

## Chapter 1

# Developments in agricultural policy and support

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

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

## Key economic and market developments

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

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

Table 1.1. **Key economic indicators**  
OECD area, unless otherwise noted

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

1. Year-on-year increase; last three columns show the increase over a year earlier.


2. Moving nominal GDP weights, using purchasing power parities.

3. Per cent of potential GDP.

4. Per cent of labour force.

5. Private consumption deflator. Year-on-year increase; last 3 columns show the increase over a year earlier.

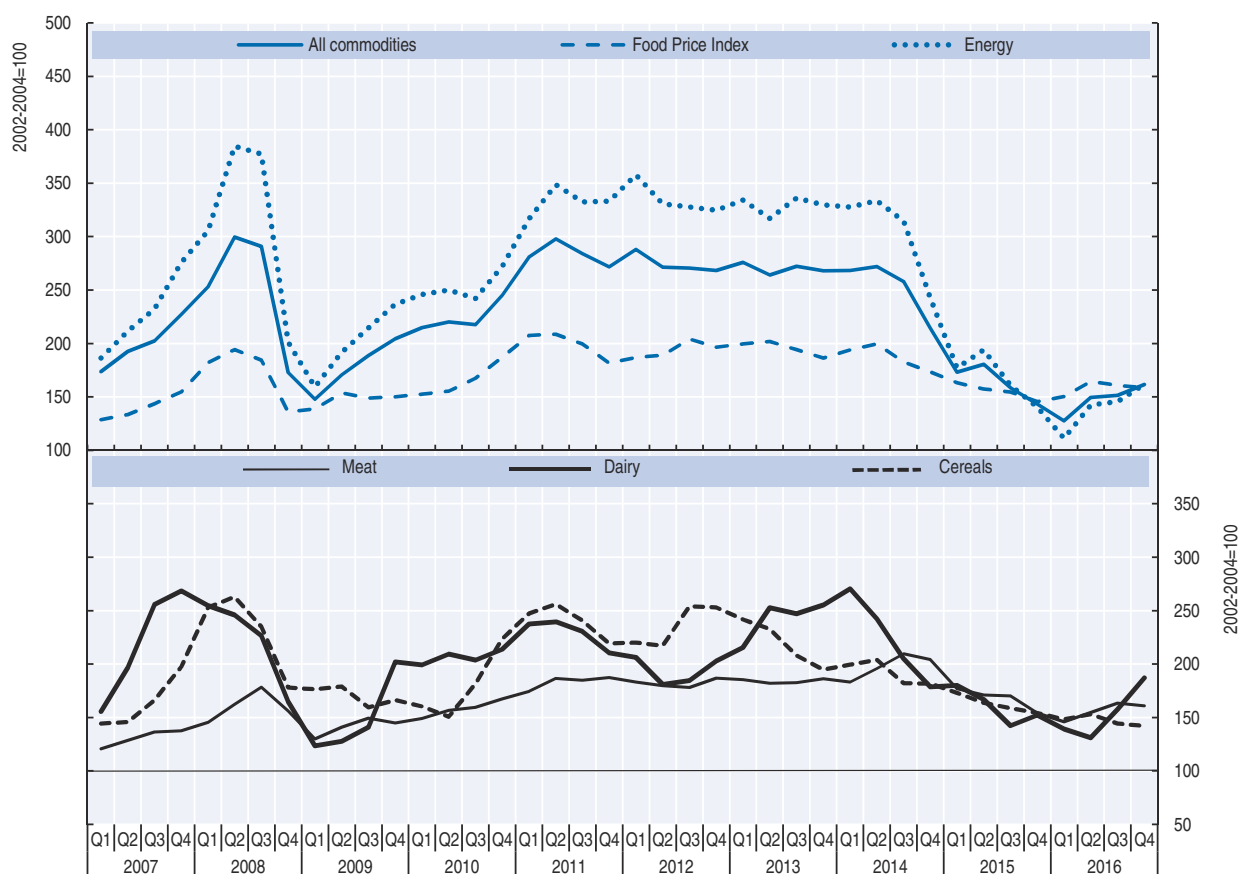
Source: OECD (2016a), *OECD Economic Outlook*, Vol. 2016/2, OECD Publishing, Paris. Last updated November 2016, [http://dx.doi.org/10.1787/eco\\_outlook-v2016-2-en](http://dx.doi.org/10.1787/eco_outlook-v2016-2-en).

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

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


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

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



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

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

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

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

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

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

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

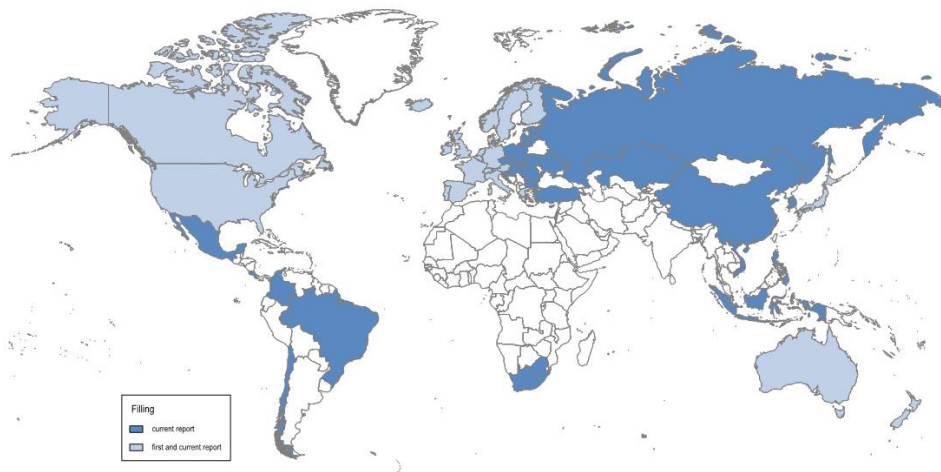
## Thirty years of monitoring and evaluating agricultural policies

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

## Developments in agricultural support

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

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



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

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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

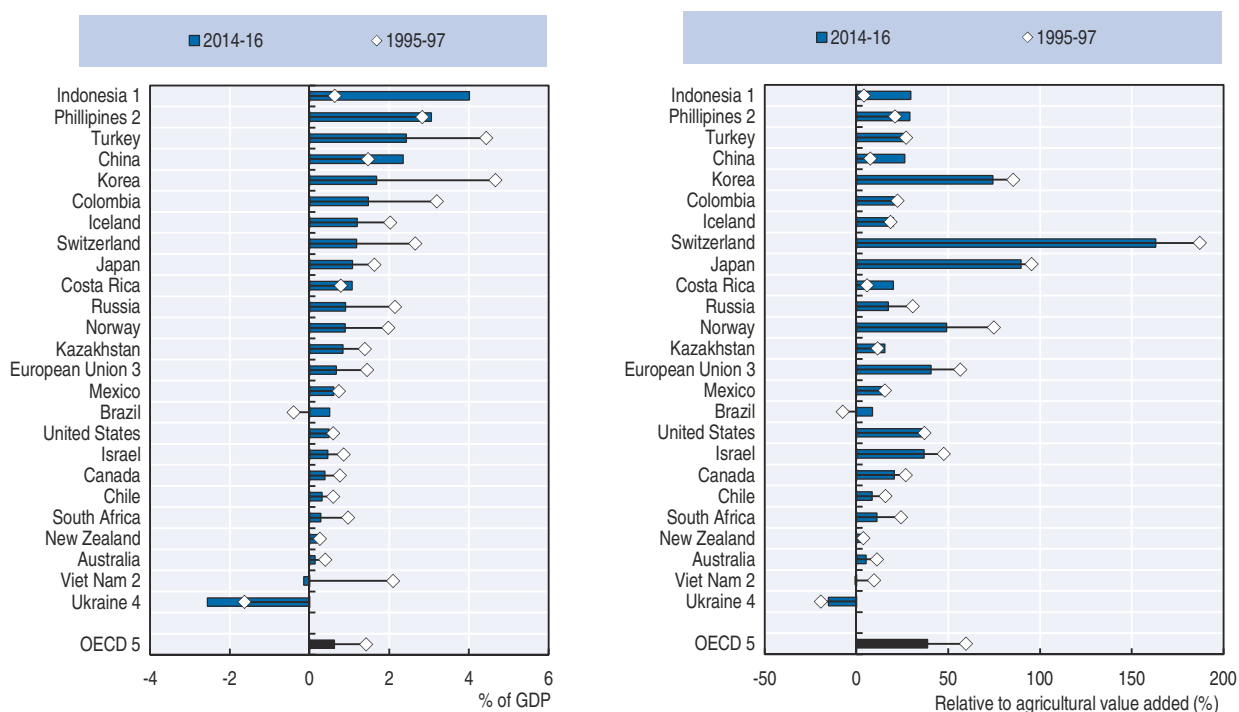
There are contrasting developments in the %TSE of the emerging and developing countries covered in this report. The %TSE has declined significantly in Colombia, Kazakhstan, the Russian Federation and South Africa. In the mid-1990s, Brazil and Ukraine taxed their agricultural sectors on average. Brazil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

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

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

Panel A: Percentage of GDP

Panel B: Ratio relative to agricultural value added



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

1. For Indonesia, 2014-16 is replaced by 2013-15.


2. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.

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

4. For Ukraine, GDP in 2014-16 is replaced by 2014-15.

5. The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for both periods and in the EU for 2014-16. Latvia is included in the OECD and in the EU only for 2014-16.

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

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

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

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

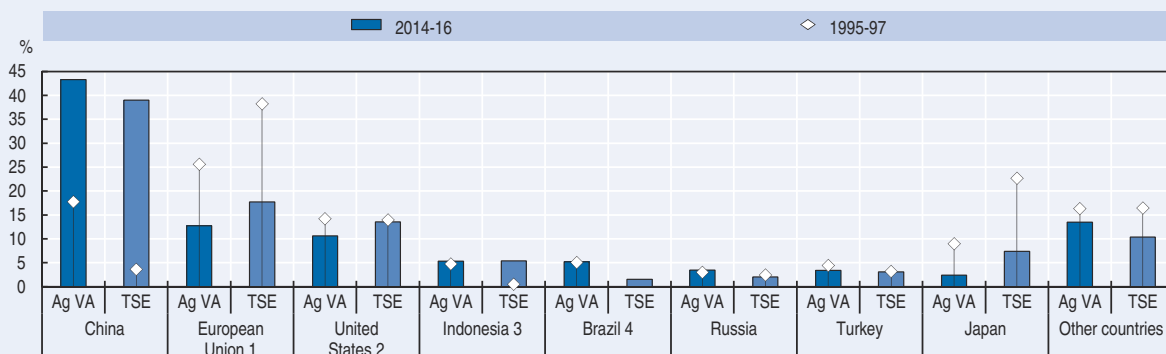
### Box 1.3. Countries' importance in global agriculture and their role in supporting the sector has changed

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

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

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

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



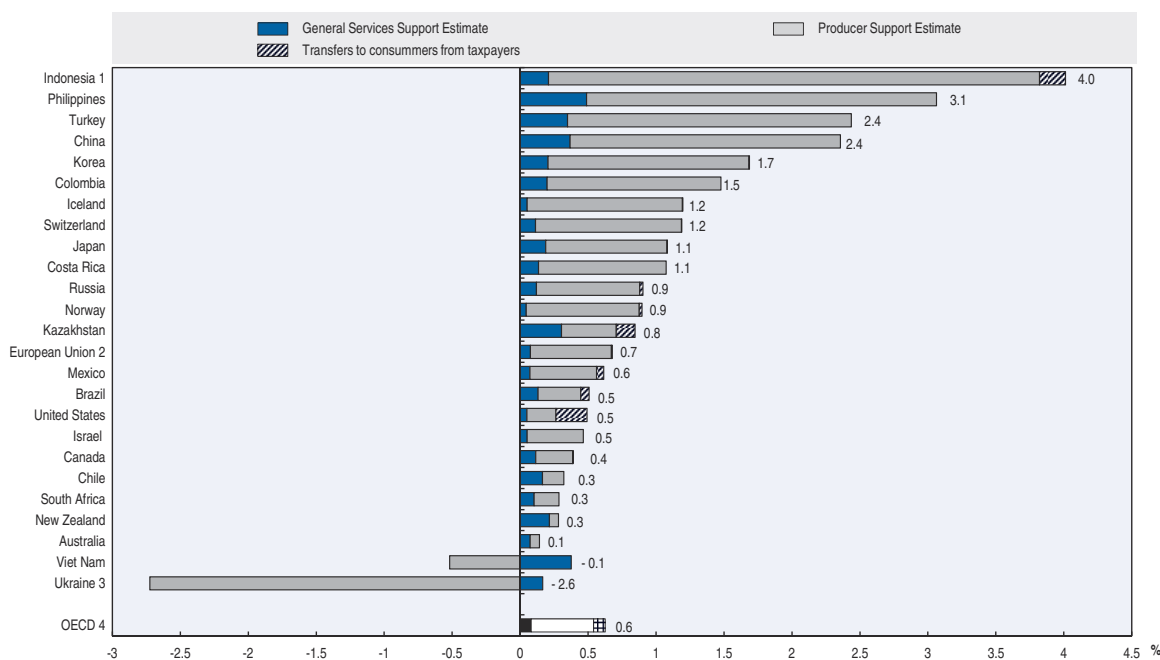
Notes: Because of data availability, countries are ranked according to their shares in total agricultural value added in 2013-15. TSE corresponds to 2014-16.

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

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

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

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



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

Source: OECD (2017), "Producer and Consumer Support Estimates", *OECD Agriculture statistics (database)*, <http://dx.doi.org/10.1787/agr-pcse-data-en>.  
StatLink <http://dx.doi.org/10.1787/888933506474>

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

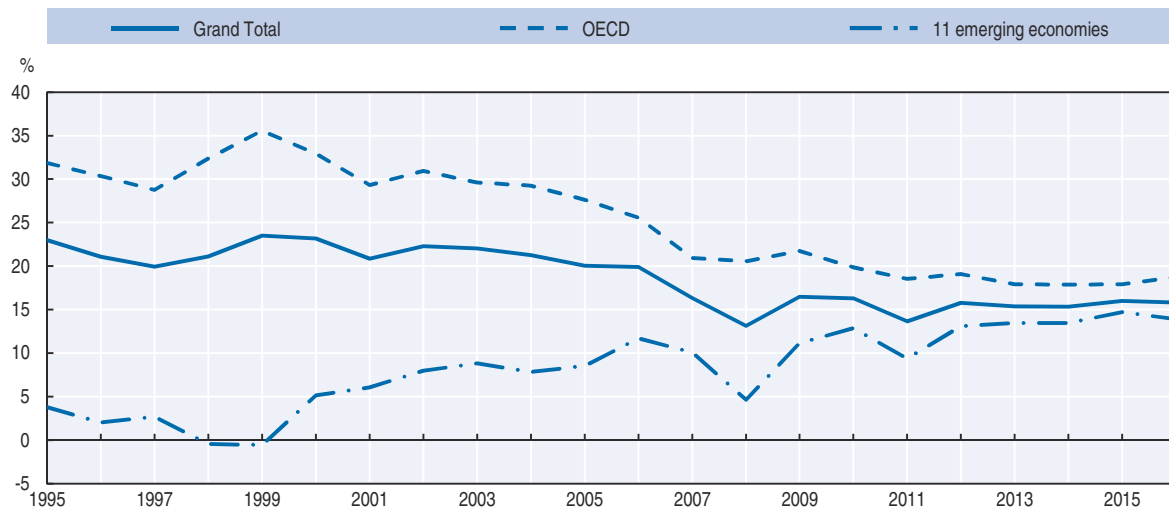
On average, the level of support provided to producers in the countries covered by this report has followed a declining trend over time, although changes in the average %PSE have been marginal in recent years (Figure 1.6). In 2016, around 16% of gross farm receipts were due to policies that support farmers.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

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

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

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

Percentage of gross farm receipts



Notes: % PSE: Producer Support Estimate in percentage of gross farm receipts.

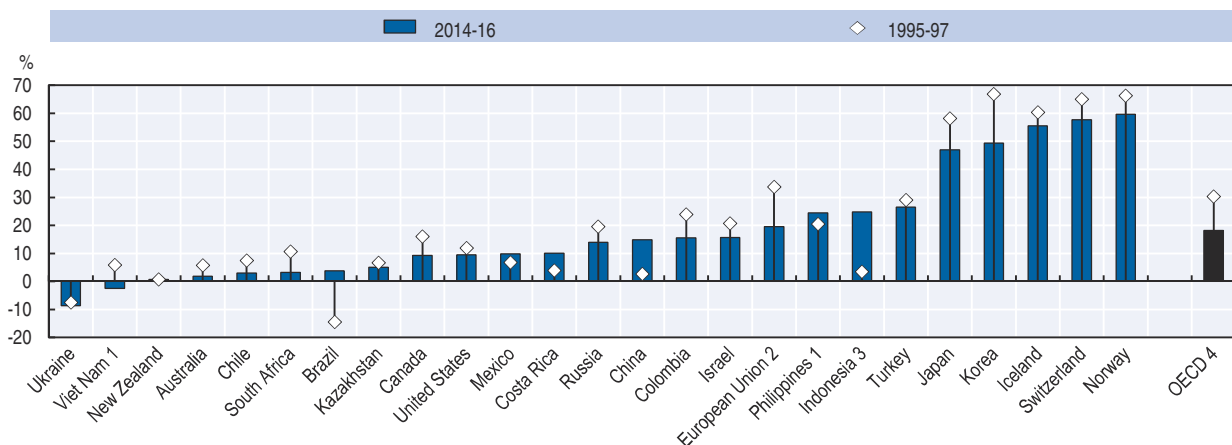
The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for all years and in the EU from 2004. Latvia is included in the OECD and in the EU only from 2004. The emerging economies are Brazil, China, Colombia, Costa Rica, Indonesia, Kazakhstan, the Philippines, Russia, South Africa, Ukraine and Viet Nam. Viet Nam and the Philippines are included from 2000 onwards. 2016 data for Indonesia not available and proxies are used instead.

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

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

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

Percentage of gross farm receipts



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

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

4. The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for both periods and in the EU for 2014-16. Latvia is included in the OECD and in the EU only for 2014-16.

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

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

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

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

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

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

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

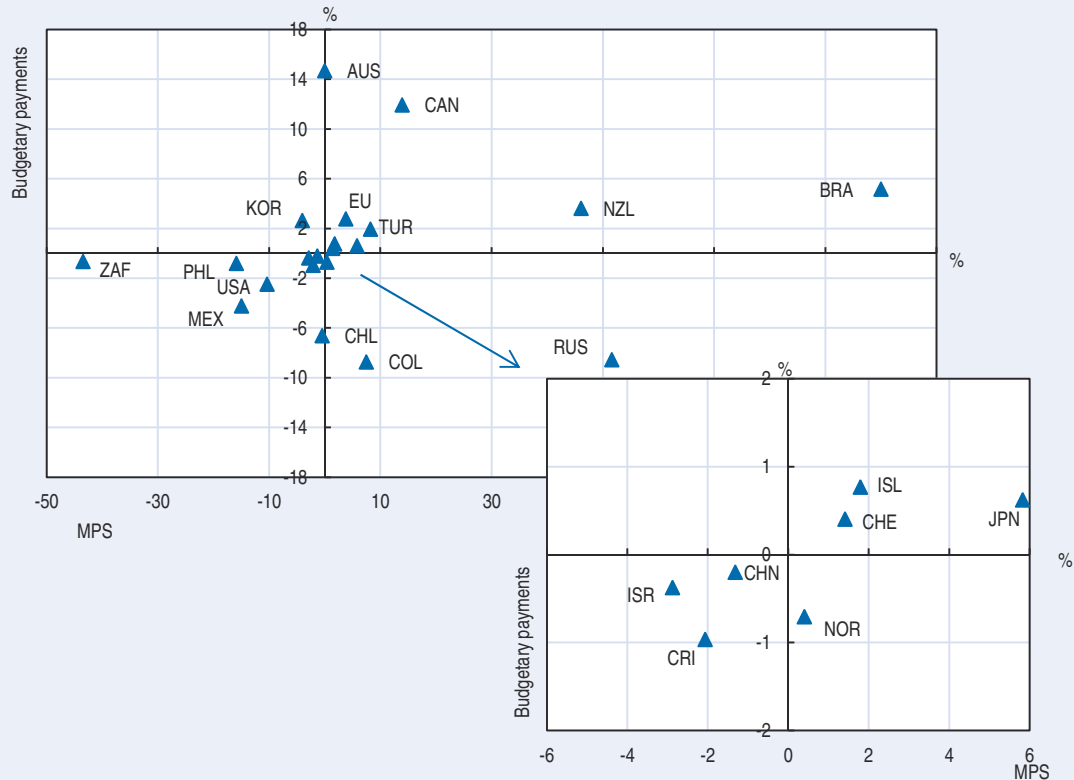
Figure 1.8 shows the contributions of market price support (MPS, horizontal axis) and budgetary payments (BP, vertical axis) to the annual change in the monetary value of support to farmers (PSE, expressed in local currencies) between 2015 and 2016. Country points farther from the vertical axis indicate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

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




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

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



Note: Data for Indonesia are not available. Kazakhstan, Ukraine and Viet Nam not shown due to negative MPS data.

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

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

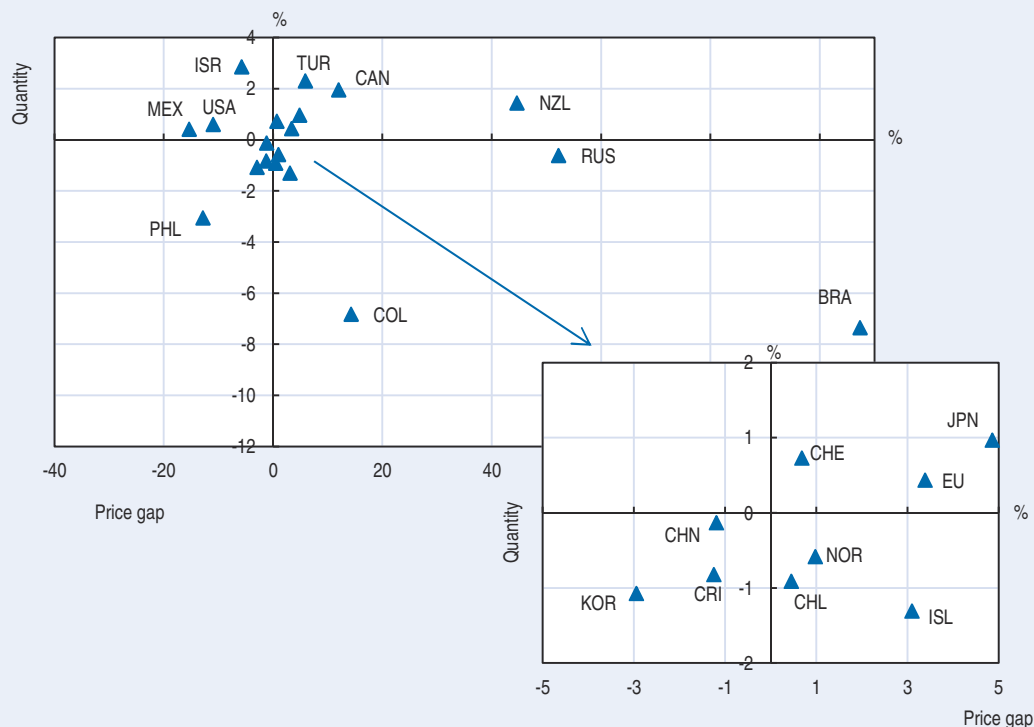
Higher MPS drove increases in the monetary value of support in New Zealand,<sup>1</sup> Japan, Turkey and Brazil (with higher budgetary payments also contributing, but to a lesser extent). In Brazil, higher MPS increased the monetary value of support by 100%. In the Russian Federation, higher MPS more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

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

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


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

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



Note: Data for Indonesia are not available. Kazakhstan, Ukraine and Viet Nam not shown due to negative MPS data.

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

StatLink  <http://dx.doi.org/10.1787/888933506550>

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

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

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

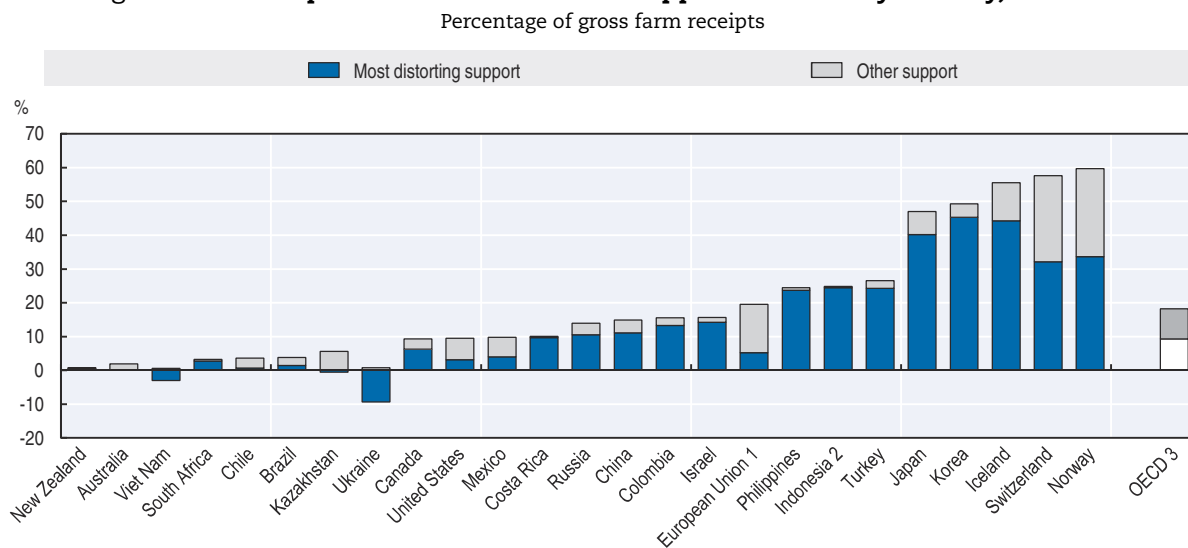
The way in which countries provide support to farmers is arguably as important as the overall level of that support. Governments have a large portfolio of measures at their disposal: they can raise domestic prices by limiting imports through tariffs or other border measures; they can provide subsidies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

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

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

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

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




1. EU28.

2. For Indonesia, 2014-16 is replaced by 2013-15.

3. The OECD total does not include the non-OECD EU member states.

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

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

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

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

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

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

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

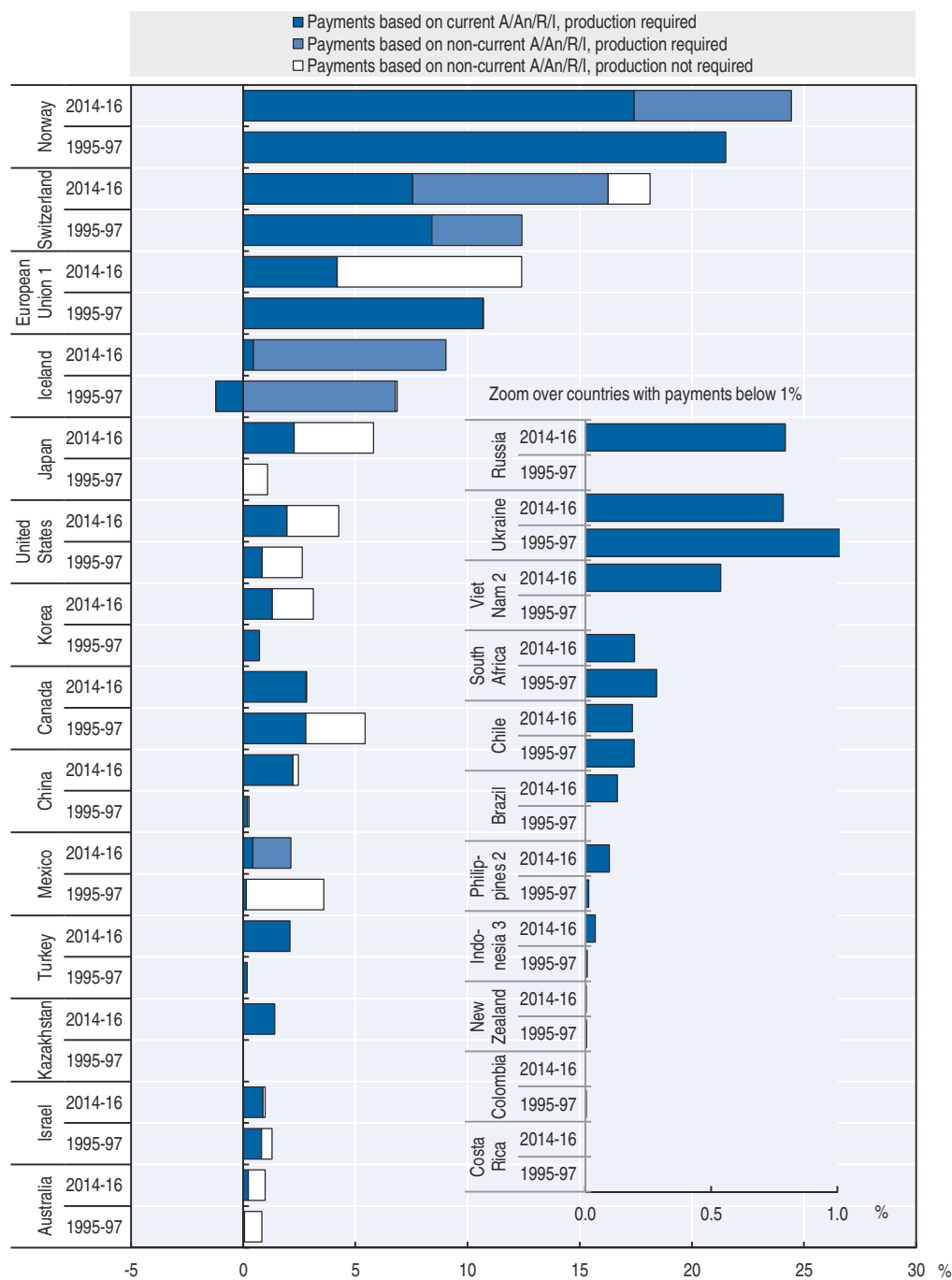
Less distorting forms of support include two broad categories of (tax-financed) payments. First, payments based on other inputs or on variable inputs with constraints are important in a number of countries. Such payments account for more than 70% of producer support in Chile, and more than 60% in Brazil,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

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

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

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

Percentage of gross farm receipts




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

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

2. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.

3. For Indonesia, 2014-16 is replaced by 2013-15.

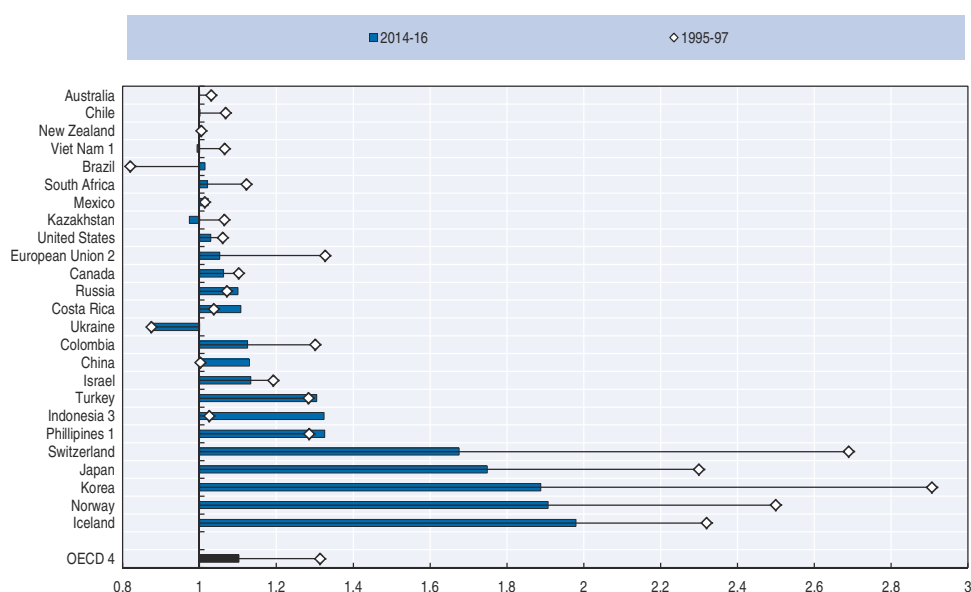
Source: OECD (2017), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.

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

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

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

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



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

1. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.

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

3. For Indonesia, 2014-16 is replaced by 2013-15.

4. The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for both periods and in the EU for 2014-16. Latvia is included in the OECD and in the EU only for 2014-16.

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

StatLink  <http://dx.doi.org/10.1787/888933506607>

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



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

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

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

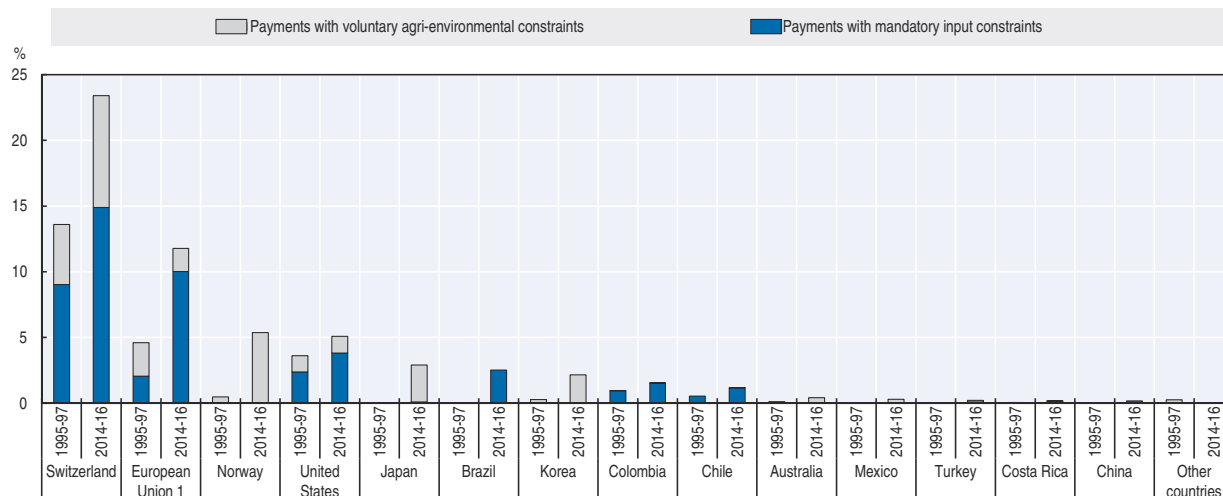
### ***Payments are increasingly tied to specific production practice, reflecting the importance of non-farm income objectives***

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

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

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

Percentage of gross farm receipts



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

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

Source: OECD (2017), "Producer and Consumer Support Estimates", OECD Agriculture statistics (database). <http://dx.doi.org/10.1787/agr-pcse-data-en>.  
StatLink  <http://dx.doi.org/10.1787/888933506626>

### Box 1.5. Greening of the EU CAP

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

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

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

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

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

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

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

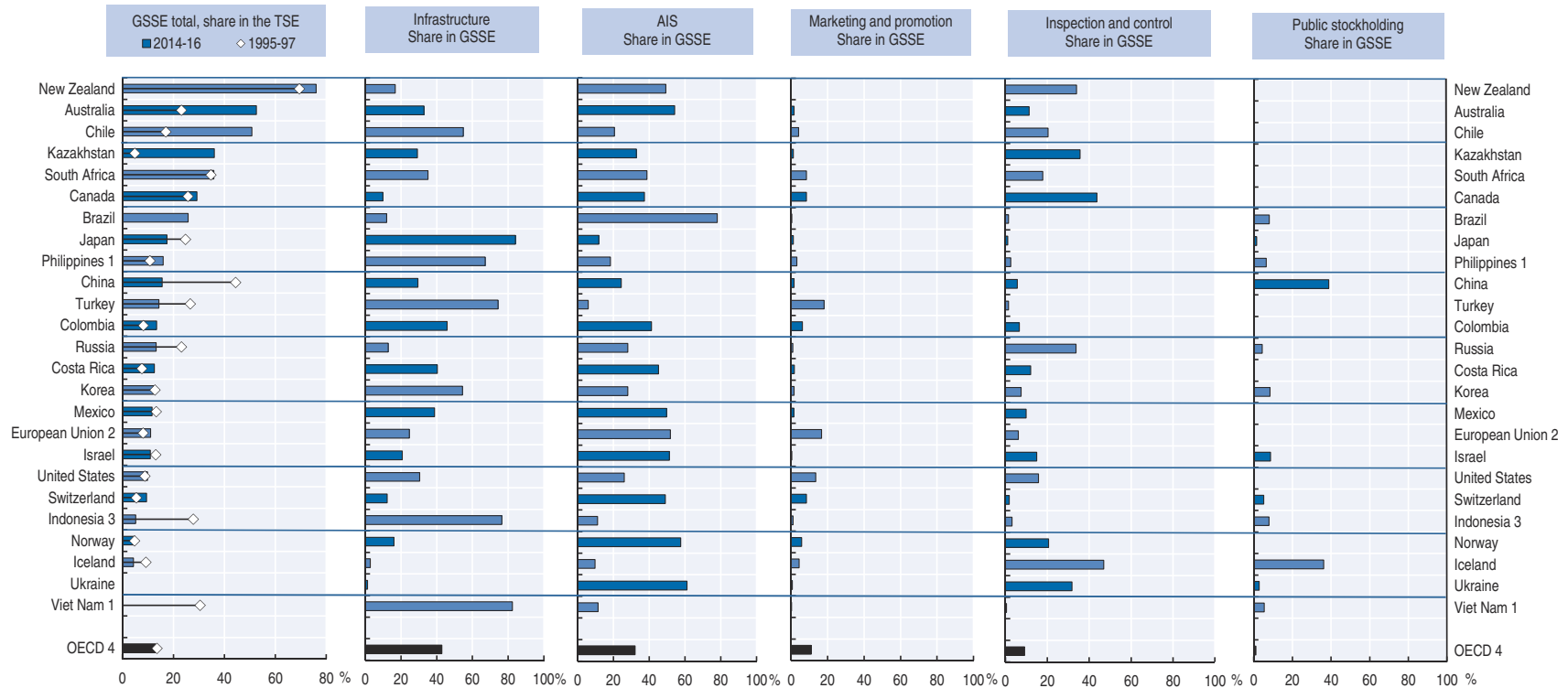
1. Cross compliance – pillar 2 background – [https://marswiki.jrc.ec.europa.eu/wikicap/index.php/Cross\\_Compliance](https://marswiki.jrc.ec.europa.eu/wikicap/index.php/Cross_Compliance).  
Source: OECD (forthcoming), *Evaluation of the EU Common Agricultural Policy CAP 2014-20*.

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

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

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

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



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


1. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.

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

3. For Indonesia, 2014-16 is replaced by 2013-15.

4. The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for both periods and in the EU for 2014-16. Latvia is included in the OECD and in the EU only for 2014-16.

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

StatLink  <http://dx.doi.org/10.1787/888933506645>

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

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

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

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

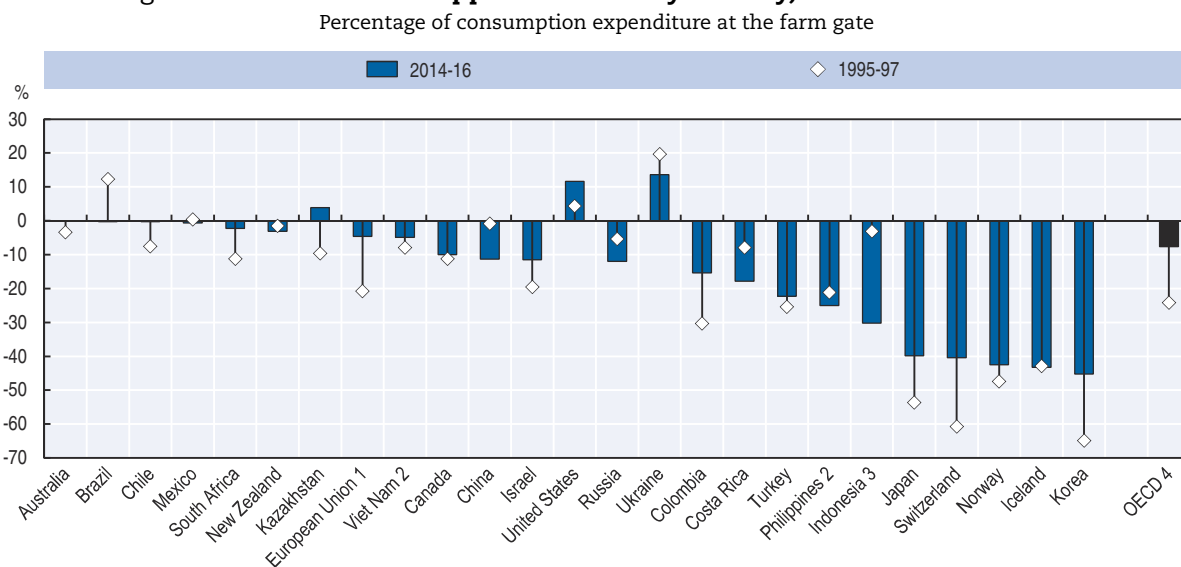
Consumers in almost all countries are harmed by agricultural policies, although to different degrees (Figure 1.15). In 2014-16, the tax on consumers – a negative %CSE – ranges from less than one percent in Brazil, Chile and Mexico, to more than 40% in Iceland, Korea, Norway and Switzerland. In all cases,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

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

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

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

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



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

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

2. For Viet Nam and the Philippines, 1995-97 is replaced by 2000-02.

3. For Indonesia, 2014-16 is replaced by 2013-15.

4. The OECD total does not include the non-OECD EU Member States. The Czech Republic, Estonia, Hungary, Poland, the Slovak Republic and Slovenia are included in the OECD total for both periods and in the EU for 2014-16. Latvia is included in the OECD and in the EU only for 2014-16.

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

StatLink <http://dx.doi.org/10.1787/888933506664>

## Developments in approaches to support and policies

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

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



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

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

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

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

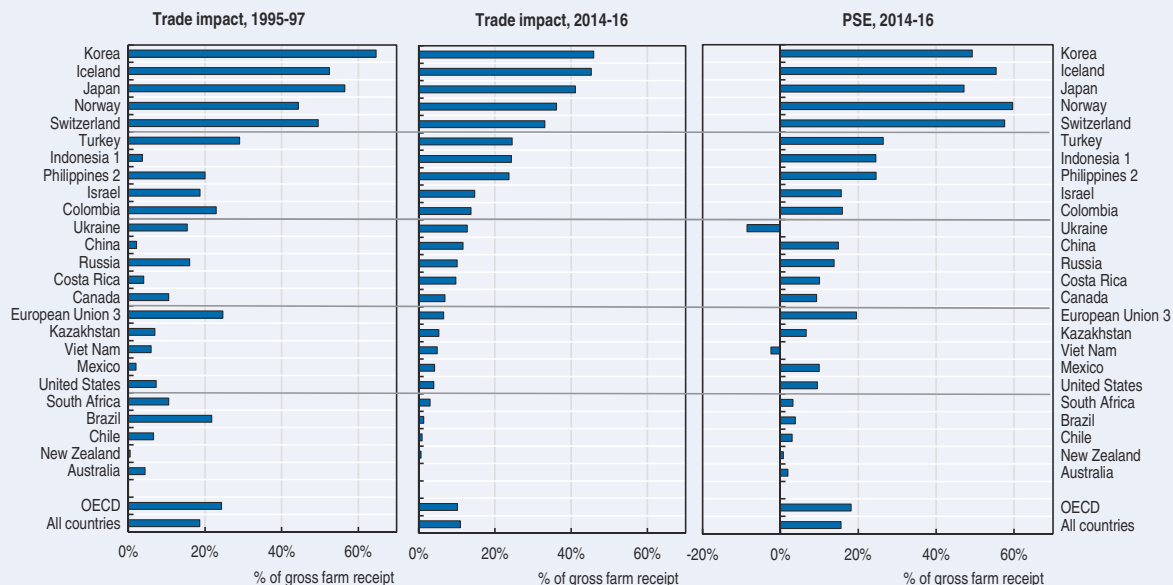
This box uses the trade-impact ratios for individual forms of support, provided by PEM, to calculate the trade-impact indices. These indices represent the level of MPS that would generate the same trade effect as a country's entire policy package. This allows comparing the trade impact of the policy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

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


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

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

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



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

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

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

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

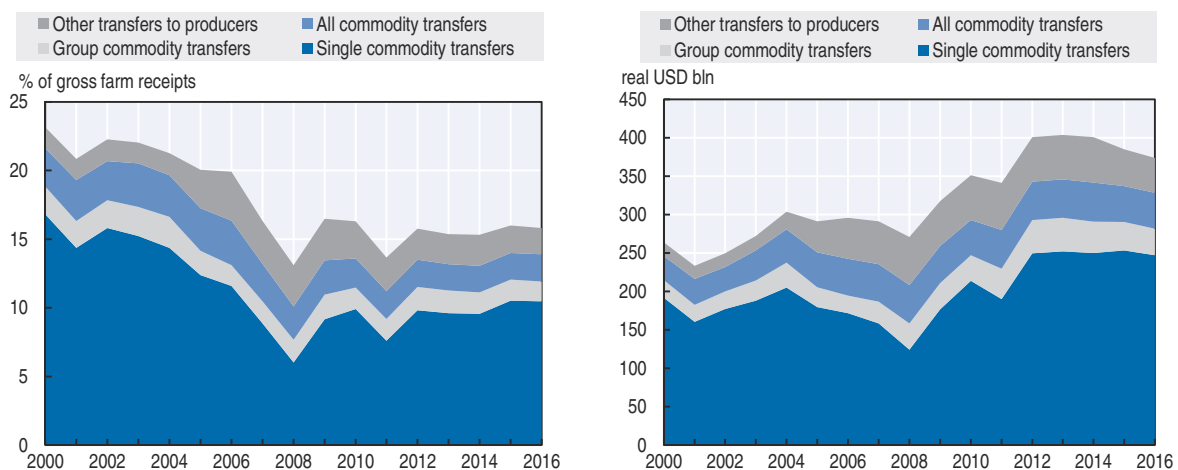
1. Ratios representing the trade impacts of policy instruments relative to MPS obtained from PEM are calculated for two periods (1995-97 and 2013-15) and averaged across countries. For instance, in the three years 1995-97 data on area payments applied in Canada, Switzerland and the EU were found to have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

### Changes in the single commodity focus of support

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


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

Percentage of gross farm receipts and real USD



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

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

StatLink  <http://dx.doi.org/10.1787/888933506702>

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

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

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

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

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

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

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

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

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

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

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

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

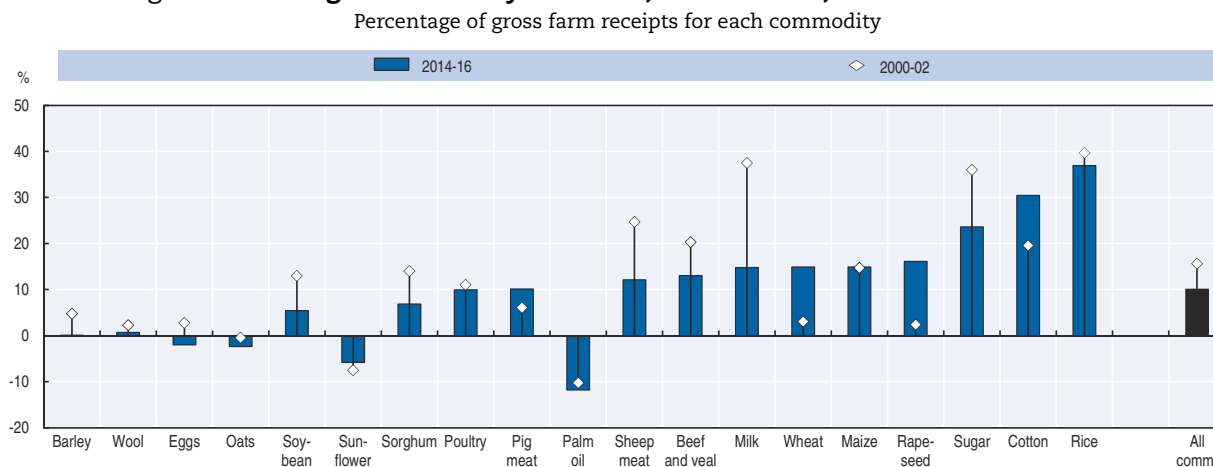
In absolute terms, the real value of SCT support has risen over time, and most strongly since 2008. However, in relative terms, the SCT as a percentage of gross farm receipts (in all countries for these products) has fallen since 2000 suggesting the intensity of support has also fallen.

### Trends in composition of single commodity support

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


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

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



Note: Commodities are ranked according to the absolute value of % SCT in 2014-16.

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

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

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

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



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

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

### *Falling support and pathways taken to decouple*

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

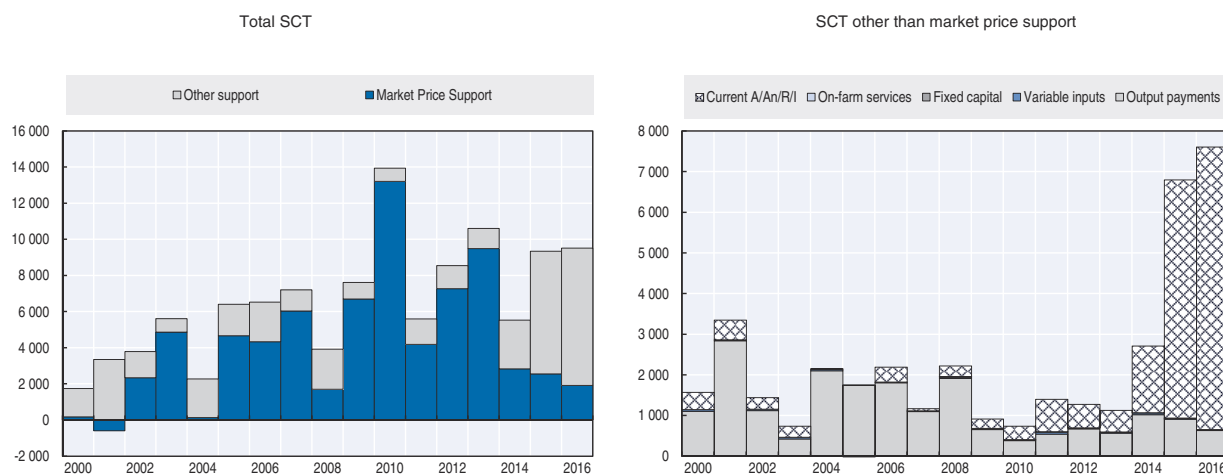
The manner in which support has been provided to **cotton**, the second most intensively supported commodity (Figure 1.19), has changed since 2000. These changes, however, have occurred more recently beginning in 2014 after a period of increase between 2000 and 2013 (Figure 1.19). Since 2014, there is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

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

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



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



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

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


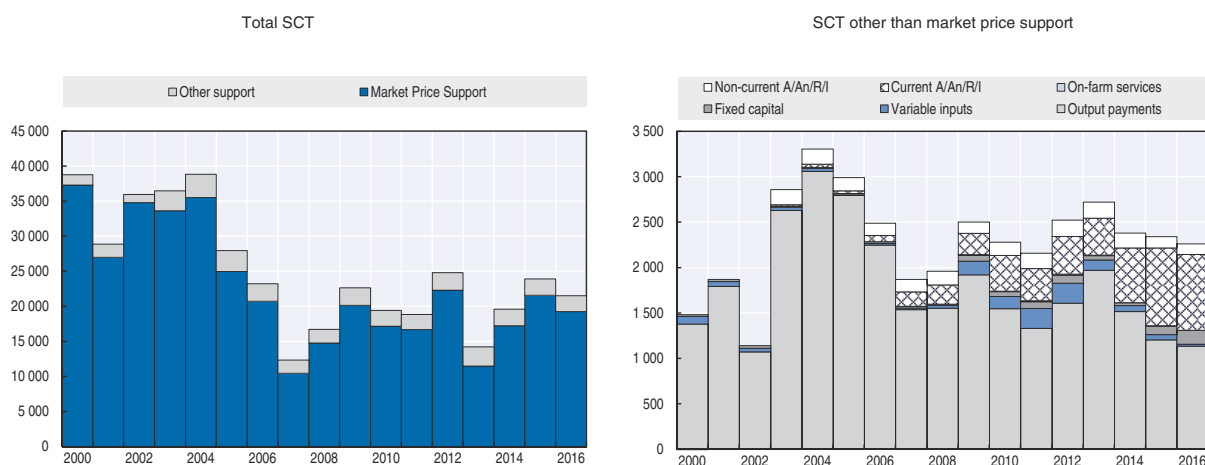

StatLink  <http://dx.doi.org/10.1787/888933506740>

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



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

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

StatLink  <http://dx.doi.org/10.1787/888933506759>

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

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

### *Remaining high levels of support*

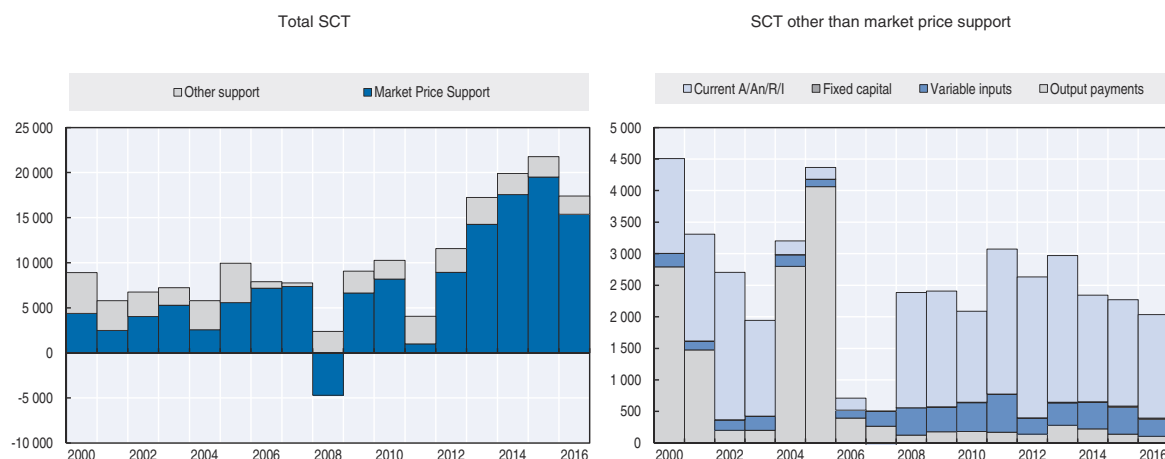
For a number of commodities, the support provided in terms of market price support or that of other forms has been rising. For maize, pig meat, poultry, beef, wheat and rapeseed, for example, market price support has been rising. For rice, support across various categories has fallen to negative levels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

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

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

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

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



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

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


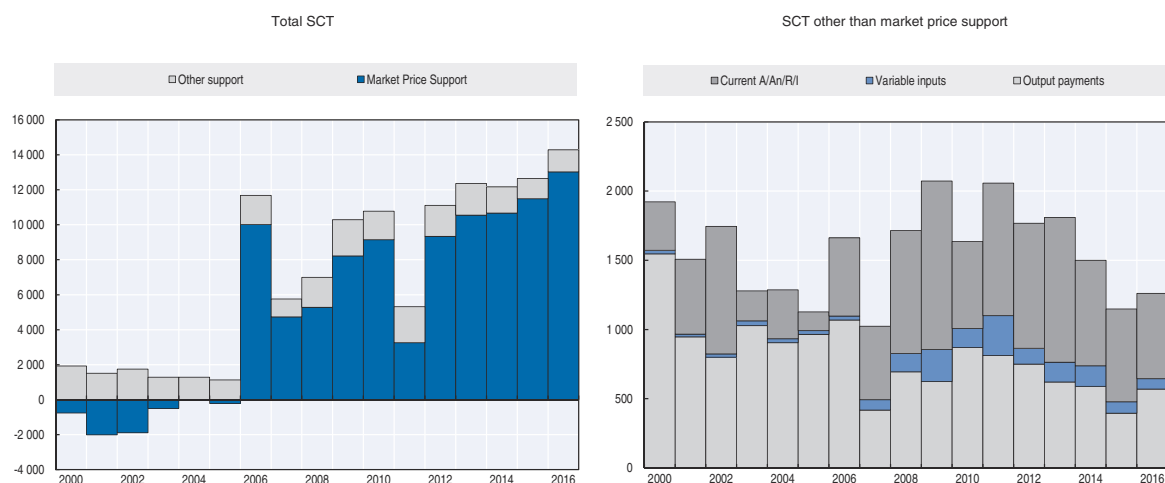
StatLink  <http://dx.doi.org/10.1787/888933506778>

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



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

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

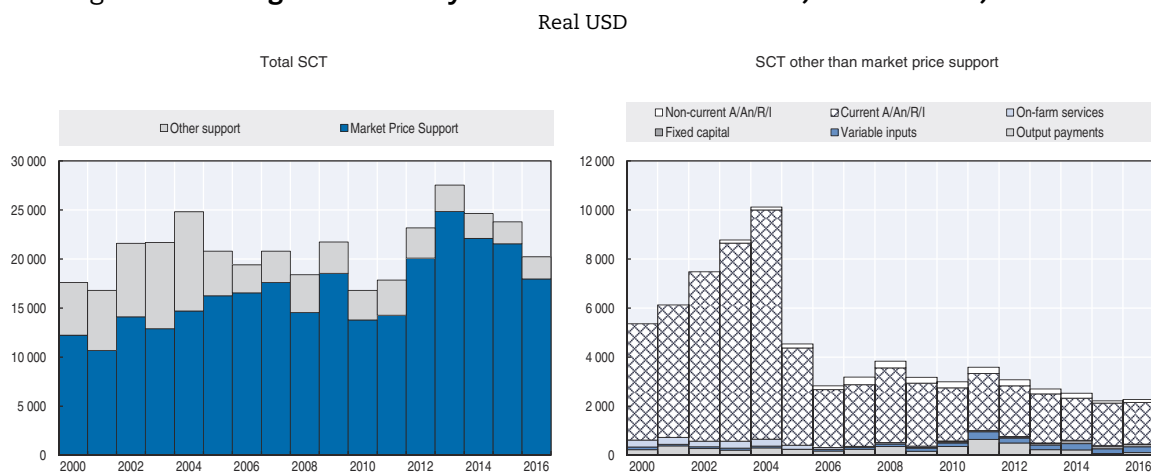
StatLink  <http://dx.doi.org/10.1787/888933506797>

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

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


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

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



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

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

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

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

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

## Assessing support and reforms

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

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

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

## Notes

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

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

## References

- Anders, S.M. and J.A. Caswell (2009), “Standards as Barriers Versus Standards as Catalysts: Assessing the Impact of HACCP Implementation on U.S. Seafood Imports”, *American Journal of Agricultural Economics* Vol. 91(2), pp. 310-321.
- Cadot, O. and J. Gourdon (2016), “Non-tariff measures, preferential trade agreements, and prices: New evidence”, *Review of World Economics* (Weltwirtschaftliches Archiv), Springer; Institut für Weltwirtschaft (Kiel Institute for the World Economy), Vol. 152(2), pp. 227-249, May.
- Chen, M.X. and A. Mattoo (2008), “Regionalism in standards: good or bad for trade?”, *Canadian Journal of Economics*, Vol. 41(3), pp. 838-863.
- Chen, N. and D. Novy (2012), “On the Measurement of Trade Costs – Direct vs. Indirect Approaches to Quantify Standards and Technical Regulations”, *World Trade Review*, Vol. 11(3), pp. 401-414, July 2012.
- Crivelli, P. and J. Gröschl (2012), “SPS Measures and Trade: Implementation Matters”, Geneva, World Trade Organization, Working Paper ERSD-2012-05.
- Disdier, A.-C., L. Fontagné and O. Cadot (2014), “North-South Standards Harmonization and International Trade”, *World Bank Economic Review*, 29(2), 327-52.
- FAO (2016), FAO Food Price Index dataset, Rome, [www.fao.org/worldfoodsituation/foodpricesindex/en/](http://www.fao.org/worldfoodsituation/foodpricesindex/en/).
- FAO (1975), *Agricultural Protection and Stabilisation Policies: a Framework of Measurement in the Context of Agricultural Adjustment*, c/75/LIM/2, FAO.
- FAO (1973), *Agricultural Protection: Domestic Policy and International Trade*, c/73/LIM/9, FAO.
- ICTSD (2016), *Evaluating Nairobi: What Does the Outcome Mean for Trade in Food and Farm Goods?*, Hepburn, J. and C. Bellmann (eds.), ICTSD Programme on Agricultural Trade and Sustainable Development; International Centre for Trade and Sustainable Development, Geneva, Switzerland, [www.ictsd.org](http://www.ictsd.org).
- IMF (2016), “Commodity Market Review”, The International Monetary Fund, Washington, DC, [www.imf.org/external/np/res/commod/index.aspx](http://www.imf.org/external/np/res/commod/index.aspx).
- Martini, R. (2011), “Long Term Trends in Agricultural Policy Impacts”, *OECD Food, Agriculture and Fisheries Papers*, No. 45, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5kgdp5zw179q-en>.
- Melo, O. et al. (2014), “Do Sanitary, Phytosanitary, and Quality-related Standards Affect International Trade? Evidence from Chilean Fruit Exports”, *World Development*, 54, 350:359.
- Moenius, J. (2004), “Information versus Product Adaptation: The Role of Standards in Trade”, Northwestern University, Kellogg School of Management, *International Business and Markets Research Center Working Paper*.
- OECD (2017), “Producer and Consumer Support Estimates”, *OECD Agriculture statistics* (database), <http://dx.doi.org/10.1787/agr-pcse-data-en>.
- OECD (2016a), *OECD Economic Outlook*, Volume 2016 Issue 2, OECD Publishing, Paris, [http://dx.doi.org/10.1787/eco\\_outlook-v2016-2-en](http://dx.doi.org/10.1787/eco_outlook-v2016-2-en) (last updated 17 December 2016).
- OECD (2016b), *Meeting of the OECD Committee for Agriculture at Ministerial Level 7-8 April 2016 – Declaration on Better Policies to Achieve a Productive, Sustainable and Resilient Global Food System*, available at [www.oecd.org/agriculture/ministerial/statements/](http://www.oecd.org/agriculture/ministerial/statements/).
- OECD (2016c), *Alternative Futures for Global Food and Agriculture*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264247826-en>.

- OECD (2011), *Managing Risk in Agriculture: Policy Assessment and Design*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264116146-en>.
- OECD (2003), *Farm Household Income: Issues and Policy Responses*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264099678-en>.
- OECD (2001), *Market Effects of Crop Support Measures*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264195011-en>.
- OECD (1988), *Agricultural Policies, Markets and Trade: Monitoring and Outlook*, OECD Publishing, Paris.
- OECD (1987), *National Policies and Agricultural Trade*, OECD, Paris.
- Otsuki, T., J.S. Wilson and M. Sewadeh (2001), "Saving two in a billion: quantifying the trade effect of European food safety standards on African exports", *Food Policy* 26(5): 495-514.
- Reyes, J.-D. (2011), "International Harmonization of Product Standards and Firm Heterogeneity in International Trade", *Policy Research Working Paper 5677*, The World Bank, Washington, DC.
- Schlueter, S.W., C. Wieck and T. Heckeley (2009), "Regulatory Policies in Meat Trade: Is there Evidence for Least Trade Distorting Sanitary Regulations?", *American Journal of Agricultural Economics* 91(5): 1484-1490.
- van Tongeren, F. et al. (2010), "Case Studies of Costs and Benefits of Non-Tariff Measures: Cheese, Shrimp and Flowers", *OECD Food, Agriculture and Fisheries Papers*, No. 28, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5kmbt57jjhw1-en>.
- van Tongeren, F., J. Beghin and S. Marette (2009), "A Cost-Benefit Framework for the Assessment of Non-Tariff Measures in Agro-Food Trade", *OECD Food, Agriculture and Fisheries Papers*, No. 21, OECD Publishing, Paris, <http://dx.doi.org/10.1787/220613725148>.
- von Lampe, M., K. Deconinck and V. Bastien (2016), "Trade-Related International Regulatory Co-operation: A Theoretical Framework", *OECD Trade Policy Papers*, No. 195, OECD Publishing, Paris, <http://dx.doi.org/10.1787/3fbf60b1-en>.
- Wei, G., H. Jikun and Y. Jun (2012), "The impacts of food safety standards on China's tea exports", *China Economic Review*, 23(2), 253:264.
- Wilson, J.S. and T. Otsuki (2004), "To spray or not to spray: pesticides, banana exports, and food safety", *Food Policy*, Vol. 29(2), pp. 131-146, April.
- World Bank (2017), *Commodity Markets Outlook Q1*, The World Bank, Washington, DC, [www.worldbank.org/en/research/commodity-markets](http://www.worldbank.org/en/research/commodity-markets).
- Xiong, B. and J.C. Beghin (2010), *Aflatoxin redux: Does European aflatoxin regulation hurt groundnut exporters from Africa?*, Annual meeting, Agricultural and Applied Economics Association, 25-27.





**From:**  
**Agricultural Policy Monitoring and Evaluation 2017**

**Access the complete publication at:**  
[https://doi.org/10.1787/agr\\_pol-2017-en](https://doi.org/10.1787/agr_pol-2017-en)

**Please cite this chapter as:**

OECD (2017), "Developments in agricultural policy and support", in *Agricultural Policy Monitoring and Evaluation 2017*, OECD Publishing, Paris.

DOI: [https://doi.org/10.1787/agr\\_pol-2017-4-en](https://doi.org/10.1787/agr_pol-2017-4-en)

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org). Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at [info@copyright.com](mailto:info@copyright.com) or the Centre français d'exploitation du droit de copie (CFC) at [contact@cfcopies.com](mailto:contact@cfcopies.com).