

Innovation for Sustainable Productivity Growth

Agricultural Policy Monitoring and Evaluation 2024

6 November 2024

Key messages

- Total support to agriculture across the 54 countries covered by the latest OECD Agricultural Policy Monitoring and Evaluation report averaged USD 842 billion per year during 2021-23. Higher world commodity prices have brought down Market Price Support (MPS), the dominant form of support to producers, by 8% between 2021 and 2023 and budgetary support is down by 10% over that same period.
- General support to the sector, public investments that underpin its health and performance, made up only 12.6% of total support, down from 16% two decades earlier. Payments with specific requirements for sustainable farming practices or for environmental public goods makes up 5% of producer support. Increasing the share of producer support that promotes innovation and environmental sustainability will make it more effective at delivering public goods and sustainable productivity growth.
- Total factor productivity grew only by 0.8% per year in 2011-21, down from 1.4% in the previous decade. At the same time the environmental performance of the sector has been mixed with greenhouse gas emissions increasing and biodiversity indicators declining. Sustainable productivity growth will need to accelerate if global food security objectives are to be met whilst reducing the environmental footprint of the agricultural sector.
- Governments can promote sustainable productivity growth by increasing the share of producer support that is linked to environmentally sustainable production practices and make sustainable management and use of natural resources a core part of agricultural policy. They can also reduce the negative environmental impact from agricultural support by identifying and addressing environmentally harmful measures and reorienting agricultural support towards environmentally beneficial measures and key general services.

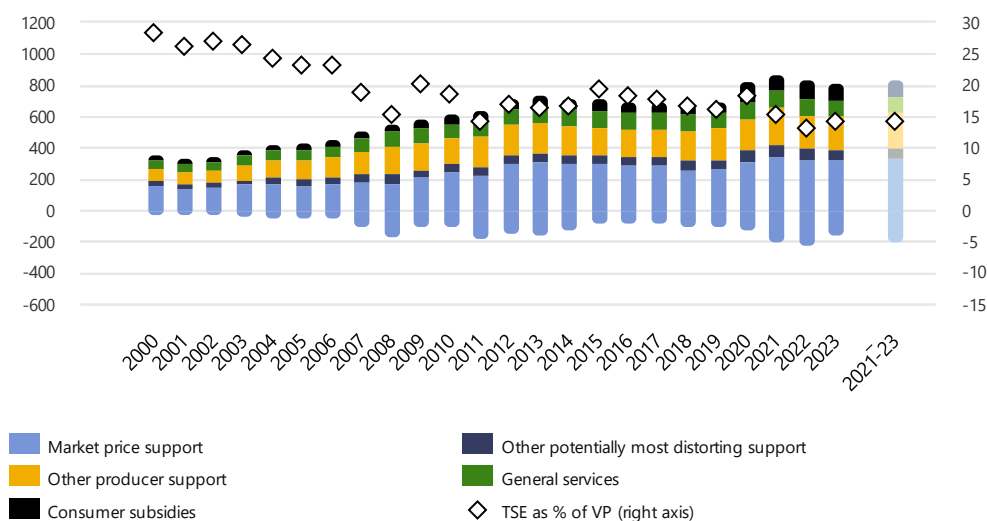
What's the issue?

Total support to the agricultural sector across the 54 countries covered by this report averaged USD 842 billion per year during 2021-23. Many of the countries covered by the OECD Agricultural Policy Monitoring and Evaluation report provide support to their sectors, using policies that include market price support (tariffs and other border measures, MPS) that changes the price farmers receive for their products, or via various forms of budgetary transfers, such as output or input subsidies, payments for environmental services, or general services such as infrastructure development.

Transfers to the sector have declined in 2022 and 2023 relative to their peak in 2021 but remain significantly above those just before the COVID-19 pandemic. Increased output and continued high prices have boosted the value of production of the sector, helping to reduce the demand for support. Higher world commodity prices have brought down MPS by USD 28 billion (or 8%) between 2021 and 2023 and budgetary support is down by USD 30 billion (or 10%) over that same period.

Figure 1. Nominal support has grown, but support as a share of farm income is declining

Breakdown of agricultural support, 2000 to 2023, USD billion (left axis) and % of the production value (right axis)



Note: "Negative market price support" comes from implicit taxation of producers through lower prices, "Other potentially most distorting support" refers to budgetary support based on output payments and on the unconstrained use of variable inputs. "Other support" contains all other PSE categories, which are considered less distorting—for example, payments based on area, based on historical entitlements or for non-commodity outputs. "General services" refers to the General services support estimate, "Consumer support" is transfers to consumers from taxpayers. "TSE as % of VP" refers to the total support estimate relative to the value of production.

Source: Based on OECD (2024), "Producer and Consumer Support Estimates", OECD Agricultural policy monitoring (database), <https://data-explorer.oecd.org/>.

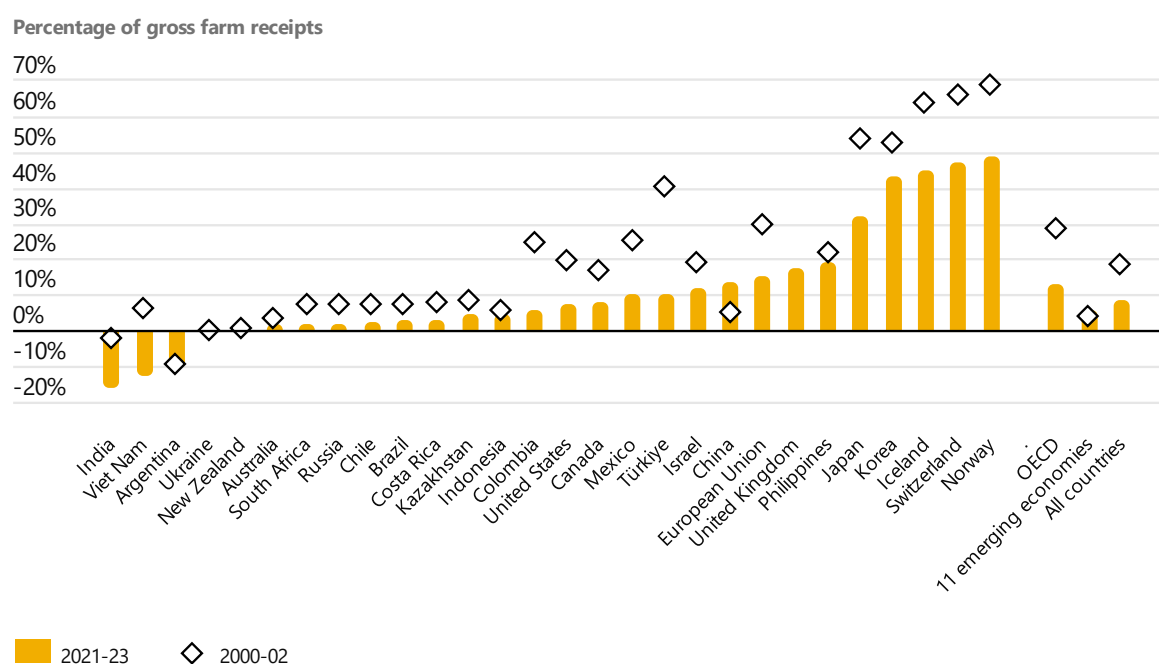
A large share of support is still delivered in forms considered potentially most distorting of production and trade. Most support (USD 629 billion on average between 2021-23) is aimed at individual producers, with over half of the total (USD 334 billion) arising from MPS policies that lift domestic prices above world prices. MPS, output support and support based on variable input use without constraints are considered potentially the most distorting of markets.

Most support does not come with environmental or other requirements attached. Only about 25% of farm support in the countries covered in this report was delivered subject to constraints, with the majority of these being mandatory constraints such as complying with regulations (20% of support). Voluntary environmental constraints that go beyond legal minimums apply to 5% of all transfers to producers, and other constraints accounting for less than 1%.

Some countries provide support levels well above the average, while others implicitly tax farmers. Producer support as a share of gross farm receipts (%PSE) averaged 14% in OECD countries and 6.5% in emerging economies between 2021 and 2023. The highest levels of support as a share of gross farm receipts are all found in the OECD area (Figure 2). Norway, Iceland, Switzerland, Korea, and Japan all offer support greater than 30% of gross farm receipts (GFR). India, Viet Nam and Argentina have net negative support due to implicit taxation of producers via policies that keep commodity prices low relative to world prices. In most countries, the level of support has decreased as a share of GFR over the last 20 years. Only the People's Republic of China (hereafter "China") has significantly increased support as a share of GFR, from 5% in 2000-02 to 14% in 2021-23.

Figure 2. Variation in support across countries ranges from net negative to net positive

Producer Support Estimate (PSE) by country, 2000-02 and 2021-23



Note: Countries are ranked according to the 2021-23 levels.

Source: OECD (2024), *Agricultural Policy Monitoring and Evaluation 2024: Innovation for Sustainable Productivity Growth*, OECD Publishing, Paris, <https://doi.org/10.1787/74da57ed-en>.

Why is this important?

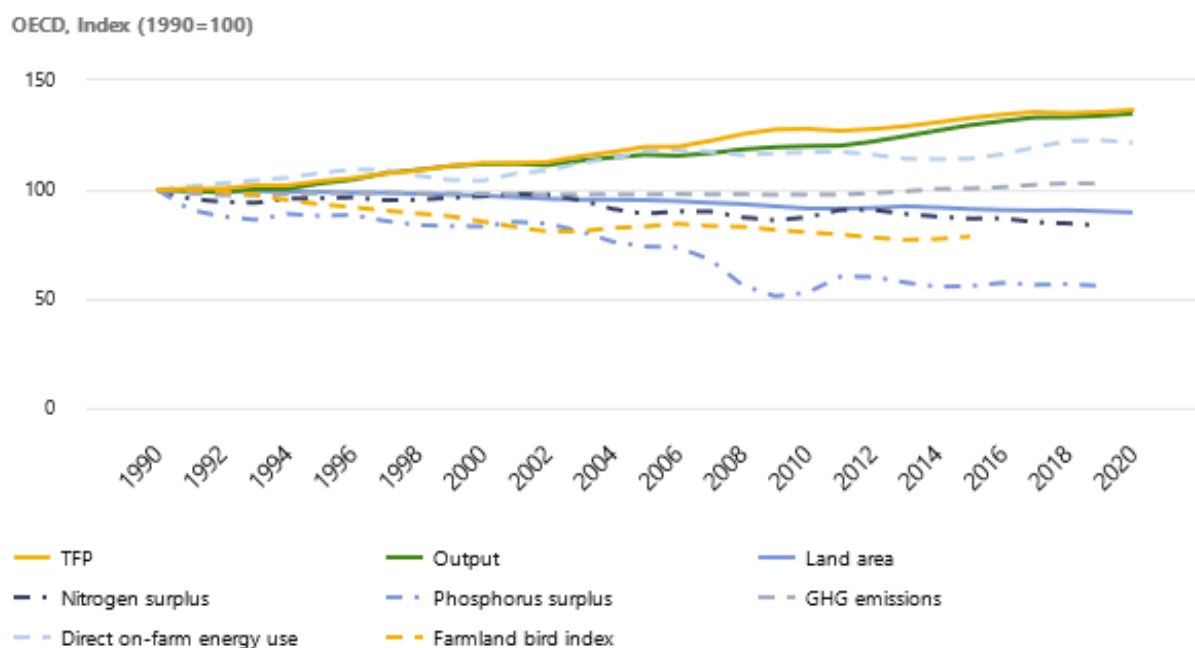
Farmers are concerned about future prospects. Prices and costs have been affected by multiple disruptions to the global trading system, and climate change adaptation and mitigation are becoming more urgent. Agricultural policy is a powerful tool to drive change in the sector while ensuring objectives like food security, rural development, and environmental protection are met. Monitoring and evaluation help to identify opportunities for improvement by showing where and how policy effort is being directed.

While average agricultural productivity has grown slowly, agri-environmental indicators in OECD countries show only modest improvements and, in some cases, have gone backwards since 1990. Agricultural production in the OECD region shows modest output growth, slowing productivity gains and mixed progress on the environment. Biodiversity, as measured by the farmland birds index, has declined

by about 20% and direct farm energy use has increased (Figure 3). GHG emissions are up slightly, but nitrogen and phosphorus balances have improved (although are not at sustainable levels in many places).

Figure 3. Slowing productivity growth and mixed progress on the environment

Relative change in agricultural production, total factor productivity (TFP) and main agri-environmental indicators, 1990 to 2020



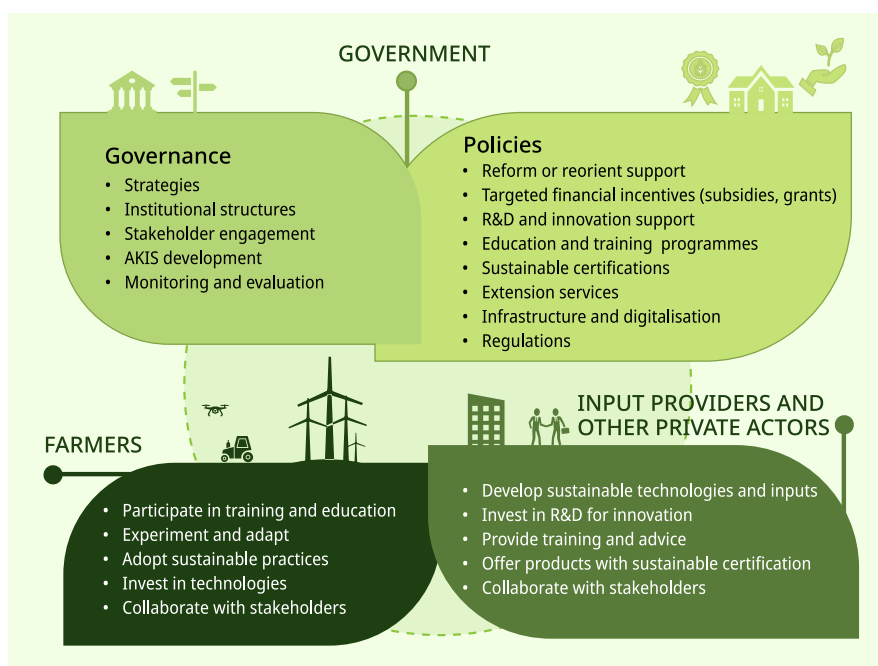
Note: Farmland bird index is shown until 2015, and nitrogen and phosphorus surpluses until 2019, due to missing data for some countries after that date. For GHG emissions, data for Colombia and Costa Rica are missing in 2019 and extrapolations are used for these countries to derive the OECD trend. All indicators are averaged over three years to smooth changes.

Source: OECD (2024), *Agricultural Policy Monitoring and Evaluation 2024: Innovation for Sustainable Productivity Growth*, OECD Publishing, Paris, <https://doi.org/10.1787/74da57ed-en>.

Promoting sustainable productivity growth helps producers, consumers and the environment.

Productivity growth has been a major driver behind the substantial increase in agricultural production in the past decades, contributing to feed the growing world population and to a reduction of GHG emissions intensity. However, productivity growth has slowed or stalled in many places. For many countries, accelerating the pace of innovation is seen as a potent tool to restart the engine of productivity growth. There are many paths towards achieving sustainable productivity growth, and the evidence shows a wide range of actions taken by governments, farmers and others (Figure 4).

Figure 4. What governments, farmers and others can do for sustainable productivity growth



Note: The figure is a simplification and provides a non-exhaustive overview of possible actions for agricultural sustainable productivity growth. AKIS: agricultural knowledge and innovation system; R&D: research and development.

Source: OECD (2024), *Agricultural Policy Monitoring and Evaluation 2024: Innovation for Sustainable Productivity Growth*, OECD Publishing, Paris, <https://doi.org/10.1787/74da57ed-en>.

What can policy makers do?

- Phase out the potentially most distorting forms of support and measures that reduce the capacity of the international trading system to fulfil its role in balancing food supplies between surplus and deficit regions.
- Set clear objectives for sustainable productivity growth strategies and invest in the capacity to measure results and adjust policies to ensure that sustainability outcomes are achieved. OECD's work on the measurement of total factor productivity (TFP) and its agri-environmental indicators (AEIs) are possible avenues for measuring sustainable productivity growth in the future.
- Reduce the negative environmental impact from agricultural support by identifying and addressing environmentally harmful measures and reorienting agricultural support towards environmentally beneficial measures and key general services. This would help reverse the trend of declining investments in agricultural knowledge and innovation systems, biosecurity services and key physical and digital infrastructure within overall expenditures for the sector.
- Increase the share of producer support that is linked to environmentally sustainable production practices and make sustainable management and use of natural resources a core part of agricultural policy. Use results-based policies and continuously monitor, measure and evaluate them to improve their effectiveness.
- Better target innovation systems towards the combined objective of improved productivity and improved environmental performance to reverse downward trends observed in several OECD agri-environmental indicators, for example by setting clear environmental requirements for farmers that the innovation system can help reach.

Explore further

OECD (2024), *Agricultural Policy Monitoring and Evaluation 2024: Innovation for Sustainable Productivity Growth*, OECD Publishing, Paris, <https://doi.org/10.1787/74da57ed-en>.

[OECD work on Agricultural Productivity and Innovation](#)

[OECD work on Agriculture and Sustainability](#)

Contact

Martin VON LAMPE (✉ martin.vonlampe@oecd.org)

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 the Member countries of the OECD.

This document, as well as any data and 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.

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.

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.