2000-02, the share of these payments in the PSE was 4% in the **European Union** and the **United States**, 3% in **Norway**, 2% in **Japan** and **Switzerland**, 1% in the **Czech Republic**, and effectively zero in all other countries.

Due to the constraints attached to these payments, they may reduce production or be among the categories of support having fewer impacts on the production and trade of specific commodities. However, as these payments are based on land rental costs and/or costs of adopting and maintaining good farming practices, which increase with production-linked payments, the costs of providing environmental services or reducing environmental damage are higher than they would be in the absence of production-linked support. Granting cost-sharing payments together with production-linked payments is not the most efficient or policy coherent approach. In general, the cost of improving the environmental performance of agriculture is often lower when policies in place are consistent with the Polluter Pays Principle (PPP), yet there appears to be scope for greater application of the PPP.

Some countries also use payments based on overall farming income, which tend to be the least production and trade distorting, create less pressure on the environment, and are the most effective measures in transferring income to producers. In 2000-02 these payments represented around 14% of the PSE in **Australia** and **Canada**, and 6% in the **United States**. However, since 1986-88 the importance of these payments has remained consistently low at around 1% of the overall support to OECD producers (Graphs I.2 and I.5).

***Support for general services to agriculture remains low relative to support to producers.***

For the OECD as a whole, support for general services to the agricultural sector as a whole, as measured by the %GSSE, increased from 13% of total support to agriculture (TSE) in 1986-88 to 17% in 2000-02. The average %GSSE in 2000-02 was higher than 45% in **Australia** and **New Zealand**, between 20 and 30% in **Canada**, **Turkey**, and the **United States**, and less than 15% in all other countries.

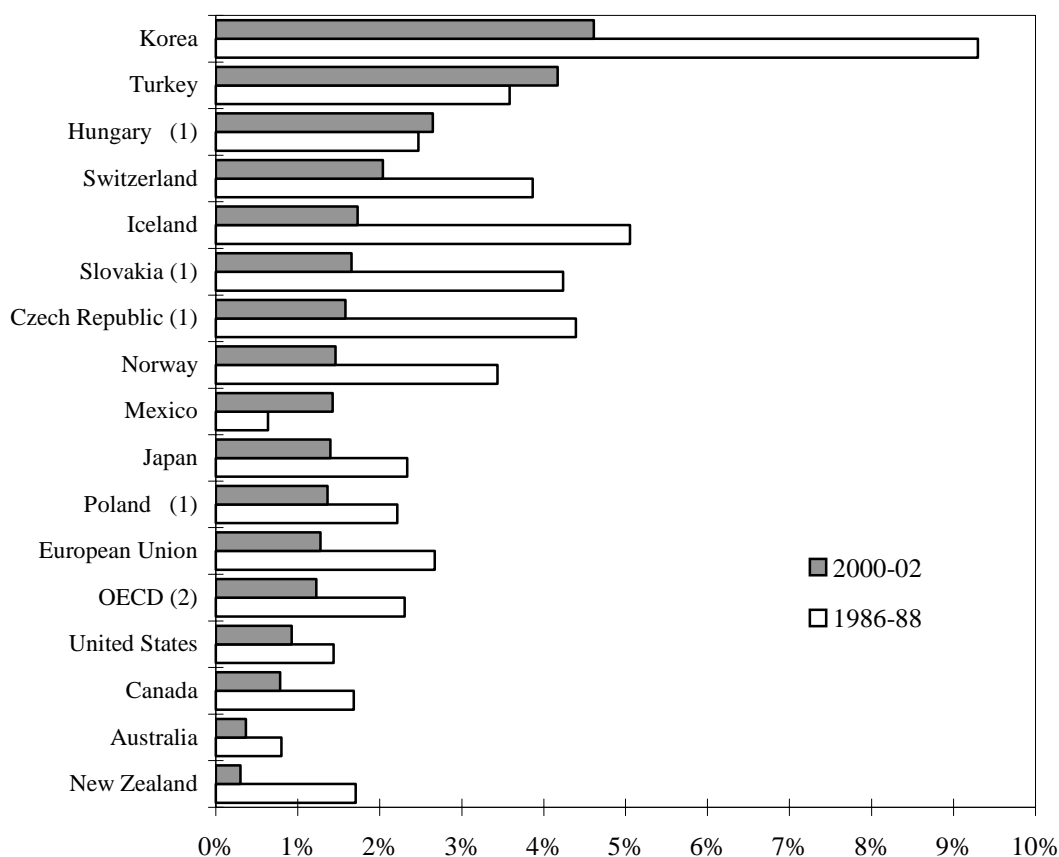
Support for general services to agriculture does not depend on any individual farmers' decisions or actions to produce goods and services, or to use factors of production, and does not affect farm receipts directly. Therefore, although it increases sector income and can, in the long run, improve or expand the sector's production capacity, distorting effects on production and trade are generally lower than most PSE measures. General services in the areas of advisory services, training, research and development, and inspection services, can improve long-term productivity and to ensure plant, animal and human health, and thereby benefit consumers and producers alike. Moreover, environmentally targeted measures implemented through GSSE measures, particularly on research, information and education, may be more effective and less costly in achieving specific environmental goals than PSE measures.

There have been some notable changes in the composition of support within the GSSE. Public stockholding cost is now a quarter of its 1986-88 level at 4% of the overall GSSE in 2000-02, reflecting lower public stocks as a result of a combination of policy and market developments. Marketing and promotion support has increased the most since the mid-1980s, rising from 32% in 1986-88 to 41% of the overall GSSE in 2000-02. It is the most important form of GSSE support in the **European Union**, **Turkey** and the **United States**. About 30% of overall GSSE support is for infrastructure, and is particularly important in **Japan** and **Korea**. Support for research and development and education remained stable at 13% of the overall GSSE, but is 50% or more of the GSSE in **Australia**, **New Zealand** and **Norway**. While the share of inspection services in the overall GSSE remained constant at just 3%, its share rose in a significant number of countries perhaps reflecting the greater public policy focus on food safety.

***Total support to agriculture decreased, but remained significant.***

Overall, for the OECD as a whole, total support to agriculture as measured by the TSE (PSE+GSSE+consumer subsidies), amounted to USD 318 billion (EUR 338 billion) or 1.2% of GDP (%TSE) in 2002, compared to an average of 2.3% in the 1986-88 period. In 2000-02, the %TSE ranged from less than 0.5% in **Australia** and **New Zealand** to over 4% in **Korea** and **Turkey** (Graph I.8). Despite the changes in the composition of support, about three-quarters of the total support to agriculture continues to go to individual producers (as measured by the PSE), and consumers continue to pay more than half (approximately over 90% in **Korea** and **Japan**) of this through higher food prices.

**Graph I.8. Total Support Estimate by country**  
(% of GDP)



Notes: Countries are ranked according to 2000-2002 levels. For more detail, see Annex Table 7.

1. For the Czech Republic, Hungary, Poland and the Slovak Republic, 1986-88 refers to 1991-93.

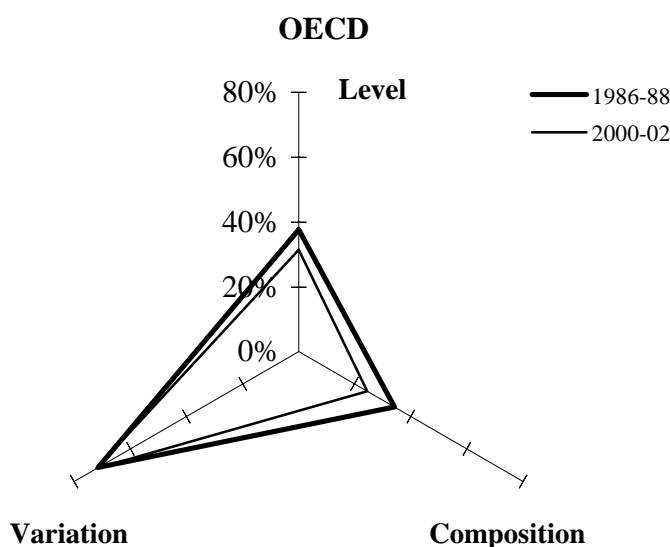
2. For 1986-88, the Czech Republic, Hungary, Poland and the Slovak Republic are excluded.

Source: OECD PSE/CSE database, 2003.

***Overall, some progress in reform has occurred, ...***

Progress towards the long-term objective of policy reform is indicated by downward trends in the level of support, the share of most production and trade distorting forms of support, and variation in commodity support. For the OECD as whole, there has been some progress towards the goals of policy reform, although there have been year-on-year fluctuations. There has been a reduction in the level of support and a modest improvement in the composition of support, although there was little change in the variation of support among commodities (Graph I.9). Nevertheless, support still accounts for about one third of farm receipts, of which over three-quarters is still generated by the most distorting forms of support, and with wide variations across commodities in the levels of support.

**Graph I.9. Changes in the level, variation and composition of support in OECD**



*Notes:*

1. The level of support is measured by the % PSE. The composition of support is measured by the share of market price support, payments based on output and payments based on inputs in gross farm receipts. Variation in support is measured by the coefficient of variation of commodity producer NACs, weighted by value of production.

2. All the axes are on the same scale shown on the vertical axis.

Source: OECD PSE/CSE database, 2003.

**... but remained highly uneven across countries.**

Progress in policy reform, *i.e.* in all three elements of support, has occurred in **Australia**, **Canada**, the **Czech Republic**, **New Zealand**, the **Slovak Republic** and the **United States**. However, the extent to which further progress is necessary varies between these countries. For example, in Canada, while progress has been made in reducing the overall level and in the use of the most distorting forms of support, there has been less progress to reducing the variation in support between commodities, reflecting the continued relatively high level of support for milk production. In **New Zealand**, the overall level of support has been significantly reduced, from a relatively low base, and there has also been a marked reduction in the variation of support across commodities. Support for sheepmeat was particularly large relative to other commodities in 1986-88. Reform had a significant impact on changing the variation in support between commodities and consequently the pattern of production.

In the **United States**, the reduction in the level of support and the improvement in the composition of support were both marginal. Progress was made especially on reducing the variation in support across commodities, particularly across cereal products in the second half of the 1990s. In the **European Union**, the level of support has fallen marginally, with greater progress made in reducing the most distorting forms of support. However, the variation in support among commodities has increased as a result of the way in which policy changes have been implemented, which create a greater reduction in support for cereals than for livestock products. **Mexico** has made efforts to reduce the level and improve the composition of support but the variation in support between commodities has not improved.

Progress towards reform in the five countries with the highest level of support has been mixed. While the level of support has remained constant in **Switzerland**, improvements have been made in shifting away from the most distorting forms of support and reducing the variation in support between commodities. Some progress in lowering the most distorting forms of support occurred in **Norway** but with no change in the other two elements. In **Iceland** and **Korea**, the level and composition of support have moved in the right direction, although marginally in the case of Korea, but the variation in support between commodities has increased. In **Japan**, no progress has been made in reducing the overall level of support or reducing the most distorting forms of support, and variation in commodity support has increased. While support decreased for some commodities, especially oilseeds, sugar and beef and veal, it increased for others, particularly rice and pork. In all five countries substantial effort is still required in reducing the overall level of support and moving away from the most distorting forms of support.

While starting from a low base, **Hungary** stands out as the one country where all three elements have increased in comparison with the reference period. **Poland** and **Turkey** have also seen the level of support and the importance of the most distorting forms of support increase, although Poland has made progress in reducing variations in support levels between commodities. All three countries are involved in a process of policy reform. However, while the 2001-04 ARIP in Turkey has the potential for reducing the level and improving the composition of support, the contrary may happen in Hungary and Poland with further policy harmonisation towards the EU's Common Agricultural Policy.

*...requiring further efforts to reform agricultural policies.*

Despite some progress since 1986-88, the current level, composition and variation in support across commodities among OECD countries, and the distortions associated with such policies, demands attention. Some events are providing countries with the opportunity to undertake a positive reform agenda. Individually, a number of countries have recently implemented broad range policy packages or are in the process of considering reform. These need to address the problems associated with agricultural support policies. There is also some pressure being exerted by bilateral agreements and the EU accession process. Finally, a successful conclusion to the WTO Doha Development Agenda of trade negotiations, within the established timeframe and mandate, is of utmost importance to continuing the process of policy reform.

## **AGRI-ENVIRONMENTAL POLICIES IN OECD COUNTRIES**

### *Future development of agri-environmental policies*

There seems to be little doubt that agri-environmental policy will continue to increase in importance in many OECD countries in the future. For example, in the **United States**, the 2002 Farm Security and Rural Investment (FSRI) Act provides for an 80% increase in funding for agri-environmental purposes over six years, while a feature of the European Commission reform proposals for the **European Union's** Common Agricultural Policy is the strengthening of funding for rural development measures — including agri-environmental programmes — over the 2006-2012 period. In 2002, **Australia** launched a number of new agri-environmental strategies, including a National Market-Based Instruments Pilot Programme to investigate the application of market-based instruments in addressing environmental issues, while **Canada's** recently agreed Agriculture Policy Framework features a range of new environmental policy initiatives.

Many of the agri-environmental policy measures described in the preceding sections have been introduced in response to domestic, regional or local environmental issues. However, international pressures also look likely to exert a growing influence over agri-environmental policy in the future. These pressures include commitments relating to a range of international environmental agreements to address trans-boundary environmental issues, such as the 1997 Kyoto Protocol, which specifies greenhouse gas (GHG) emission targets for 2008 to 2012, and the International Convention on Biological Diversity (CBD), which requires signatory countries to develop national strategies for the conservation and sustainable use of biological diversity.

### ***Emerging policy issues***

Compared to more conventional agricultural policies characterised by production and input-linked support, many agri-environmental policies in OECD countries are at a relatively early stage in their development, and there is often a lack of qualitative and quantitative data available to assess them. Accordingly, although policy evaluations have been undertaken in some countries, they remain largely *ad hoc* and partial.

Comprehensive evaluation of agri-environmental policies presents significant challenges, not least because of the complexities of the interactions between policies, and the wide range of non-policy factors that influence environmental outcomes. Prudent evaluation centres on assessing not only the environmental effectiveness but also the economic efficiency of measures, including such factors as administrative, compliance and opportunity costs, together with impacts on production and trade.

The issues associated with the evaluation of agri-environmental policy measures are currently the focus of ongoing work within the OECD. This work has highlighted several major issues in the light of policy experiences to date.

- Foremost is the need for policy coherence. In a number of OECD countries, agri-environmental policies and agricultural policies can be found to be pulling in opposite directions. Policies to redress environmental damage are sometimes implemented in the context of production and input-linked support measures that contribute to environmental damage. It is notable, for example, that many of the countries that make the most pronounced use of agri-environmental payments also tend to have relatively high levels of market price support. The coexistence of such policies can make the attainment of environmental objectives less certain and more costly than would otherwise be the case. It follows that the reform of agricultural policies would assist the achievement of environmental objectives by correcting the government failures that can complicate agri-environmental management. Another key element of improving policy coherence is the need for appropriate co-ordination within and between government authorities and other institutions involved in agri-environmental policy, in order to ensure a comprehensive response to environmental needs, and to avoid the duplication of effort and waste of resources.
- There appears to be scope for greater application of the polluter-pays-principle in agriculture. Full cost internalisation under the PPP stimulates incentives to correct significant damage, and encourages innovation in pollution treatment, thus minimising long-term compliance costs. While it is recognised that there may be technical problems in applying the PPP in agriculture, the relative absence of certain environmental policy measures in OECD countries, such as environmental taxes and charges, and the dominance of others, particularly payments, suggests that farmers in some countries may have retained broad implicit or "presumptive" rights in the use of natural resources and that they have come to expect compensation for any diminution of those rights. In some cases, there may therefore be a need for the application of

more clearly defined boundaries ('property rights') in agriculture, indicating where farmers should be liable at their own cost for environmental damage.

- The dependence of farmers on the integrity of eco-system services draws particular attention to the on-going importance of information, advice and training in improving environmental outcomes. Most farmers well understand how to manage the soil, water and biological resources at their disposal to maximise commodity output, at least in the short-term, but they can often be unaware of the long-run consequences of current farming practices on these resources, or of the alternatives available. Building on farmers' self-interest in environmental stewardship through sound advice can help overcome resistance to needed changes, and in the end minimise the need for more costly agri-environmental policy measures. A further benefit of information provision can be in assisting farmers in identifying emerging trends in the consumer concerns relating to the environment, thus encouraging them in developing new market opportunities.
- Effective agri-environmental policies tend to the ones that target concerns directly and affect production to the least possible extent. Some OECD countries consider that there are environmental benefits associated with supporting the production of certain commodities; the challenge in this context is to find better targeted ways to deliver those benefits. Effective targeting means that if there are multiple environmental objectives then the same number of policy instruments may be needed to deal efficiently with the issues. It also means that policy measures should be tailored, as far as possible, to the environmental situation prevailing in a given area. Effectiveness is also enhanced when farmer compliance is closely monitored and the effects on farming practices and the environment are regularly assessed against the stated goals. This means that specific frameworks and procedures may need to be set up to generate a combination of data collection and evaluation processes.
- There can be a role for government payments to farmers where there is insufficient provision of environmental services demanded by society and it is evident that markets for those services are absent or poorly functioning. In order to minimise distortions to agricultural markets, payments should be linked as closely as possible to environmental outcomes or farming practices that lead to these outcomes.

Agricultural policy reform — in particular, the reduction or elimination of output-linked support and input subsidies — should help improve environmental outcomes by lessening production pressures and enabling market signals to determine a more efficient use of scarce resources. For example, reform could be expected in many cases to reduce incentives for fertiliser and pesticide use, pressures to convert environmentally-vulnerable land to farm production, and other stresses such as irrigation water withdrawals.

It is important to stress, however, that the effects of reform on the environment in a given country will vary depending on a wide range of factors, such as the overall policy framework (including environmental policy measures), the international competitiveness of its agricultural sector, production alternatives, technological change and the nature of factor and product markets. For example, "pockets" of environmental stress may occur where agricultural production increases in the more competitive countries/regions, or where the removal of support jeopardises farming systems that support valued wildlife and scenic landscapes.

Moreover, reform itself cannot be expected to stimulate all the environmental amenities demanded by society or sufficiently reduce environmental harm, where agricultural producers do not have appropriate incentives to take all the environmental costs and benefits to society of on-farm activities into account in their decisions. Thus, there will be an ongoing role for policies addressing environmental issues in agriculture, including an appropriate regulatory framework, information-based

strategies and economic instruments. In justifying policy intervention it will always be prudent to establish both that markets alone would fail to deliver the environmental outcomes required, and that intervention would promote rather hinder their achievement, while enhancing economic welfare as a whole.

## PART II. ANALYSIS OF THE 2002 FARM ACT IN THE UNITED STATES

The Farm Security and Rural Investment Act of 2002 (2002 Farm Act) was signed on 13 May 2002 and will be in effect for the period 2002-07. It includes a wide range of programmes for commodities, conservation, trade, nutrition, credit, rural development, research, forestry initiatives and energy, and replaces the Federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Act), which provided the basic legislation governing farm policy during the period 1996-2002.

This section analyses the new Act in light of the OECD principles for agricultural policy reform. Section 1 outlines the main provisions of the 2002 Farm Act, followed by estimates of the incentive price effects (section 2), market effects (section 3), and implications for the level of support (section 4). Finally, section 5 provides an evaluation.

**The impact of the 2002 Farm Act, as it is estimated in this section, strongly depends on a number of assumptions, most notably on the degree of farmers' risk aversion, and the settings on world markets as indicated by international commodity prices. It is for this reason that sections 2 and 3 include sensitivity analysis with respect to those two factors.**

### 1. Main provisions

The *marketing loan assistance program* (MLAP) for cereals, upland cotton and oilseeds is continued and extends the coverage to peanuts, wool, mohair, honey, dry peas, lentils and small chickpeas. Loan rates are set for the years 2002 and 2003 and then reduced slightly for the period 2004-07 for many commodities. For most products, loan rates are higher than those in 2001 throughout the entire period. Exceptions are rice, for which the loan rate is unchanged, and soybeans for which it is reduced (Table 1). The annual payment limit on marketing loan gains (MLG) and loan deficiency payments (LDP) is kept unchanged at USD 75 000 per person and crop year. At the same time, the optional formula to reduce a loan rate in the event of persistent price weakness is removed. A separate USD 75 000 payment limitation applies for the MLG and LDPs for peanuts, wool, mohair and honey.

*Direct payments for crops* (DPC) replace the pre-determined production flexibility contract payments (PFCPs) provided under the 1996 Farm Act to wheat, maize, barley, grain sorghum, oats, upland cotton and rice. In addition, the payments are extended to soybeans, other oilseeds and peanuts. Payment rates by commodity for the 2002-07 period are higher than those paid in 2001 (Table 1). Eligible farmers or landowners receive an annual DPC equal to the payment rate of the applicable crop multiplied by the DPC crop base yield and 85% of the crop base area for the farm. The payment limit for DPC continues to be fixed at USD 40 000 per person and crop year, with a separate payment limit of USD 40 000 for peanuts.

A new programme providing *counter-cyclical payments* (CCP) for wheat, feed grains, upland cotton, rice, oilseeds and peanuts is introduced to replace the *ad hoc* Market Loss Assistance Payments (MLAP) provided to farmers during the 1998-2001 period. Target prices specific to each commodity are set initially for the years 2002 and 2003 and then increased for the period 2004-07 for most commodities (Table 1). CCPs are available whenever the target price of a given commodity is higher

than the *trigger level*, which is the return per tonne (*i.e.* the higher of market price or loan rate) plus the DPC per tonne. The amount of the annual CCP is the payment rate (target price minus the trigger level) of the applicable crop multiplied by the CCP crop base yield and 85% of the crop base area for the farm. The annual CCP is limited to USD 65 000 per person and crop year, with a separate USD 65 000 payment limit for peanuts.

For both the DPCs and CCPs, producers may retain their 2001 PFCP contract areas from the 1996 Farm Act as *base areas*. The 1998-2001 average oilseed area may also be added to these total base areas. Alternatively, producers have the option to update their base area to the average area planted during 1998-2001 for all eligible commodities. *Payment yields* for DPCs are those previously used for the PFCP. For oilseeds, the farm's DPC yield is the 1998-2001 average yield multiplied by the ratio of the national averages for 1981-85 relative to the average 1998-2001. The payment yield for peanuts is the 1998-2001 average yield. For CCPs, producers may use the same payment yields as used for DPCs. If a farmer opts to update the base area to the alternative 1998-2001 area for all eligible commodities, then the producer also may choose to update yields for the CCPs under either of two mechanisms: (i) adding to the current DPC yields 70% of the difference between the 1998-2001 yield average and the DPC yield, or (ii) generating entirely new CCP yields that are 93.5% of the 1998-2001 average yields.

**Table 1. United States: payment rates for crops and milk for crop year 2001 under the 1996 Farm Act and crop year 2002-07 under the 2002 Farm Act**

(USD/t)	Loan rate			Direct payments		Target price	
	2001	2002 - 2003	2004 - 2007	2001	2002 - 2007	2002 - 2003	2004 - 2007
Wheat	94.8	102.9	101.0	17.4	19.1	141.8	144.0
Maize	74.4	77.9	76.8	10.6	11.0	102.4	103.5
Grain sorghum	67.3	77.9	76.8	12.8	13.8	100.0	101.2
Barley	75.8	86.3	85.0	9.5	11.0	101.5	102.9
Oats	83.4	93.0	91.6	1.5	1.7	96.5	99.2
Upland cotton	1144.6	1146.4	1146.4	132.1	147.0	1596.1	1596.1
Rice	143.3	143.3	143.3	46.3	51.8	231.5	231.5
Soybeans	193.3	183.7	183.7	n.a.	16.2	213.1	213.1
Other oilseeds	205.0	211.6	205.0	n.a.	17.6	216.1	222.7
Peanuts	673/146	391.4	391.4	n.a.	39.7	545.8	545.8
Milk <sup>1</sup>	218.3	218.3	218.3	n.a.	n.a.	373.5	373.5

Notes: Crop year periods vary between commodities. Complete documentation is provided in the OECD PSE/CSE Database 2003, available at [www.oecd.org/agr/policy](http://www.oecd.org/agr/policy).

n.a.: not available.

1. Minimum price, calendar years.

Source: USDA.

*Planting flexibility* provisions allow farmers to receive DPC and CCP on the base area of one crop while producing other crops on that area. There are some limitations on planting fruits, vegetables and wild rice. Participants receiving these payments must continue to abide by *conservation compliance requirements* and must use their base area for agricultural or conservation purposes. For each of these payments, a participant can receive a single full payment as one entity and up to a half payment from each of two additional entities. Thus, the *maximum payment* that an

individual can receive is USD 360 000 per year, excluding payments on peanuts, wool, mohair and honey. Producers with an average gross income of over USD 2.5 million over the three preceding tax years are not eligible for payments unless over 75% of their gross income is from agriculture.

A total of USD 20 million will be available from 2003 to 2005 to provide incentives to producers of *hard white wheat*. This payment will be limited to 0.8 million hectares or the equivalent volume of production. Support to *peanuts* is changed from a price support programme with marketing quotas to a programme with marketing loans, DPCs, CCPs and a quota loss compensation payment. A single loan rate is set for the period 2002-07 replacing the previous rates for quota and non-quota peanuts (Table 1). Producer levies on peanuts are eliminated.

The two main elements of the *sugar* support policy — the tariff-rate quota (TRQ) import system and the price support loan programme — continue and a producer payment in kind (PIK) programme may also be employed. In operating the PIK programme, Commodity Credit Corporation (CCC)-owned sugar can now be exchanged prior to planting for reductions in the area planted. Marketing allotments are introduced in order to balance markets, avoid forfeitures and to comply with sugar import commitments under WTO and NAFTA. The marketing assessments and loan forfeiture penalties on sugar are eliminated. The cost of storing excess sugar production is shifted from the Government to the industry. However, a sugar storage facility loan program was established to assist processors who want to construct or improve storage and handling facilities. The loan rates for raw cane and refined beet sugar are frozen at their 1995 levels through 2002-07.

The *dairy* market price support programme and the Dairy Export Incentive Program (DEIP) has been extended, the milk marketing order system remains unchanged, and a new deficiency payment has been added. Dairy market price support was scheduled to end on 31 December 1999, but was instead extended on an *ad hoc* basis each year. Under the new Act, it will be continued over the 2002-07 period. The minimum price for milk remains at USD 218 per tonne and the CCC will continue to buy at announced prices any butter, cheddar cheese or non-fat dry milk that is offered. A new Milk Income Loss Contract Program — the National Dairy Market Loss Payment Program — is introduced for the period 2002-05 to provide a monthly payment to dairy farm operators equal to 45% of the difference between a target price fixed at USD 373.5 per tonne of milk (Table 1) and the monthly Class I price in Boston. This annual payment is limited to a maximum of 1 089 tonnes of milk per operation, *i.e.* the production of about 135 cows.

Concerning domestic *credit policy*, the Farm Service Agency (FSA) farm loan eligibility rules are relaxed to make more borrowers eligible for Federal farm credit assistance. Lending rules for new farmers and ranchers are modified to increase eligibility and annual loan levels, as well as to provide more benefits. The annual amount of guaranteed operating loans on which a 4% interest rate reduction is made increased by 53% to USD 750 million, with 15% of it set aside for new farmers. FSA may guarantee owner-financed loans (loan contracts for sale) to new farmers purchasing a farm or ranch in a limited five-state area on a pilot basis.

Overall, funding for *environmental conservation and protection* is increased by 80% over six years to about USD 21 billion. Programmes for retiring environmentally sensitive land from crop production will continue to expand. However, the emphasis is shifted towards programmes that support conservation on land in production by increasing the funding for the Environmental Quality Incentives Program (EQIP) and establishing a new Conservation Security Program (CSP), which pays producers to adopt or maintain environmentally friendly farming practices. The CSP focus on land-based practices and specifically excludes livestock waste-handling facilities. Under the CSP, producers develop conservation plans and enter into conservation security contracts that provide an

annual payment up to USD 45 000 for implementing or maintaining the practices designated in the conservation plan.

Authorised funding through the CCC for the EQIP has been increased from USD 1.3 billion for 1996-2002 under the 1996 Farm Act to USD 5.8 billion for 2002-07. In addition, USD 310 million are provided for ground and surface water conservation, including cost share for more efficient irrigation systems. The share for livestock producers increases, with 60% of total funding — up from 50% in the 1996 legislation. Limits on the size of participating farms, which excluded those with over 1 000 animal units, are eliminated. The total of all EQIP payments to an individual or entity cannot exceed a total of USD 450 000 during the period 2002-07.

Farms participating in the EQIP must implement structural and land management practices, or develop a comprehensive nutrient management plan to be eligible for payments. Changes in eligibility conditions include elimination of: priority areas, the requirement to maximise environmental benefits per dollar of programme expenditure (although “optimisation of environmental benefits” is still cited as a purpose of the programme); “bidding down” (*i.e.* higher priority cannot be assigned to contract offers with comparable environmental values based only on a lower bid for cost sharing from the operator); and higher priority for producers who use cost-effective conservation practices and address national conservation priorities.

Land retirement programmes are expanded, with particular emphasis on wetlands. The maximum set-aside area under the Conservation Reserve Program (CRP) is increased to 15.9 million hectares, from 14.7 million hectares under the 1996 Act. The maximum area covered by the Wetland Reserve Program (WRP) is doubled to nearly 1 million hectares and, to the maximum extent possible, over 100 000 hectares per year must be enrolled.

While continuing and expanding programmes that retire environmentally sensitive land from crop production, the 2002 Farm Act extends funding to working land and the protection of productive farmland from non-farming development. Funding for the Farmland Protection Program (FPP) increased from USD 50 million appropriated over 1996-2001 to USD 597 million in CCC funding for the 2002-07 period. A new Grassland Reserve Program (GRP), covering up to 810 000 hectares and funded at USD 254 million for 2003-07, is created to provide annual payments to assist landowners to restore and conserve grassland.

Funding provisions for *research* are extended to 2007, replacing dollar amounts with “such sums as are necessary to carry out” the research. Annual funding for the Initiative for Future Agriculture and Food Systems is increased from USD 120 million in 1998-2004 to USD 200 million in 2007 and each year thereafter, for agricultural research, education, and extension, and includes funding for biosecurity, biotechnology, environment and organic agriculture.

In respect of *domestic food assistance*, the Food Stamp Program and commodity distribution programmes are reauthorized through Financial Year (FY) 2007. The annual funding for the Emergency Food Assistance Program commodity purchases is increased by 40% to USD 140 million each year beginning in FY 2002. Some USD 10 million per year are granted for demonstration projects to promote consumption of fruits and vegetables, and at least USD 200 million per year will be used to purchase fruits, vegetables and other speciality crops for commodity distribution programmes.

The list of commodities covered by the *Bioenergy Program* encouraging increased purchases of eligible commodities for expanding production of bio-energy is broadened to include animal by-products and oils and fats, funded at USD 150 million annually for 2003-06. Competitive grant

programmes are established to: support development of biorefineries to convert biomass into fuels, chemicals, or electricity; educate people about the benefits of biodiesel fuel use; administer energy audits and renewable energy development assessments for farmers, ranchers and rural small businesses; assist farmers, ranchers and rural small business in purchasing renewable energy systems and making energy efficiency improvements.

New provisions to assist *organic production* systems include USD 15 million for research and USD 5 million for the National Organic Certification Cost-Share Program to grant a payment up to USD 500 per producer or handler of agricultural products to assist them in obtaining certification. Organic producers are among those eligible to receive payments under the Conservation Security Program (see above) for adopting or maintaining organic farming practices.

*Country of origin labelling* guidelines will be developed, initially on a voluntary basis, for retailers for beef, lamb, pork, fish, perishable agricultural commodities and peanuts. With meat labelling, only meat from animals born, raised, and slaughtered in the US can be considered US produced. The voluntary guidelines prescribe minimum requirements for a recording system, which will be a part of a mandatory programme, to be put in place by September 2004.

Under new provisions for *rural development*, farmers and ranchers may now obtain loans and guarantees up to USD 40 000 to buy stock in a value-added co-operative. Annual funding is authorised for a programme providing training for farm workers in new technologies and for the value-added agricultural product marketing development grants programme to assist individuals or groups of agricultural producers in developing business plans and strategies that would create viable marketing opportunities for value-added agricultural products. The Fund for Rural America, with previously authorised funding of USD 100 million per year for agricultural research and rural development, is abolished.

In respect of *trade-related provisions*, the new act continues all trade programmes and adds new programmes designed to develop and expand commercial outlets for US commodities and food products in world market and to provide international food assistance. Funding levels for the Emerging Markets Program (EMP), the Export Credit Guarantee Program (ECGP), and the Export Enhancement Program (EEP) remain unchanged and funding increases by a quarter to USD 34.5 million for the Foreign Market Development Program (FMDP). The maximum annual appropriation for the Market Access Program (MAP) is more than doubled to USD 200 million by 2006.

The International Food for Education and Nutrition Program grants USD 100 million to provide commodities and financial and technical assistance for foreign pre-school and school feeding programmes. The Online Exporter Assistance Initiative provides comprehensive information in a USDA web site to assist exporters and potential exporters of US agricultural commodities. The Global market strategy identifies opportunities for growth in exports and removes barriers to trade in overseas markets.

Provisions on technical barriers to trade authorise annual grants up to USD 6 million for public and private-sector projects for intervention regarding non-tariff barriers to US exports involving issues of biotechnology, food safety, disease or other sanitary and phytosanitary concerns; and establishes an annual USD 2 million export assistance programme to address specific barriers that prohibit or threaten the export of US speciality crops. The Uruguay Round compliance provisions require a reduction in certain domestic support expenditures when the Government determines that total expenditures exceed or are expected to exceed allowable levels, as measured by the Aggregate Measurement of Support (AMS). The AMS ceiling for the United States is currently USD 19.1 billion.

## 2. Incentive price effects on crops

This section estimates the incentive price effects of the 2002 Farm Act provisions on crops, that is the effects on the economic signals that guide production decisions. Incentive price effects have two components. *Relative price effects* are the effects created by changes in the implicit or explicit prices paid by farmers for their inputs or received by farmers in exchange for their outputs. *Risk effects* are the effects created by changes in the variability of farming revenue induced by policy measures. This section estimates the corresponding risk premiums and the relative importance of these effects as compared to relative price effects. These estimations are then used, along with other characteristics of the policies involved, to simulate the market impacts of the 2002 Farm Act in the AGLINK model (section 3).

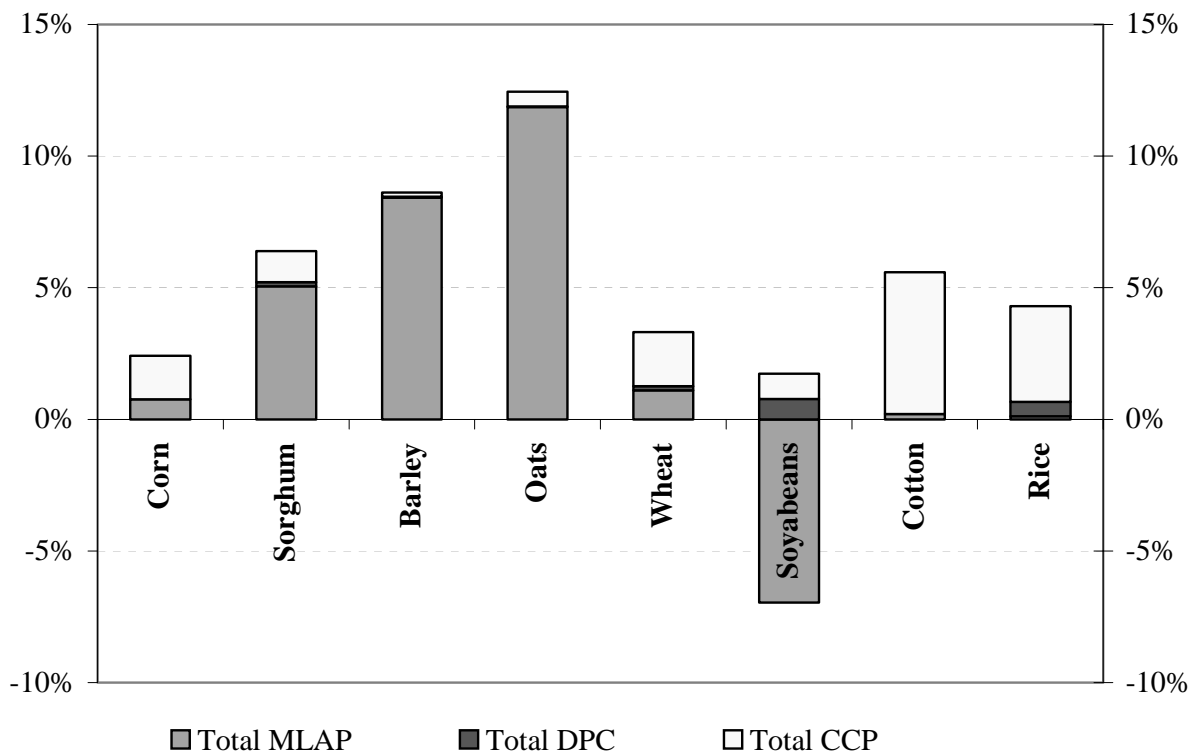
The relative price effects are estimated using results and methodologies developed by the OECD. The MLAP creates direct incentives to produce by giving payments per tonne and the corresponding price effect is estimated to be equal to the estimated payment. The DPCs and the CCPs are paid on historical rather than current production and they may create some impacts on area allocation through the implicit price of the use of land. The relative price effects of these two payments are estimated to be smaller than those associated with the MLAP, in line with the results in the PEM crop analysis. However, the impacts of base area or yield updating and expectations assuming possible future updating opportunities have not been quantified.

Two main crop programmes of the 2002 Farm Act give payments that are contingent on market prices and require risk effects to be calculated: the MLAP and CCPs. They both reduce the market risk faced by crop producers. Most empirical studies show that farmers are risk averse and therefore, reducing market risk will have an impact on production decisions: less risk associated with producing a given commodity will stimulate its production. Under certain assumptions, the risk reducing impacts can be incorporated into a price risk premium (in other words, expressed as an equivalent change in price). These risk premiums increase the production response of farmers whenever risk, measured as the variability of farm revenue, decreases and vice versa.

The risk reducing impact of the MLAP and CCPs differ for two reasons. First, the target prices of the CCPs are additional to loan rates. They supplement prices that lie between the loan rate and the target price minus the direct payment rate. Marketing loans cover only against market prices that are lower than loan rates. Second, marketing loans provide payments to current production while CCPs payments relate to historical area and yield. Their impact on risk is different. The risk related impacts of CCPs are, in general, smaller than those of marketing loans. However, if area allocated to a given crop falls far below the levels in the base period, the risk reducing impacts of CCPs become larger, which may prevent production from falling. That is, CCPs create incentives to maintain the total crop area of the base period. This difference in risk effects between the two programmes is incorporated in all the calculations. This risk premium approach allows the impact on the incentive prices (net of risk premiums) of the two programmes to be compared. The calculated risk premiums are used to model the risk related effects.

Graph II.1 shows the impacts on the incentive prices of crops of the three main commodity programmes as compared to the programmes available in the previous Farm Act. These impacts are calculated for the outlook period 2002-08 using the AGLINK baseline and presented as the average of the seven-year period. Risk and price effects of both programmes are contingent on market conditions. For most of the crops the prices in the outlook baseline 2002-08 are significantly higher than prices in the previous years 1999-2001. Both price and risk effects, but especially the former, are smaller when market prices are high.

**Graph II.1. 2002 Farm Act impacts on incentive prices**  
Average 2002-08

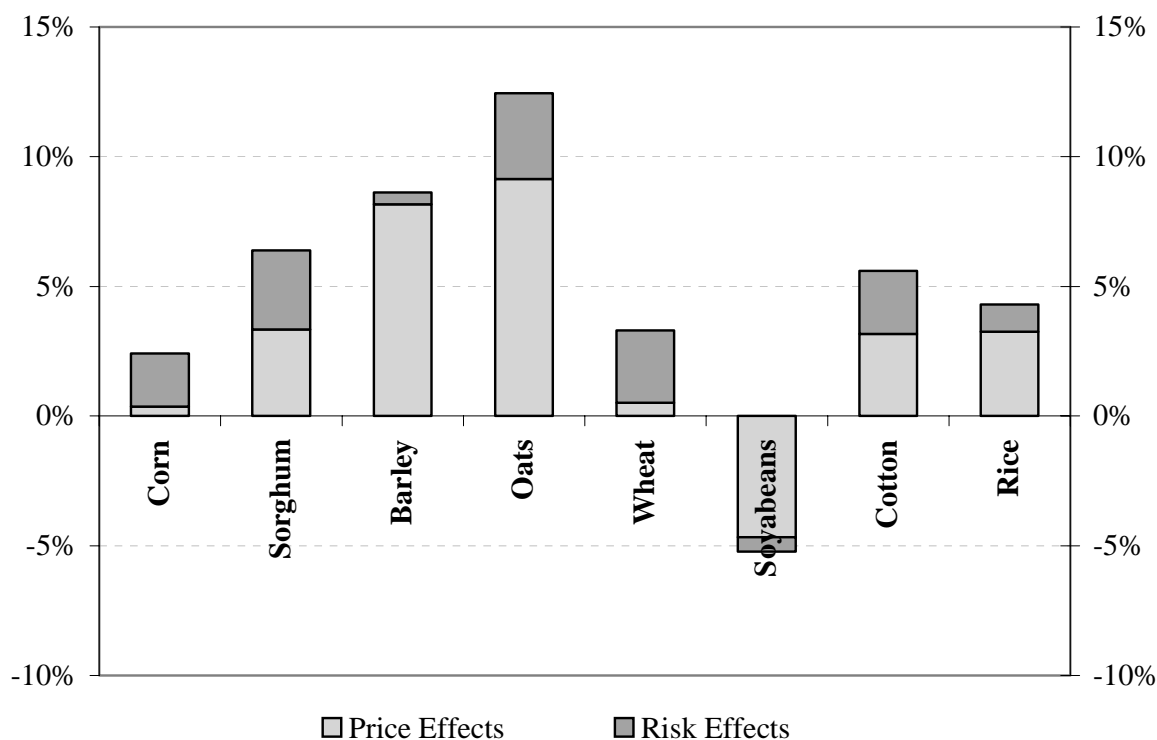


Source: OECD Secretariat.

The 2002 Farm Act increases the loan rates of corn, sorghum, barley, oats and wheat, and reduces that of soybeans (Table 1). The average changes in incentive prices due to the new loan rates range from a reduction of 5.7% for soybeans to an increase of 10.7% for oats. Marketing loans dominate the impacts on the incentive prices of sorghum, barley, oats and soybeans. The 2002 Farm Act also increases the DPC rates of all crops. However, the DPC is rather marginal in the total incentive price impact of the new Act. This is the case even for products such as soybeans that did not receive these payments before. Finally, the 2002 Farm Act creates a new target price that -net of DPC payments- triggers the counter-cyclical payments. The largest differences between net target prices and loan rates occur for corn, wheat and, especially, cotton and rice. That is why CCPs dominate the incentive price impact on wheat (2%), corn (1.7%), cotton (5.4%) and rice (3.6%).

**Graph II.2. 2002 Farm Act impacts: relative price versus risk effects**

Average 2002-08

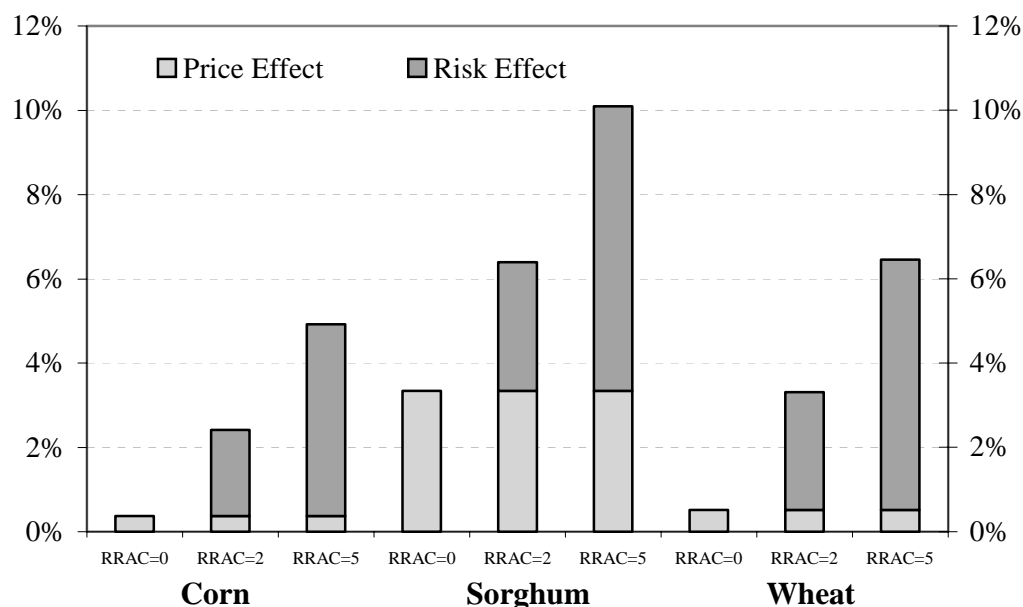


Source: OECD Secretariat.

Graph II.2 divides total impacts on incentive prices into relative price effects and risk effects. Price effects are dominant except for wheat and corn, the two commodities with smaller overall impacts. Incentive prices of corn and wheat are estimated to increase by 2.5% and 3.3%, of which 2% and 2.8% respectively, are due, to risk effects. These results underline the importance of the risk reducing dimension of the programmes in the 2002 Farm Act, which in turn depends on the assumptions on farmers' risk aversion.

These results depend crucially on the assumed coefficient of relative risk aversion (RRAC). The base value for this coefficient (RRAC=2) was derived from the empirical literature as shown in the annex, but the range of empirical estimations for this coefficient is large. If farmers are risk neutral (RRAC=0) risk effects become zero. If farmers are more risk averse, up to a still plausible value of RRAC=5, risk effects on incentive prices due to the Act more than double, as shown in Graph II.3 for corn, sorghum and wheat.

**Graph II.3. Sensitivity analysis Risk effects on corn, sorghum and wheat**  
Averages 2002-08



Source: OECD Secretariat.

The estimation of risk effects is especially relevant for programmes like the CCP, given their strong counter-cyclical nature. These payments are -in principle- based on fixed area and yields, which makes their relative price effects rather marginal. Including risk related effects, through the risk premiums, allows the impacts on production of payments that are contingent on current market conditions to be estimated.

### 3. Market effects

This section shows the likely impacts of the 2002 Farm Act on US and world markets for crops and dairy compared to a preliminary baseline scenario presented to the Commodity Groups of the CoAg in April 2003. The analysis is based on AGLINK (the non-spatial, multi-region trade model developed by OECD). As this model focuses on the markets and policies particularly relevant for OECD agricultural trade, it is well suited for examining the provisions of this policy change relating to commodity production, trade and prices.

The analysis depends in part on a number of assumptions, in particular the degree to which US farmers are risk averse and world agricultural market conditions (*e.g.* world prices, which may be higher or lower than projected levels). Thus, the discussion of the quantitative results is supplemented with some sensitivity analysis with respect to these two factors.

A number of limitations of this analysis should be mentioned. First, several commodities subject to the amended policy are not sufficiently represented in the model, including sugar and pulses. Second, the analysis is limited to commodity programmes and the CRP. Therefore, a number of environment-related and other measures are not taken into account. Third, the impact of the CRP expansion on individual crop areas is handled by introducing exogenous shifters based on the USDA's Cost Benefit Assessment of the 2002 Farm Act; this part of the results cannot therefore be seen as an

original outcome of AGLINK. Finally, marketing loan benefits are calculated in AGLINK based on expected market prices and, therefore, generally underestimate the expected marketing loan benefits.

### ***Impact on US and international crop markets***

The crop market effects show the projections for 2002 to 2008 based on 2002 Farm Act provisions compared to the counter-factual market outcomes assuming a continuation of the 1996 Farm Act provisions. The results are subject to the caveats expressed earlier and, additionally, do not incorporate effects related to expectation concerning future programme changes. The shift from the 1996 Farm Act policies (*i.e.* loan rates at the maximum levels provided by the 1996 Farm Act and no further *ad hoc* market loss assistance payments) to the 2002 Farm Act results in larger total benefits for grains, as both loan rates and total direct payments (*i.e.* DPC and CCP) increase. Lower loan rate benefits for soyabeans are only partly offset by the increase in direct payments.

DPCs increase compared to the former PFC payments and the new CCPs become significant from 2003 onwards. Total payments (DPCs and CCPs) are projected to increase by an average of 62% over the 2002-08 period under the new Farm Act compared to the previous act, with payments almost doubling in 2003 as price decreases trigger high CCPs, but the gap narrows towards the end of the projection period.

The higher loan rates and the counter-cyclical payments lead to a significant reduction in the risk faced by US grain producers. As explained in Section 2, average risk premiums decline by more than one third for both wheat and maize under the 2002 Farm Act, thus raising incentive prices. For soyabeans, the risk reducing effect of the counter-cyclical payments is more than offset by the increased risk exposure due to lower loan rates, resulting in a 25% increase in risk premiums for oilseed producers. As farmers are assumed to be risk averse, these changes in perceived risk result in additional changes in production.

### ***Area allocation and domestic markets***

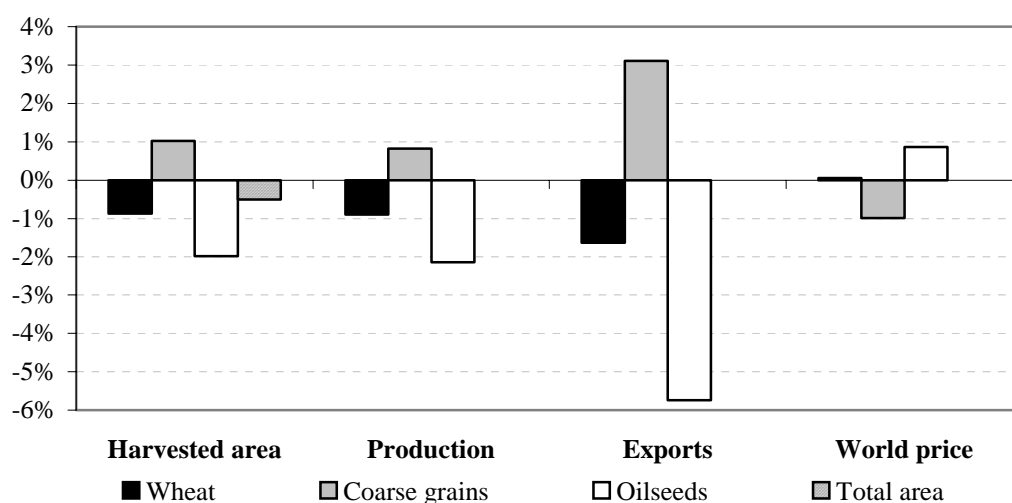
Greater support and lower risk for coarse grains, compared to lower marketing loan benefits and greater risk for oilseeds, lead to a change in the allocation of land across crops and, to some degree, to yield changes. Incentive returns per hectare (*i.e.* after taking risk into account) decrease by some 5% on average for soyabeans, but increase for coarse grains, in particular for some minor coarse grains which go up to 11% on average. At the same time, increased direct payments encourage an expansion of total cropped area (*i.e.* the additional use of marginal land) or prevent area decreases in response to falling prices. The expansion of area allocated to the CRP influences total land allocation in the opposite direction.

The net result is that total area harvested for programme crops falls by 0.5% on average over the 2002-08 period as a result of the 2002 Farm Act. Relative to the 1996 Farm Act scenario, area declines on average by 1% for wheat and expands by 1% for coarse grains, with stronger gains for barley, oats and sorghum. At the same time, a 2% decline in the area planted to oilseeds is attributable to the new policies (Graph II.4). Production changes reflect the changes in support over the projection period, as loan rate support drops for oilseeds and increases for minor coarse grains. The CRP also has significant effects (as shown in the later section decomposing policy effects). Differences between the 1996 Farm Act and the new Act generally peak in 2006, although they fluctuate slightly as producers react to lagged returns. Consumption effects occur exclusively in reaction to price effects and are minor. Overall, the net effect is higher coarse grain exports, up 3% on average, whereas wheat and oilseeds exports decline by 2% and 6% on average, compared to the 1996 Farm Act scenario.

### *International market prices*

The world price effects show that the world wheat price is lower by less than 1% in the early years of the projection, but slightly higher towards the end of the simulation period, when the 2002 Farm Act is compared to the 1996 Farm Act scenario. World maize and barley prices average 1% lower under the new Farm Act, again with stronger price reductions in early years than in the later years. In contrast, world oilseed prices are 1% higher under the new legislation due to reduced US production and exports. In consequence, world prices for oilseed meals and, to a lesser extent, vegetable oils are higher as well.

**Graph II.4. Market impacts of the 2002 US Farm Act compared to the 1996 Farm Act policies, average 2002-08**



Source: OECD Secretariat.

### *Decomposition of the total market effects*

The total market impact of the new farm policy has several sources. This section aims to shed light on the relative weight of the different policy measures, and the changes in revenue risk, in the total. For an overview, see Graph II.5.

The expansion of area allocated to the CRP is taken into account by applying area shifters obtained from the USDA's Cost Benefit Assessment of the 2002 Farm Act. These, in turn, are mostly based on historical CRP allocation. The increased CRP area reduces crop land by between 0.3% for coarse grains and 0.6% for wheat, on average for 2002-08. For oilseed area, the CRP accounts for a 0.4% reduction.

The change in risk perceived by US farmers also accounts for an important share of the total impact. As the 2002 Farm Act tends to reduce risk for farmers producing wheat and coarse grains while increasing the risk for soybean producers, the implications have different signs. For wheat and coarse grains, the risk reduction accounts for an area expansion of 0.4% each, thereby reducing the total effect for wheat but adding to the increase for coarse grains. For soyabeans, increased risk causes an average reduction in harvested area of 0.5%.

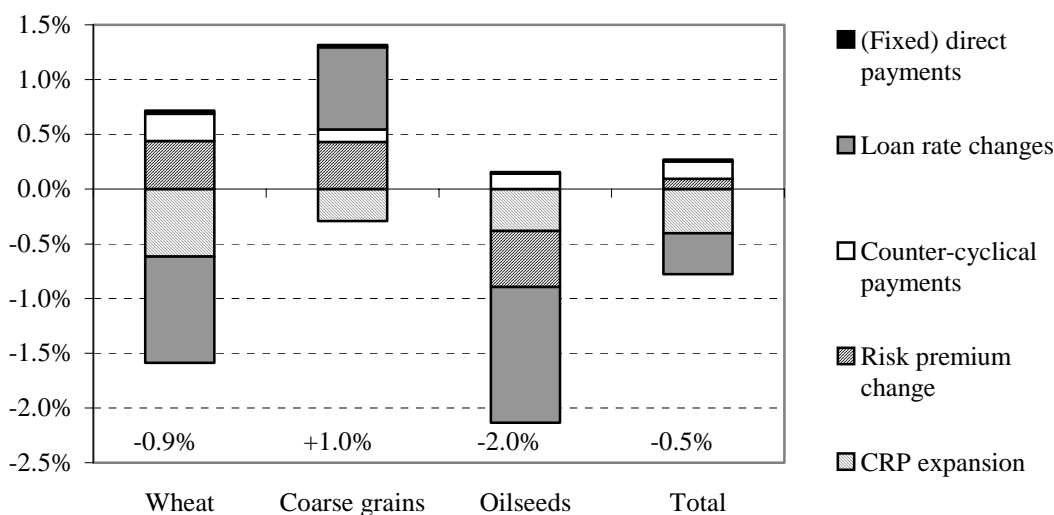
The new CCPs are relatively small on average due to high prices, averaging some USD 1.2 billion over the projection period, compared to USD 3.7 billion in DPCs. Nevertheless, all these payments tend to result in more land being used for crops. On average, the new payments account for an increase in harvested area of between 0.1% (coarse grains) and 0.25% (wheat).

With loan rates for wheat and coarse grains up, and those for soyabeans down, the new marketing loan program determines the net, total impact on land allocation. Lower rates for soyabeans account for a 1.2% decline in oilseed area, 63% of the total impact, while higher rates, particularly for minor coarse grains (barley, sorghum) account for a 0.8% increase in coarse grain area, 73% of the total impact. In spite of the increase in the loan rate for wheat, marketing loan benefits for this crop remain negligible. Therefore, the higher loan rates do not result in an increased wheat area. Instead, due to cross commodity impacts the higher marketing loan benefits for coarse grains result in a reduction of 1% on average in the land used for wheat, with a particularly strong impact in the early years 2003 and 2004.

Finally, DPCs were increased only slightly under the new 2002 Farm Act relative to the earlier PFC payments. Consequently, their contribution to the total impact is very small. It accounts for an increase in the harvested area of between 0.1% (soyabeans) and 0.3% (wheat).

The composition of relative impacts compositions on domestic production and exports are very similar to those for harvested area because both yield changes and the impacts on domestic use of grains and oilseeds generally are comparatively small.

**Graph II.5. Composition of the total impact of the 2002 Farm Act on harvested crop area, average 2002-08**



*Note:* The composition of the total effect is path dependent. Shares presented here are calculated by consecutively adding individual elements of the 2002 Farm Act to the previous policy in the order presented in the legend. Numbers given below the bars show the total effects.

*Source:* OECD Secretariat.

### *Sensitivity of market impacts*

The impact of the new US policy, as analysed above, is conditional on certain critical assumptions. First, the degree of farmers' risk aversion could be lower or higher than assumed in this analysis. Second, the impact of US policy on domestic and international markets strongly depends on the market environment itself, which in turns depends on various other factors. To better understand the implications of the 2002 Farm Act, it is therefore necessary to examine the sensitivity of the above results with respect to the relative risk aversion coefficient (as explained in Section 2), and to the world market price projections.

#### *Impacts of lower or higher risk aversion*

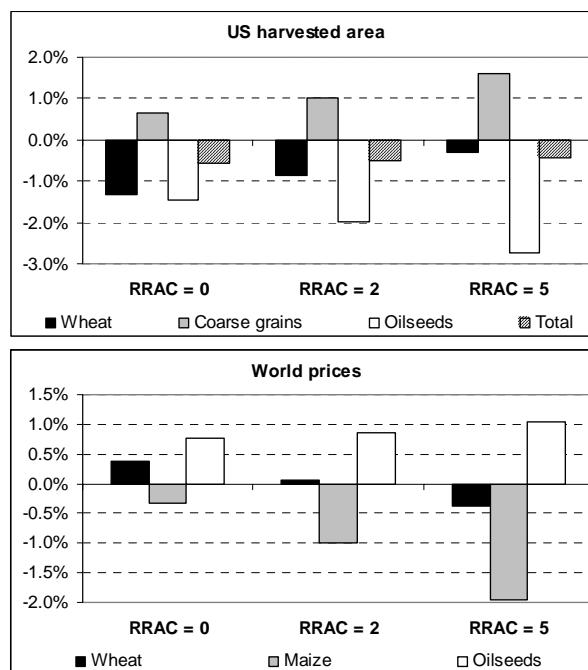
To analyse the sensitivity of the policy impacts with respect to the degree of risk aversion, the simulations were repeated assuming a relative risk aversion coefficient (RRAC) of 0 and 5 respectively (compared to 2 in the baseline and the counter-factual discussed above). To do this, the baseline built on the 2002 Farm Act policy assumptions was recalibrated to the changed risk premiums in order to obtain the same projections. This was done to avoid confusion between differences due to policy changes and those due to different risk assumptions.

Different assumptions on the RRAC substantially alter some of the results (Graph II.6). Assuming zero risk aversion (risk neutrality) eliminates the impact the changes in risk on allocation decisions (see previous section on the decomposition of the total market impact), while the assumption of a stronger risk aversion would result in an increase in these impacts. For wheat, risk neutrality would lead to a stronger reduction in harvested area under the 2002 Farm Act compared to the 1996 Farm Act, with an average over the 2002-08 period of -1.3% (compared to -0.9% evaluated at a RRAC of 2). Similarly, the area expansion for coarse grains would be smaller at +0.6% compared to +1.0%. Given that the 2002 Farm Act tends to increase risk for soyabeans producers, the oilseed area reduction would be smaller at -1.5% on average if farmers are assumed to be risk neutral, compared to -2.0% in the analysis based on some amount of risk aversion. The reduction in the total harvested area would therefore be slightly stronger under risk neutrality. Stronger risk aversion with an RRAC equal to 5 would lead to the opposite effects (Graph II.6).

The different area responses lead to corresponding differences in the impact on supply and exports, and consequently on world prices. Assuming risk neutrality, world prices for wheat would increase by 0.4% on average, rather than by 0.1% under moderate risk aversion. Price effects for maize and soyabeans would be smaller in absolute terms. On the other hand, the assumption of a RRAC equal to 5 would result in maize prices that are lower by 2%. Lower wheat exports would be overcompensated by lower world coarse grain prices, resulting in a 0.3% decline in world wheat prices on average.

**Graph II.6. Sensitivity of market impacts with respect to the Relative Risk Aversion Coefficient (RRAC)**

Average 2002-08



Source: OECD Secretariat.

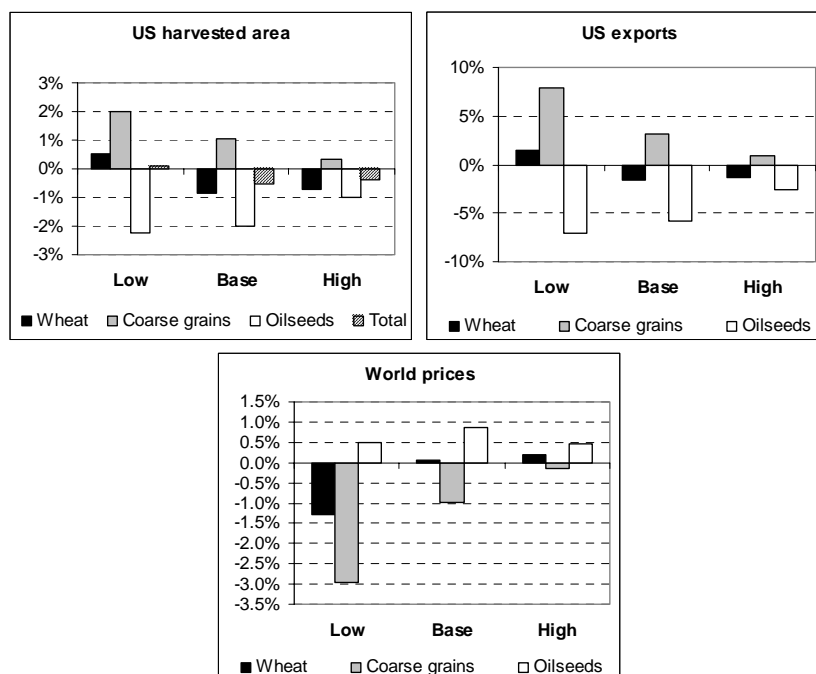
### *Impact of different price projections*

The sensitivity impact to different world price projections of the 2002 Farm Act's has also been assessed. To do this, two additional 2002 Farm Act projections were generated. This was done by shocking yields for wheat, maize and soyabeans in the Rest of World so that world wheat, maize and oilseed prices were, in turn, about 10% lower and 10% higher over the period 2003 to 2008, than in the original baseline. Results show that the impact of the new policies changes significantly if price projections are different.

Under a lower-price environment, both the marketing loan programme for grains and the counter-cyclical payments become more relevant for producers' decisions: in this situation, the 2002 Farm Act would increase marketing loan benefits for grain producers. Conversely, the role of the marketing loan programme for soyabeans does not change significantly because the programme was already triggered under baseline prices and held returns per tonne at the loan rate. As a result, there would be a significant increase in the production incentives for grains in the 2002 Farm Act compared to the 1996 Farm Act in a lower price environment whereas incentives for oilseeds do not change. Hence, coarse grain area would increase by 2% on average, *i.e.* by twice as much as under baseline conditions, and wheat area would increase by 0.5% despite the increasing CRP area. In contrast, the reduction in oilseed area would be much the same as under the baseline price environment (Graph II.7).

**Graph II.7. Sensitivity of impacts with respect to world prices  
(10% higher and 10% lower prices under 2002 Farm Act policies)**

Average 2002-08



Source: OECD Secretariat.

With lower prices, the (increased) loan rates for grains become relevant but the impact of (lowered) rates for soyabeans does not change. A higher price environment leads to a reduced impact of soyabeans loan rates while, for most cereals, loan rates remain largely irrelevant because they are below market prices. Therefore, the estimated impacts of the 2002 Farm Act are not symmetric with respect to world market conditions. In other words, the policy impacts under baseline conditions do not necessarily fall between those arising under lower and higher price conditions. Under the high price scenario, the reduction in soyabeans loan rates in the 2002 Farm Act becomes much less important in determining area response than under baseline conditions. At the same time, prices for cereals remain high enough to exclude any loan benefits for grains, either under the 2002 or 1996 Farm Act provisions. In addition, counter-cyclical payments remain small. In consequence, area response to the policy change would be much less pronounced when prices are high than under baseline conditions for all crops. Therefore, while under baseline conditions total harvested area for grains and oilseeds would decline by 0.5% on average due to the 2002 Farm Act, this reduction would be smaller with both 10% higher and lower prices – and in the latter case total area would actually increase slightly.

In both the high and low price scenarios, as both yields and domestic use respond only marginally, US export changes largely correspond to those in harvested area. International wheat and coarse grain prices would be significantly reduced by the 2002 Farm Act in a low price context, while the increase in oilseed prices would be smaller due to the pressure on cereal markets. On the other hand, a high price environment can be expected to generally result in smaller impacts from the 2002 Farm Act on world prices. The impact of the new policy on world oilseed prices (a smaller increase compared to the baseline) is almost the same in the two non-baseline simulations.

### Impact on US and international dairy markets

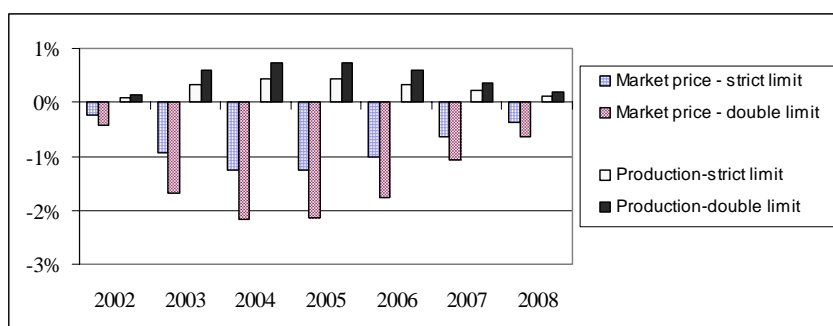
The dairy market effects of the 2002 Farm Act relative to the 1996 Farm Act show that the additional support provided in the form of new direct payments (assuming they are implemented strictly) and extended market price support has relatively small effects on US milk production. Milk production does rise by about 0.5% and the milk price falls by a little more than 1% as compared to the 1996 Farm Act levels, but this is a transitory change and by the end of the Outlook period there are indications that these differences will not be sustained.

There are two factors limiting the impacts of the 2002 Farm Act on the US dairy markets relative to the 1996 Farm Act. First, despite the fact that the 1996 Farm Act does assume an elimination of dairy price support, the policy levers that are used to implement this scheme would almost certainly remain in use. Thus, the projected quantities and prices for the US dairy markets would not change significantly on the assumption that dairy product exports would continue to be supported through the DEIP and dairy product imports prevented through existing tariffs and tariff-rate quotas.

The second factor limiting the longevity of the 2002 Farm Act impacts on dairy markets is the assumption that the new dairy payment will end in 2005 as mandated. Thus, from 2006, the effective producer price at the margin will no longer be above the market price. With producers responding only to domestic price signals, and production expanding in response to the higher effective price in the early years of the 2002 Farm Act, returns to producers are expected to be lower than they would have been under the 1996 Farm Act. Allowing some time for adjustments in production, these effects may become quite small over time. The temporary nature of the dairy payments may be questioned, particularly in light of the routine continuation of market price support despite termination provisions in the 1996 Farm Act.

A sensitivity test regarding the assumption that the payment limit cannot be circumvented has been made (Graph II.8). In the test, it is assumed that each operation is divided in two, thereby doubling the 2.4 million pound limit to 4.8 million pounds. As a consequence, production increases by an estimated 0.74% relative to the 1996 Farm Act. Higher production leads to lower prices, which are shown to fall by an estimated 2.16%. Thus, payments provided to farmers above the limit might increase dairy product export subsidies or public stocks. The results here highlight the importance of decisions about implementation of the 2002 Farm Act for US dairy markets.

**Graph II.8. US dairy market results depend on payment limit implementation**



Source: OECD Secretariat.

#### 4. Implications for support

To estimate the implications of the new 2002 Farm Act for the level of support, as measured by the PSE, a comparison is made between an estimate of the PSE level that would have occurred in 1999-2001 if the payments for crops had been paid under the provisions of the 2002 Farm Act, and the actual PSE level in 1999-2001 with and without the ad hoc market loss assistance (MLA) provided since 1998 (Table 2).

Table 2, column 1999-2001\*\* shows that had crop payments in 1999-2001 been granted under the provisions of the 2002 Farm Act, rather than the 1996 Farm Act, they would have amounted to USD 19 232 million, or USD 2 150 million more than actual payments in 1999-2001 (excluding the *ad hoc* market loss assistance the difference increases to USD 7 340 million). The new crop payments would have increased the US percentage PSE — the amount of support relative to gross farm receipts — to 24.9%. This is an increase from the 23.4% (including *ad hoc* support), and a much larger increase from the 21.6% (excluding *ad hoc* support) than would have occurred under the original terms of the 1996 Farm Act.

**Table 2. US crop payments and total support in 1999-2001: under the 1996 Farm Act and hypothetical under the 2002 Farm Act**

	1996 Farm Act		2002 Farm Act
	1999-2001	1999-2001*	1999-2001**
1996 Farm Act / 2002 Farm Act	<b>with MLA</b>	<b>without MLA</b>	hypothetical
Production Flexibility Contract payments/Direct payments	4 879	4 879	5 402
Market loss assistance/Counter-cyclical payments	5 190	--	5 956
Marketing loan benefits	7 013	7 013	7 874
Total	17 082	11 892	19 232
US total PSE	52 429	47 239	56 888
US percentage PSE	23.4%	21.6%	24.9%

*Definitions: 1999-2001\*\** — crop payment rates for 2002-03 applied to 1999-2001 conditions. It is considered under the 1999-2001. *\*\* hypothesis* that all crop producers would be eligible and take their 1998-2000 averages of total area planted and yields as the basis for the payment.

*Source: OECD Secretariat.*

#### 5. Evaluation

Although all programmes in the 2002 Farm Act will affect US agriculture in one way or another, the most important programmes are those affecting agricultural production, consumption, trade, income and environment. Like the 1996 Farm Act, changes introduced by the 2002 Farm Act in the commodity programmes mainly concern arable crops (wheat, feed grains, upland cotton, rice, and oilseeds). Although sugar and milk have traditionally had high support levels, as measured by the %PSE (and highest among the US commodities), their support systems remain essentially unchanged.

##### *Commodity programmes*

*Marketing loan* rates for 2002-07 increase for most *arable crops*, so marketing loan gains and loan deficiency payments may increase. Consisting of payments per tonne produced, these are among the forms of support that potentially have the greatest effects in stimulating production and input use,

distorting trade and raising pressure on the environment, while having the lowest effectiveness in transferring income to farmers. As quantities exported benefit from such payments, the higher the payments the less the need for export subsidies.

The rates for *direct payments for crops* (DPC) are higher than those they have replaced (Producer Flexibility Contract (PFC) payments). While the DPC rate is constant over 2002-07 period, PFCP rates had been scheduled to fall between 1996 and 2002. Higher payment rates and the update of base area and yields have increased the potential production impact of these payments in addition to increasing participants' wealth.

*Counter-cyclical payments* (CCP) may affect current production decisions because of their link to current market prices, which can lower risk to producers by reducing the variability of revenue in periods of low market prices. Thus, CCPs are expected to have risk-reducing effects — in line with the explicit aim of the programme — and, consequently, to impact on crop planting decisions. Although CCP payments are based on past production, they may also affect current production decisions through expectations that benefits in the future will be linked to recent production. Farmers will thus have an incentive to maintain or increase current area and yields. In these circumstances, farmers will be responding to policy rather than market signals, and land eligible for a CCP may be planted with programme crops despite the fact that there is no requirement to do so.

While farmers will receive CCPs only when market prices are low, fixed DPCs will be paid every year even when market prices are high. *Planting flexibility* (giving farmers the choice of producing any or no programme commodities on their base area) continues to cover 100% of base area, but now also covers oilseeds. Since a significant shift into oilseeds has already occurred under the 1996 Farm Act (Annex I.8), the vast majority of the land receiving DPCs and CCPs may, in fact, continue to produce the same commodities. Thus, flexibility provisions that offer the possibility of producing other commodities may have, in practice, little effect.

As around 60% of the land used for programme crops is rented, most of these payments will continue going to non-farming landowners and not to farmers. The latter may face reduced returns in periods of low prices notwithstanding the programmes in place. The opportunity given in the 2002 Farm Act to update base area and yields means that producers may be interested in maintaining or even expanding area and yields in the future in the expectation of new update opportunities. If this occurs there could also be negative impacts on the environment, both through encroachment on fragile land and intensification in order to increase yields.

The introduction of a payment per tonne of *milk* produced — added to an unchanged market price support system, will increase support, but continue low efficiency in transferring income to producers. Although limited to the production of 1.09 million kg of milk per farm, the new payment can be seen as an incentive to increase production per cow or the number of cows on farms producing below the quantity limit, which may increase environmental pressure on the farms concerned.

The elimination of the loan forfeiture penalty and marketing assessments, and the reduction of the tariff-rate quota (TRQ) for *sugar* will increase prices received by producers, which is an incentive to increase production and keep environmentally sensitive wetlands under production. With these policy changes support will be paid through higher consumer prices, which will tend to reduce demand. The rise in domestic prices and production together with the reduction in demand and in the TRQ (to the WTO commitment level) will reduce imports and increase the risk of trade distortions.

### ***Conservation and environmental programmes***

Increased funding to retire more environmentally sensitive land from production and for the adoption and maintenance of environmentally friendly farming practices cover a larger number of producers as well as a wider range of environmental benefits. As the payment rates associated with these programmes are based on land rental costs, which may rise with commodity payments, at least some of the increase in the funding of conservation programmes may be absorbed, and the cost of achieving specific environmental goals is higher than it would otherwise have been.

The elimination of some requirements in the EQIP eligibility conditions for payments encouraging the use of environmentally friendly farming practices may reduce the overall level of environmental benefit provided by the programme. The increased focus on livestock production and the removal of limits on the size of farms eligible for payments will help larger farms to comply with the stricter new rules aimed at curbing the excessive manure run-off that causes water pollution. These new rules will contribute to reducing pollution, but are not consistent with the Polluter Pays Principle generally applied to other sectors.

### ***Bioenergy program***

Encouraging purchases of agricultural commodities to expand production of Bioenergy will contribute to an increase in arable crops production, particularly in the case of ethanol production, which has, in recent years, led to the increase in maize area. Provisions under the 2002 Energy Policy Act and 2002 Farm Act may further increase domestic supply and demand of ethanol leading to increases in maize production, which would not otherwise be economically feasible. If this increased production were to take place on environmentally sensitive land, pressure on the environment will increase.

### ***Country of Origin labelling***

According to the country of origin labelling (COOL) requirements in the 2002 Farm Act, for a product to be labelled “product of the US”, it must come from an animal that was exclusively born, raised and slaughtered in the US. The COOL requirements will impose a cost on US industry as it will need to implement and maintain a verifiable record-keeping system in order to trace information on origin. The USDA’s Agricultural Marketing Service estimated that the cost to US industry to develop and administer such a system would be USD 1.97 billion.

The effects of COOL requirements cannot be determined at this time. Exporters of meat and live animals to the United States are concerned that the COOL requirements could affect live animal and meat trade. The requirements for US origin will change the requirements for some products. Under current US customs regulations, products that are substantially transformed (*i.e.* slaughtering, cutting or processing) can bear a US origin label; in contrast, under the COOL requirements those same products cannot bear the US origin label. Under COOL, US producers, processors and retailers will need to segregate foreign animals and meat which could potentially add cost to importing products into the US.

While COOL requirements are not scheduled to become mandatory until 30 September 2004, meat available for retail sale after that date will come from animals born as early as spring 2003. Therefore, in order to comply with the scheduled implementation of the mandatory COOL provisions, all US producers, processors and retailers will need to implement a record-keeping system well in advance of that date.

### ***Trade measures***

Trade measures and funding for export subsidies and export credits are largely unchanged, but in a context of higher production will continue to have the potential to enhance exports and lower world prices. With increased loan rates, EEP may not need to be applied for crops continuing the situation that occurred under the 1996 Farm Act. The introduction of a deficiency payment for milk also benefits exports and may reduce the need for export subsidies under the DEIP. The creation of new export promotion programmes together with a rise in funding for export development programmes (FMDP and MAP) and international food assistance, may contribute to increase exports. While the Uruguay Round compliance provision of the 2002 Farm Act will place a ceiling on the most trade-distorting forms of support, the analysis reported in the earlier sections shows that other forms of support not included in the AMS, but that also have production and trade impacts, are likely to increase.

### ***Overall evaluation***

The 2002 Farm Act does not contain explicit policy objectives, but the implicit aims of the legislation are to support farm incomes by shielding US producers for major commodities from downward fluctuations in world prices, and to ensure land conservation and encourage environmentally friendly farm practices. The 1996 Farm Act expired in 2002, which was a transitional year as both the 1996 and 2002 Farm Acts were applied and thus determined production, trade and support outcomes in 2002. The impacts of the 2002 Farm Act will largely be seen in the coming years.

Overall, the new farm legislation increases support, extends coverage to a greater number of commodities, accentuates the link between payments and production parameters, and provides an income safety net which together, compared to the earlier legislation, may result in reduced price risk to farmers, increased production, and lower world prices. The analysis undertaken in this section does not include any quantification of the effect of expectations of future policy changes arising from the update of base areas and yields that was permitted under the provisions of the 2002 Farm Act.

The size of the actual impacts depends significantly on how market conditions evolve: higher commodity prices will mean lower counter-cyclical payments, for example, and less direct effect on production and prices. But lower commodity prices would be offset by higher counter-cyclical payments to US producers, to some extent insulating them from the market and requiring supply adjustments to be borne by producers in other countries. Because production-linked support will increase output and environmental pressure, the increased expenditure on conservation and environmental protection is less efficient and effective than would be the case in the absence of production-linked support.

The new US farm legislation institutionalises the Market Loss Assistance Payments that had been provided on an *ad hoc* basis since 1998, reduces risk for farmers and demonstrates a marked shift away from the goal of greater market orientation embodied in the 1996 legislation. The Act perpetuates the cycle of “low market revenues/high support”, imposing higher costs not only on domestic taxpayers, but also on other countries, in particular those producing competitive commodities, including many produced in developing countries. Although the impacts of the 2002 Farm Act simulated in this section are small, the new Farm Act risks accentuating production distortions and trade tensions and is not in line with the long-term OECD policy reform objectives.

## ANNEX

### DEFINITIONS OF THE OECD INDICATORS OF SUPPORT

**Producer Support Estimate (PSE):** the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm-gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income. It includes market price support and budgetary payments, *i.e.* gross transfers from taxpayers to agricultural producers arising from policy measures based on: current output, area planted/animal numbers, historical entitlements, input use, input constraints, and overall farming income. The %PSE measures the transfers as a share of gross farm receipts.

**Market Price Support (MPS):** the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers arising from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity, measured at the farm-gate level.

**Producer Nominal Protection Coefficient (NPCp):** the ratio between the average price received by producers (at farm gate), including payments per tonne of current output, and the border price (measured at farm gate).

**Producer Nominal Assistance Coefficient (NACp):** the ratio between the value of gross farm receipts including support and gross farm receipts valued at border prices.

**Consumer Support Estimate (CSE):** the annual monetary value of gross transfers to (from) consumers of agricultural commodities, measured at the farm-gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on consumption of farm products. If negative, the CSE measures the burden on consumers by agricultural policies, from higher prices and consumer charges or subsidies that lower prices to consumers. The %CSE measures the implicit tax (or subsidy, if CSE is positive) on consumers as a share of consumption expenditure at the farm gate.

**Consumer Nominal Protection Coefficient (NPCc):** the ratio between the average price paid by consumers (at farm gate) and the border price (measured at farm gate).

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

**General Services Support Estimate (GSSE):** the annual monetary value of gross transfers to general services provided to agriculture collectively, arising from policy measures that support agriculture regardless of their nature, objectives and impacts on farm production, income, or consumption of farm products.

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

Source: OECD (2002), *Methodology for Measurement of Support and Use in Policy Evaluation*, <http://www.OECD.org/agr/policy>.

**Annex Table 1. OECD: Estimates of support to agriculture**

	1986-88	2000-2002	2000	2001	2002p
<b>Total value of production (at farm gate)</b>	<b>586 929</b>	<b>657 251</b>	<b>658 392</b>	<b>649 336</b>	<b>664 025</b>
<i>of which share of MPS commodities (%)</i>	71	68	68	68	68
<b>Total value of consumption (at farm gate)</b>	<b>531 078</b>	<b>610 247</b>	<b>617 410</b>	<b>601 255</b>	<b>612 077</b>
<b>Producer Support Estimate (PSE)</b>	<b>240 859</b>	<b>234 686</b>	<b>242 365</b>	<b>226 845</b>	<b>234 847</b>
Market price support	186 114	146 880	153 163	138 764	148 713
<i>of which MPS commodities</i>	131 527	99 443	103 637	94 146	100 547
Payments based on output	12 529	14 140	17 005	16 593	8 823
Payments based on area planted/animal numbers <sup>1</sup>	15 833	30 429	29 110	29 020	33 158
Payments based on historical entitlements	515	12 160	13 614	11 921	10 946
Payments based on input use	20 337	21 074	21 046	20 784	21 394
Payments based on input constraints	2 995	6 597	6 145	6 196	7 449
Payments based on overall farming income	2 254	3 554	2 991	3 540	4 129
Miscellaneous payments	281	-149	-708	28	235
<b>Percentage PSE</b>	<b>38</b>	<b>31</b>	<b>32</b>	<b>31</b>	<b>31</b>
<b>Producer NPC</b>	<b>1.57</b>	<b>1.32</b>	<b>1.34</b>	<b>1.30</b>	<b>1.31</b>
<b>Producer NAC</b>	<b>1.61</b>	<b>1.46</b>	<b>1.48</b>	<b>1.44</b>	<b>1.46</b>
<b>General Services Support Estimate (GSSE)</b>	<b>39 828</b>	<b>53 929</b>	<b>53 324</b>	<b>53 194</b>	<b>55 268</b>
Research and development	3 981	5 137	5 020	4 976	5 414
Agricultural schools	764	1 812	1 595	1 874	1 968
Inspection services	1 094	1 858	1 817	1 859	1 898
Infrastructure	12 549	16 892	17 478	17 135	16 063
Marketing and promotion	12 793	22 341	21 569	22 035	23 419
Public stockholding	6 474	1 929	2 068	1 722	1 997
Miscellaneous	2 173	3 960	3 777	3 594	4 509
<b>GSSE as a share of TSE (%)</b>	<b>13.2</b>	<b>17.1</b>	<b>16.6</b>	<b>17.4</b>	<b>17.4</b>
<b>Consumer Support Estimate (CSE)</b>	<b>-169 350</b>	<b>-138 545</b>	<b>-147 796</b>	<b>-130 418</b>	<b>-137 421</b>
Transfers to producers from consumers	-185 156	-143 319	-151 576	-134 675	-143 705
Other transfers from consumers	-17 635	-22 886	-24 095	-22 065	-22 496
Transfers to consumers from taxpayers	21 563	26 431	25 646	25 461	28 185
Excess feed cost	11 878	1 229	2 229	862	596
<b>Percentage CSE</b>	<b>-33</b>	<b>-24</b>	<b>-25</b>	<b>-23</b>	<b>-24</b>
<b>Consumer NPC</b>	<b>1.63</b>	<b>1.37</b>	<b>1.40</b>	<b>1.35</b>	<b>1.37</b>
<b>Consumer NAC</b>	<b>1.50</b>	<b>1.31</b>	<b>1.33</b>	<b>1.29</b>	<b>1.31</b>
<b>Total Support Estimate (TSE)</b>	<b>302 251</b>	<b>315 045</b>	<b>321 335</b>	<b>305 501</b>	<b>318 300</b>
Transfers from consumers	202 791	166 204	175 671	156 740	166 201
Transfers from taxpayers	117 094	171 726	169 759	170 826	174 595
Budget revenues	-17 635	-22 886	-24 095	-22 065	-22 496
<b>Percentage TSE (expressed as share of GDP)</b>	2.30	1.23	1.26	1.21	1.21

*Notes:* p: provisional. MPS commodities: See notes to country tables. MPS is net of producer levies and excess feed costs. TSE as a share of GDP for 1986-88 for the OECD excludes the Czech Republic, Hungary, Poland and Slovak Republic as GDP data is not available for this period. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient. 1. This category provisionally includes the US counter cyclical payments, which fit no category well.

*Source:* OECD, PSE/CSE database 2003.

**Annex Table 2. OECD: Producer Support Estimate by country**

		1986-88	2000-2002	2000	2001	2002p
<b>Australia</b>	USD mn	1 285	919	942	818	996
	EUR mn	1 181	997	1 022	913	1 057
	Percentage PSE	9	4	5	4	5
	Producer NPC	1.05	1.00	1.01	1.00	1.00
	Producer NAC	1.10	1.05	1.05	1.04	1.05
<b>Canada</b>	USD mn	5 667	4 255	4 192	3 977	4 596
	EUR mn	5 183	4 622	4 548	4 440	4 876
	Percentage PSE	34	19	19	17	20
	Producer NPC	1.40	1.12	1.13	1.11	1.12
	Producer NAC	1.51	1.23	1.23	1.21	1.25
<b>Czech Republic (1)</b>	USD mn	1 350	840	552	881	1 086
	EUR mn	1 098	912	599	984	1 152
	Percentage PSE	31	23	17	23	28
	Producer NPC	1.54	1.17	1.06	1.16	1.28
	Producer NAC	1.49	1.30	1.20	1.31	1.39
<b>European Union</b>	USD mn	95 426	92 296	88 606	87 734	100 549
	EUR mn	86 718	100 266	96 146	97 963	106 689
	Percentage PSE	40	35	34	34	36
	Producer NPC	1.76	1.33	1.34	1.30	1.35
	Producer NAC	1.67	1.53	1.52	1.51	1.57
<b>Hungary (1)</b>	USD mn	880	1 201	1 045	1 009	1 550
	EUR mn	716	1 302	1 134	1 127	1 645
	Percentage PSE	16	24	22	19	29
	Producer NPC	1.15	1.15	1.17	1.06	1.22
	Producer NAC	1.20	1.31	1.29	1.24	1.41
<b>Iceland</b>	USD mn	195	125	145	108	122
	EUR mn	176	135	157	120	129
	Percentage PSE	75	63	64	60	63
	Producer NPC	3.89	2.33	2.44	2.17	2.38
	Producer NAC	3.99	2.67	2.80	2.49	2.73
<b>Japan</b>	USD mn	48 906	47 824	54 118	45 423	43 929
	EUR mn	44 342	52 019	58 724	50 720	46 612
	Percentage PSE	61	59	60	59	59
	Producer NPC	2.46	2.37	2.41	2.34	2.34
	Producer NAC	2.57	2.46	2.51	2.44	2.44
<b>Korea</b>	USD mn	12 120	18 088	19 475	16 680	18 109
	EUR mn	10 882	19 657	21 132	18 624	19 215
	Percentage PSE	70	66	67	63	66
	Producer NPC	3.36	2.78	2.91	2.63	2.80
	Producer NAC	3.42	2.92	3.04	2.73	2.98
<b>Mexico</b>	USD mn	-108	7 652	7 605	7 271	8 080
	EUR mn	- 79	8 315	8 252	8 119	8 573
	Percentage PSE	0	22	24	21	22
	Producer NPC	0.92	1.21	1.25	1.18	1.20
	Producer NAC	1.00	1.29	1.32	1.26	1.29
<b>New Zealand</b>	USD mn	474	66	72	35	93
	EUR mn	451	72	78	39	98
	Percentage PSE	11	1	1	1	1
	Producer NPC	1.02	1.01	1.01	1.00	1.01
	Producer NAC	1.13	1.01	1.01	1.01	1.01

**Annex Table 2. OECD: Producer Support Estimate by country (cont.)**

		1986-88	2000-2002	2000	2001	2002p
<b>Norway</b>	USD mn	2 763	2 346	2 276	2 135	2 627
	EUR mn	2 499	2 547	2 469	2 384	2 787
	Percentage PSE	70	68	68	67	71
	Producer NPC	3.95	2.70	2.69	2.51	2.91
	Producer NAC	3.29	3.17	3.14	2.99	3.39
<b>Poland (1)</b>	USD mn	1 433	2 088	2 014	2 165	2 087
	EUR mn	1 180	2 272	2 185	2 417	2 215
	Percentage PSE	11	15	15	15	14
	Producer NPC	1.08	1.17	1.21	1.16	1.14
	Producer NAC	1.13	1.17	1.18	1.18	1.17
<b>Slovak Republic (1)</b>	USD mn	540	309	362	232	334
	EUR mn	440	335	393	259	354
	Percentage PSE	28	21	25	16	21
	Producer NPC	1.17	1.12	1.14	1.06	1.15
	Producer NAC	1.40	1.26	1.34	1.19	1.26
<b>Switzerland</b>	USD mn	5 304	4 673	4 525	4 444	5 051
	EUR mn	4 791	5 077	4 910	4 962	5 360
	Percentage PSE	76	73	72	72	75
	Producer NPC	4.56	2.91	3.00	2.73	3.00
	Producer NAC	4.20	3.72	3.60	3.62	3.95
<b>Turkey</b>	USD mn	2 874	5 032	6 766	2 251	6 080
	EUR mn	2 611	5 435	7 342	2 514	6 451
	Percentage PSE	15	18	21	10	23
	Producer NPC	1.15	1.19	1.25	1.10	1.23
	Producer NAC	1.18	1.22	1.26	1.11	1.29
<b>United States</b>	USD mn	41 831	46 972	49 673	51 683	39 559
	EUR mn	38 406	51 195	53 901	57 709	41 974
	Percentage PSE	25	21	22	23	18
	Producer NPC	1.19	1.13	1.14	1.16	1.10
	Producer NAC	1.34	1.26	1.28	1.29	1.21
<b>OECD</b>	USD mn	240 859	234 686	242 365	226 845	234 847
	EUR mn	219 224	255 158	262 991	253 295	249 188
	Percentage PSE	38	31	32	31	31
	Producer NPC	1.57	1.32	1.34	1.30	1.31
	Producer NAC	1.61	1.46	1.48	1.44	1.46

Notes: p: provisional. NPC: Nominal Protection Coefficient.

NAC: Nominal Assistance Coefficient. EU-12 for 1986-94, EU-15 from 1995, EU includes ex-GDR from 1990.

(1) For Czech Republic, Hungary, Poland and Slovak Republic: The figure in the first column refers to 1991-93.

Austria, Finland, and Sweden are included in the OECD totals for all years and in the EU from 1995.

Source: OECD, PSE/CSE database 2005.

**Annex Table 3. OECD: Producer Support Estimate by commodity**

		1986-88	2000-2002	2000	2001	2002p
<b>Wheat</b>	USD mn	18 670	15 310	17 315	14 017	14 600
	EUR mn	17 038	16 644	18 788	15 651	15 492
	Percentage PSE	47	37	40	36	36
	Producer NPC	1.69	1.08	1.14	1.05	1.07
	Producer NAC	1.92	1.60	1.66	1.56	1.57
<b>Maize</b>	USD mn	12 694	10 640	13 892	10 402	7 627
	EUR mn	11 633	11 594	15 074	11 615	8 093
	Percentage PSE	40	27	35	27	20
	Producer NPC	1.30	1.09	1.17	1.08	1.02
	Producer NAC	1.67	1.39	1.54	1.38	1.25
<b>Other grains</b>	USD mn	11 201	7 973	8 420	7 811	7 689
	EUR mn	10 238	8 672	9 137	8 722	8 158
	Percentage PSE	52	41	43	40	42
	Producer NPC	1.97	1.09	1.14	1.07	1.07
	Producer NAC	2.13	1.71	1.74	1.68	1.71
<b>Rice</b>	USD mn	26 933	25 002	28 244	24 179	22 581
	EUR mn	24 477	27 202	30 648	26 999	23 960
	Percentage PSE	81	81	82	81	80
	Producer NPC	4.91	4.98	5.34	4.99	4.61
	Producer NAC	5.22	5.24	5.60	5.25	4.88
<b>Oilseeds</b>	USD mn	5 386	6 462	7 775	7 032	4 579
	EUR mn	4 878	7 049	8 437	7 852	4 858
	Percentage PSE	26	25	29	28	18
	Producer NPC	1.27	1.16	1.22	1.22	1.03
	Producer NAC	1.36	1.34	1.42	1.38	1.22
<b>Sugar</b>	USD mn	5 760	5 226	5 763	4 598	5 316
	EUR mn	5 241	5 676	6 254	5 134	5 641
	Percentage PSE	54	47	50	45	48
	Producer NPC	2.33	1.95	2.06	1.81	1.97
	Producer NAC	2.18	1.91	2.00	1.81	1.91
<b>Milk</b>	USD mn	48 171	40 137	38 013	41 258	41 139
	EUR mn	43 995	43 656	41 248	46 069	43 651
	Percentage PSE	59	46	45	46	48
	Producer NPC	2.70	1.78	1.75	1.77	1.83
	Producer NAC	2.47	1.87	1.81	1.85	1.93
<b>Beef and Veal</b>	USD mn	22 175	26 264	23 717	24 422	30 654
	EUR mn	20 222	28 510	25 735	27 270	32 526
	Percentage PSE	32	33	30	31	37
	Producer NPC	1.41	1.27	1.26	1.24	1.31
	Producer NAC	1.46	1.49	1.43	1.45	1.60
<b>Sheepmeat</b>	USD mn	4 680	3 145	3 743	3 239	2 454
	EUR mn	4 210	3 427	4 061	3 617	2 603
	Percentage PSE	55	34	40	35	27
	Producer NPC	1.87	1.11	1.18	1.09	1.06
	Producer NAC	2.23	1.52	1.66	1.54	1.37

**Annex Table 3. OECD: Producer Support Estimate by commodity (cont.)**

	1986-88	2000-2002	2000	2001	2002p
<b>Wool</b>					
USD mn	294	117	113	99	139
EUR mn	267	127	122	111	147
Percentage PSE	7	6	6	5	6
Producer NPC	1.01	1.02	1.02	1.02	1.02
Producer NAC	1.07	1.06	1.07	1.06	1.07
<b>Pigmeat</b>					
USD mn	8 764	10 383	9 701	9 675	11 774
EUR mn	7 938	11 274	10 527	10 803	12 493
Percentage PSE	18	21	20	18	24
Producer NPC	1.30	1.23	1.22	1.18	1.27
Producer NAC	1.23	1.26	1.25	1.22	1.32
<b>Poultry</b>					
USD mn	4 895	6 144	6 098	5 881	6 452
EUR mn	4 391	6 677	6 617	6 567	6 846
Percentage PSE	20	17	17	15	18
Producer NPC	1.33	1.16	1.18	1.14	1.17
Producer NAC	1.25	1.20	1.21	1.18	1.21
<b>Eggs</b>					
USD mn	2 638	1 713	1 828	1 630	1 681
EUR mn	2 399	1 863	1 984	1 820	1 784
Percentage PSE	17	10	10	10	10
Producer NPC	1.22	1.08	1.09	1.08	1.08
Producer NAC	1.20	1.11	1.11	1.11	1.11
<b>Other Commodities</b>					
USD mn	68 600	76 169	77 743	72 601	78 163
EUR mn	62 298	82 787	84 359	81 066	82 936
Percentage PSE	30	26	26	25	25
Producer NPC	1.40	1.27	1.29	1.26	1.26
Producer NAC	1.43	1.35	1.36	1.34	1.34
<b>All commodities</b>					
USD mn	240 859	234 686	242 365	226 845	234 847
EUR mn	219 224	255 158	262 991	253 295	249 188
Percentage PSE	38	31	32	31	31
Producer NPC	1.57	1.32	1.34	1.30	1.31
Producer NAC	1.61	1.46	1.48	1.44	1.46

Notes: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.

The PSE for "other commodities" is the residual of the PSE for all commodities minus the PSE for the commodities listed above. Austria, Finland and Sweden are included in the total for "all commodities" for all years, and in the commodity detail from 1995 (since joining the EU).

Source: OECD, PSE/CSE database 2003.

**Annex Table 4. OECD: Composition of Producer Support Estimate**

	1986-88	2000-2002	2000	2001	2002p
<b>Australia</b>					
Market Price Support	47	3	7	0	0
Payments based on output	0	3	3	3	3
Payments based on area planted/animal numbers	0	2	2	2	2
Payments based on historical entitlements	0	9	6	12	10
Payments based on input use	32	67	64	65	71
Payments based on input constraints	0	0	0	0	0
Payments based on overall farm income	21	16	17	17	14
Miscellaneous payments	0	0	0	0	0
<b>Canada</b>					
Market Price Support	49	47	49	48	46
Payments based on output	17	5	8	6	3
Payments based on area planted/animal numbers	17	12	8	10	16
Payments based on historical entitlements	0	13	13	13	13
Payments based on input use	16	8	8	9	7
Payments based on input constraints	0	0	0	0	0
Payments based on overall farm income	0	14	13	14	14
Miscellaneous payments	2	1	2	0	1
<b>Czech Republic (1)</b>					
Market Price Support	93	64	53	60	75
Payments based on output	0	1	2	0	0
Payments based on area planted/animal numbers	1	17	11	26	13
Payments based on historical entitlements	0	4	15	0	0
Payments based on input use	6	13	18	13	11
Payments based on input constraints	1	1	0	1	1
Payments based on overall farm income	0	1	1	1	1
Miscellaneous payments	0	0	0	0	0
<b>European Union</b>					
Market Price Support	86	57	58	55	57
Payments based on output	5	4	4	4	4
Payments based on area planted/animal numbers	3	27	27	29	26
Payments based on historical entitlements	0	1	1	1	1
Payments based on input use	5	8	8	8	8
Payments based on input constraints	1	4	3	4	4
Payments based on overall farm income	0	0	0	0	0
Miscellaneous payments	0	0	-1	0	0
<b>Hungary (1)</b>					
Market Price Support	75	57	64	45	60
Payments based on output	0	6	5	6	6
Payments based on area planted/animal numbers	4	9	9	10	7
Payments based on historical entitlements	0	0	0	0	0
Payments based on input use	21	28	22	39	26
Payments based on input constraints	0	0	0	0	0
Payments based on overall farm income	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
<b>Iceland</b>					
Market Price Support	87	47	49	45	48
Payments based on output	1	30	29	32	30
Payments based on area planted/animal numbers	1	0	0	0	0
Payments based on historical entitlements	0	14	15	14	14
Payments based on input use	11	8	8	9	9
Payments based on input constraints	0	0	0	0	0
Payments based on overall farm income	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0

**Annex Table 4. OECD: Composition of Producer Support Estimate (cont.)**

	1986-88	2000-2002	2000	2001	2002p
<b>Japan</b>					
Market Price Support	90	90	90	90	90
Payments based on output	3	3	3	3	3
Payments based on area planted/animal numbers	0	0	0	0	0
Payments based on historical entitlements	0	0	0	0	0
Payments based on input use	4	5	5	5	5
Payments based on input constraints	3	2	2	2	2
Payments based on overall farm income	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
<b>Korea</b>					
Market Price Support	99	94	96	94	91
Payments based on output	0	0	0	0	0
Payments based on area planted/animal numbers	0	1	0	1	2
Payments based on historical entitlements	0	0	0	0	0
Payments based on input use	1	3	3	2	3
Payments based on input constraints	0	0	0	0	0
Payments based on overall farm income	0	2	2	2	3
Miscellaneous payments	0	0	0	0	0
<b>Mexico</b>					
Market Price Support	n.c.	68	74	64	66
Payments based on output	n.c.	3	0	6	3
Payments based on area planted/animal numbers	n.c.	2	1	1	5
Payments based on historical entitlements	n.c.	16	14	16	16
Payments based on input use	n.c.	10	10	12	8
Payments based on input constraints	n.c.	0	0	0	0
Payments based on overall farm income	n.c.	1	1	1	2
Miscellaneous payments	n.c.	0	0	0	0
<b>New Zealand</b>					
Market Price Support	19	69	73	39	78
Payments based on output	0	0	0	0	0
Payments based on area planted/animal numbers	0	0	0	0	0
Payments based on historical entitlements	37	0	0	0	0
Payments based on input use	39	30	24	60	22
Payments based on input constraints	0	0	0	0	0
Payments based on overall farm income	5	1	3	0	0
Miscellaneous payments	0	0	0	0	0
<b>Norway</b>					
Market Price Support	48	42	40	42	45
Payments based on output	23	14	14	15	14
Payments based on area planted/animal numbers	9	16	16	17	16
Payments based on historical entitlements	0	0	0	0	0
Payments based on input use	18	22	23	22	20
Payments based on input constraints	2	3	6	1	3
Payments based on overall farm income	0	2	1	3	3
Miscellaneous payments	0	0	0	0	0
<b>Poland (1)</b>					
Market Price Support	66	74	75	78	68
Payments based on output	0	5	3	4	8
Payments based on area planted/animal numbers	0	2	3	3	1
Payments based on historical entitlements	0	0	0	0	0
Payments based on input use	33	18	18	15	22
Payments based on input constraints	0	0	0	0	0
Payments based on overall farm income	0	0	0	0	0
Miscellaneous payments	0	1	0	0	1

**Annex Table 4. OECD: Composition of Producer Support Estimate (cont.)**

	1986-88	2000-2002	2000	2001	2002p
<b>Slovak Republic (1)</b>					
Market Price Support	45	21	20	3	35
Payments based on output	1	10	8	14	9
Payments based on area planted/animal numbers	30	39	48	42	28
Payments based on historical entitlements	0	0	0	0	0
Payments based on input use	13	29	24	40	27
Payments based on input constraints	0	0	0	0	0
Payments based on overall farm income	11	1	1	1	1
Miscellaneous payments	1	0	0	0	0
<b>Switzerland</b>					
Market Price Support	82	59	61	58	58
Payments based on output	1	5	4	5	5
Payments based on area planted/animal numbers	6	12	11	11	12
Payments based on historical entitlements	0	17	16	17	17
Payments based on input use	8	4	4	5	4
Payments based on input constraints	0	2	2	2	1
Payments based on overall farm income	0	0	0	0	0
Miscellaneous payments	3	3	3	3	3
<b>Turkey</b>					
Market Price Support	66	76	84	69	75
Payments based on output	0	6	5	20	3
Payments based on area planted/animal numbers	0	0	0	0	0
Payments based on historical entitlements	0	12	0	3	20
Payments based on input use	33	6	12	8	2
Payments based on input constraints	0	0	0	0	0
Payments based on overall farm income	0	0	0	0	0
Miscellaneous payments	0	0	0	0	0
<b>United States</b>					
Market Price Support	47	35	30	38	39
Payments based on output	7	16	21	18	6
Payments based on area planted/animal numbers	27	5	7	4	5
"Counter cyclical payments"	0	1	0	0	4
Payments based on historical entitlements	0	18	21	17	16
Payments based on input use	16	15	14	15	18
Payments based on input constraints	2	4	4	4	5
Payments based on overall farm income	2	5	4	5	6
<b>OECD</b>					
Market Price Support	77	63	63	61	63
Payments based on output	5	6	7	7	4
Payments based on area planted/animal numbers	7	13	12	13	14
Payments based on historical entitlements	0	5	6	5	5
Payments based on input use	8	9	9	9	9
Payments based on input constraints	1	3	3	3	3
Payments based on overall farm income	1	2	1	2	2
Miscellaneous payments	0	0	0	0	0

Notes: p: provisional, n.c.: not calculated. EU-12 for 1986-94, EU-15 from 1995,

EU includes ex-GDR from 1990. Austria, Finland, and Sweden are included in the OECD totals for all years, and in the EU from 1995.

(1) For Czech Republic, Hungary, Poland and Slovak Republic: The figure in the first column refers to 1991-93.

Market Price support is net of producer levies and excess feed costs.

Source: OECD, PSE/CSE database 2003.

**Annex Table 5. OECD: General Services Support Estimate by country**

		1986-88	2000-2002	2000	2001	2002p
<b>Australia</b>	USD mn	389	563	472	461	754
	EUR mn	352	609	512	515	800
	Percentage of TSE	23	41	35	39	46
<b>Canada</b>	USD mn	1 464	1 349	1 342	1 331	1 374
	EUR mn	1 328	1 467	1 456	1 487	1 458
	Percentage of TSE	20	24	24	25	23
<b>Czech Republic (1)</b>	USD mn	36	99	105	93	98
	EUR mn	29	108	114	104	104
	Percentage of TSE	3	11	16	10	8
<b>European Union</b>	USD mn	10 493	8 024	7 844	7 835	8 393
	EUR mn	9 520	8 722	8 511	8 749	8 906
	Percentage of TSE	9	8	8	8	7
<b>Hungary (1)</b>	USD mn	5	206	153	219	247
	EUR mn	5	224	166	244	262
	Percentage of TSE	1	14	12	17	13
<b>Iceland</b>	USD mn	23	16	17	14	15
	EUR mn	20	17	19	16	16
	Percentage of TSE	9	11	10	11	11
<b>Japan</b>	USD mn	8 775	12 295	13 303	11 864	11 717
	EUR mn	7 889	13 372	14 435	13 247	12 433
	Percentage of TSE	15	20	20	21	21
<b>Korea</b>	USD mn	1 069	2 707	2 741	2 567	2 812
	EUR mn	954	2 942	2 975	2 867	2 984
	Percentage of TSE	8	13	12	13	13
<b>Mexico</b>	USD mn	680	686	627	722	710
	EUR mn	637	746	680	806	753
	Percentage of TSE	57	8	7	9	8
<b>New Zealand</b>	USD mn	104	94	95	91	97
	EUR mn	94	103	103	102	103
	Percentage of TSE	17	59	57	72	51
<b>Norway</b>	USD mn	129	155	148	152	167
	EUR mn	117	169	161	169	177
	Percentage of TSE	4	6	6	6	6
<b>Poland (1)</b>	USD mn	257	223	218	203	248
	EUR mn	209	242	237	227	264
	Percentage of TSE	14	10	10	8	10
<b>Slovak Republic (1)</b>	USD mn	72	42	39	35	52
	EUR mn	58	46	42	40	55
	Percentage of TSE	12	12	10	13	13
<b>Switzerland</b>	USD mn	438	326	311	332	336
	EUR mn	396	355	337	370	357
	Percentage of TSE	7	6	6	7	6
<b>Turkey</b>	USD mn	308	2 846	3 725	3 159	1 653
	EUR mn	276	3 108	4 042	3 527	1 754
	Percentage of TSE	11	35	36	58	21
<b>United States</b>	USD mn	15 233	24 297	22 183	24 116	26 594
	EUR mn	13 980	26 405	24 071	26 927	28 218
	Percentage of TSE	22	26	24	25	29
<b>OECD</b>	USD mn	39 828	53 929	53 324	53 194	55 268
	EUR mn	36 217	58 634	57 862	59 397	58 643
	Percentage of TSE	13	17	17	17	17

Notes: p: provisional. EU-12 for 1986-94, EU-15 from 1995, EU includes ex-GDR from 1990.

Austria, Finland, and Sweden are included in the OECD totals for all years, and in the EU from 1995.

(1) For Czech Republic, Hungary, Poland and Slovak Republic: The figure in the first column refers to 1991-93.

Source: OECD, PSE/CSE database 2003.

**Annex Table 6. OECD: Consumer Support Estimate by country**

		1986-88	2000-2002	2000	2001	2002p
<b>Australia</b>	USD mn	-306	-106	-92	-109	-115
	EUR mn	- 282	- 115	-100	-122	-123
	Percentage CSE	-7	-2	-1	-2	-2
	Consumer NPC	1.08	1.00	1.00	1.00	1.00
	Consumer NAC	1.08	1.02	1.01	1.02	1.02
<b>Canada</b>	USD mn	-2 506	-2 097	-2 113	-1 968	-2 210
	EUR mn	- 2 281	- 2 278	-2 292	-2 197	-2 345
	Percentage CSE	-22	-14	-14	-13	-14
	Consumer NPC	1.32	1.16	1.17	1.15	1.16
	Consumer NAC	1.28	1.16	1.17	1.15	1.16
<b>Czech Republic (1)</b>	USD mn	-957	-501	-265	-513	-725
	EUR mn	- 779	- 543	-287	-573	-769
	Percentage CSE	-28	-16	-10	-17	-22
	Consumer NPC	1.49	1.17	1.06	1.18	1.27
	Consumer NAC	1.43	1.20	1.11	1.21	1.28
<b>European Union</b>	USD mn	-70 518	-45 241	-44 775	-41 306	-49 641
	EUR mn	- 64 137	- 49 127	-48 585	-46 122	-52 672
	Percentage CSE	-41	-26	-27	-24	-28
	Consumer NPC	1.90	1.40	1.41	1.35	1.42
	Consumer NAC	1.69	1.36	1.37	1.32	1.39
<b>Hungary (1)</b>	USD mn	-510	-765	-670	-652	-973
	EUR mn	- 417	-829	-727	-727	-1 032
	Percentage CSE	-12	-19	-16	-18	-24
	Consumer NPC	1.14	1.20	1.17	1.16	1.27
	Consumer NAC	1.14	1.24	1.19	1.21	1.31
<b>Iceland</b>	USD mn	-119	-61	-71	-50	-60
	EUR mn	- 107	- 66	-77	-56	-64
	Percentage CSE	-68	-45	-48	-40	-46
	Consumer NPC	3.95	1.86	1.97	1.71	1.89
	Consumer NAC	3.23	1.82	1.93	1.68	1.85
<b>Japan</b>	USD mn	-55 088	-58 983	-66 690	-56 280	-53 979
	EUR mn	- 49 789	- 64 161	-72 366	-62 843	-57 276
	Percentage CSE	-57	-51	-51	-51	-51
	Consumer NPC	2.35	2.04	2.05	2.04	2.04
	Consumer NAC	2.35	2.04	2.05	2.03	2.04
<b>Korea</b>	USD mn	-11 817	-19 544	-20 444	-17 579	-20 609
	EUR mn	- 10 625	- 21 227	-22 184	-19 629	-21 867
	Percentage CSE	-66	-62	-64	-59	-64
	Consumer NPC	2.95	2.66	2.75	2.45	2.77
	Consumer NAC	2.94	2.65	2.74	2.45	2.76
<b>Mexico</b>	USD mn	2 277	-5 720	-5 818	-5 303	-6 040
	EUR mn	2 082	- 6 215	-6 313	-5 922	-6 409
	Percentage CSE	17	-19	-20	-17	-20
	Consumer NPC	0.92	1.25	1.29	1.21	1.25
	Consumer NAC	0.86	1.23	1.24	1.20	1.25
<b>New Zealand</b>	USD mn	-91	-51	-56	-19	-77
	EUR mn	- 83	- 55	-60	-22	-82
	Percentage CSE	-9	-4	-4	-1	-5
	Consumer NPC	1.10	1.04	1.04	1.01	1.06
	Consumer NAC	1.10	1.04	1.04	1.01	1.06

**Annex Table 6. OECD: Consumer Support Estimate by country (cont.)**

		1986-88	2000-2002	2000	2001	2002p
<b>Norway</b>	USD mn	-1 311	-991	-916	-882	-1 174
	EUR mn	- 1 190	- 1 075	-994	-985	-1 246
	Percentage CSE	-55	-51	-50	-48	-54
	Consumer NPC	3.17	2.36	2.32	2.19	2.56
	Consumer NAC	2.23	2.03	2.00	1.91	2.20
<b>Poland (1)</b>	USD mn	-1 048	-1 662	-1 891	-1 733	-1 363
	EUR mn	- 872	- 1 811	-2 051	-1 935	-1 447
	Percentage CSE	-8	-12	-14	-13	-10
	Consumer NPC	1.09	1.16	1.19	1.16	1.12
	Consumer NAC	1.09	1.14	1.17	1.15	1.11
<b>Slovak Republic (1)</b>	USD mn	-183	-133	-132	-89	-180
	EUR mn	- 151	- 144	-143	-100	-191
	Percentage CSE	-12	-11	-11	-8	-14
	Consumer NPC	1.15	1.10	1.09	1.05	1.14
	Consumer NAC	1.14	1.13	1.13	1.08	1.17
<b>Switzerland</b>	USD mn	-4 888	-3 229	-3 358	-2 971	-3 356
	EUR mn	- 4 411	- 3 508	-3 644	-3 317	-3 561
	Percentage CSE	-72	-61	-63	-59	-62
	Consumer NPC	4.54	2.79	2.94	2.59	2.83
	Consumer NAC	3.62	2.59	2.69	2.44	2.64
<b>Turkey</b>	USD mn	-2 149	-3 886	-5 658	-1 542	-4 457
	EUR mn	- 1 961	- 4 197	-6 140	-1 722	-4 729
	Percentage CSE	-14	-16	-22	-8	-19
	Consumer NPC	1.19	1.21	1.30	1.09	1.24
	Consumer NAC	1.17	1.20	1.28	1.08	1.24
<b>United States</b>	USD mn	-8 778	3 800	4 703	-149	6 845
	EUR mn	- 8 201	4 067	5 104	-166	7 263
	Percentage CSE	-7	2	3	0	4
	Consumer NPC	1.19	1.11	1.10	1.13	1.10
	Consumer NAC	1.08	0.98	0.97	1.00	0.96
<b>OECD</b>	USD mn	-169 350	-138 545	-147 796	-130 418	-137 421
	EUR mn	- 153 894	- 150 604	-160 374	-145 624	-145 812
	Percentage CSE	-33	-24	-25	-23	-24
	Consumer NPC	1.63	1.37	1.40	1.35	1.37
	Consumer NAC	1.50	1.31	1.33	1.29	1.31

Notes: p: provisional. NPC: Nominal Protection Coefficient. NAC: Nominal Assistance Coefficient.

EU-12 for 1986-94, EU-15 from 1995, EU includes ex-GDR from 1990.

(1) For Czech Republic, Hungary, Poland and Slovak Republic: The figure in the first column refers to 1991-93.

Austria, Finland, and Sweden are included in the OECD totals for all years, and in the EU from 1995.

Source: OECD, PSE/CSE database 2003.

**Annex Table 7. OECD: Total Support Estimate by country**

		1986-88	2000-2002	2000	2001	2002p
<b>Australia</b>	USD mn	1 674	1 387	1 352	1 171	1 636
	EUR mn	1 533	1 504	1 468	1 308	1 736
	Percentage of GDP	0.8	0.4	0.4	0.3	0.4
<b>Canada</b>	USD mn	7 161	5 604	5 533	5 308	5 969
	EUR mn	6 541	6 088	6 004	5 927	6 334
	Percentage of GDP	1.7	0.8	0.8	0.8	0.8
<b>Czech Republic (1)</b>	USD mn	1 386	940	658	975	1 186
	EUR mn	1 127	1 021	714	1 089	1 259
	Percentage of GDP	4.4	1.6	1.3	1.7	1.7
<b>European Union</b>	USD mn	110 771	103 849	100 061	98 921	112 564
	EUR mn	100 624	112 823	108 577	110 456	119 438
	Percentage of GDP	2.7	1.3	1.3	1.3	1.3
<b>Hungary (1)</b>	USD mn	901	1 443	1 230	1 258	1 841
	EUR mn	733	1 564	1 335	1 405	1 953
	Percentage of GDP	2.5	2.6	2.6	2.4	2.9
<b>Iceland</b>	USD mn	259	143	165	124	139
	EUR mn	232	155	179	139	148
	Percentage of GDP	5.1	1.7	2.0	1.6	1.6
<b>Japan</b>	USD mn	57 573	60 168	67 480	57 338	55 687
	EUR mn	52 133	65 445	73 223	64 024	59 087
	Percentage of GDP	2.3	1.4	1.4	1.4	1.4
<b>Korea</b>	USD mn	13 262	20 887	22 306	19 347	21 009
	EUR mn	11 902	22 700	24 204	21 603	22 292
	Percentage of GDP	9.3	4.6	4.8	4.6	4.5
<b>Mexico</b>	USD mn	1 444	8 673	8 969	8 142	8 908
	EUR mn	1 379	9 425	9 732	9 091	9 452
	Percentage of GDP	0.6	1.4	1.5	1.3	1.4
<b>New Zealand</b>	USD mn	578	161	167	126	189
	EUR mn	545	174	181	140	201
	Percentage of GDP	1.7	0.3	0.3	0.3	0.3
<b>Norway</b>	USD mn	3 112	2 570	2 493	2 354	2 865
	EUR mn	2 817	2 791	2 705	2 629	3 040
	Percentage of GDP	3.4	1.5	1.5	1.4	1.5
<b>Poland (1)</b>	USD mn	1 693	2 343	2 254	2 388	2 387
	EUR mn	1 391	2 548	2 446	2 667	2 533
	Percentage of GDP	2.2	1.4	1.4	1.4	1.3
<b>Slovak Republic (1)</b>	USD mn	612	352	401	268	386
	EUR mn	498	381	435	299	410
	Percentage of GDP	4.2	1.7	2.0	1.3	1.6
<b>Switzerland</b>	USD mn	6 393	5 144	4 977	4 927	5 526
	EUR mn	5 775	5 589	5 401	5 502	5 863
	Percentage of GDP	3.9	2.0	2.1	2.0	2.0
<b>Turkey</b>	USD mn	3 183	7 878	10 491	5 410	7 733
	EUR mn	2 888	8 543	11 384	6 041	8 205
	Percentage of GDP	3.6	4.2	5.3	3.6	4.1
<b>United States</b>	USD mn	68 532	93 504	92 797	97 442	90 273
	EUR mn	62 804	101 761	100 695	108 804	95 785
	Percentage of GDP	1.4	0.9	0.9	1.0	0.9
<b>OECD</b>	USD mn	302 251	315 045	321 335	305 501	318 300
	EUR mn	275 029	342 514	348 682	341 122	337 737
	Percentage of GDP	2.3	1.2	1.3	1.2	1.2

Notes: p: provisional. EU-12 for 1986-94, EU-15 from 1995, EU includes ex-GDR from 1990.

Austria, Finland, and Sweden are included in the OECD totals for all years, and in the EU from 1995.

(1) For Czech Republic, Hungary, Poland and Slovak Republic: The figure in the first column refers to 1991-93.

Source: OECD, PSE/CSE database 2003.