

The role of agricultural trade in delivering sustainable food systems

Ken Ash

Director of the Trade and Agriculture Directorate
Organisation for Economic Co-operation and Development (OECD)



Agricultural trade plays an important role in the sustainability of global and regional food systems. Trade between countries allows food to shift from surplus to deficit areas. It helps to increase the variety of products on offer. Without trade, the pressure on local and national food systems to provide food security for citizens would be much greater and carry with it significant burdens on natural resources and on government budgets.

Since 2000 agricultural production and trade patterns have continued to shift and world price trends have changed significantly. Some countries have maintained the reform path established by the 1994 Uruguay Round Agreement on Agriculture (AoA); others have taken a different route. These market and policy developments, and challenges related to climate change, increasing populations, and per capita income growth will place additional pressure on food systems. Further opening agricultural markets and aligning domestic policies to this new environment can help foster innovation, productivity growth, and long term sustainability of the global food system.

Jared Greenville

Senior Agriculture Policy Analyst,
Trade and Agriculture Directorate, OECD



A shift in the relative importance of agricultural production centres

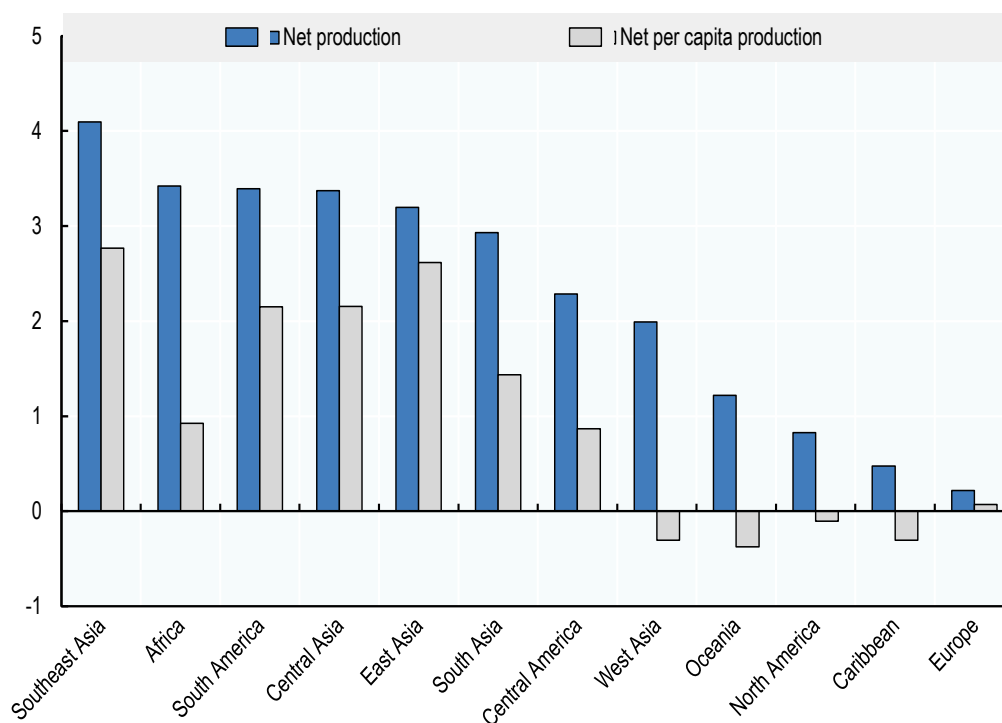
During the 2000s, global agricultural production growth was strong. Annual compound growth rates for the past decade outperformed those seen during the 1990s, returning to previous decadal growth rates of around 2.5 per cent per annum. Of particular note, the 2000s saw the fastest *per capita* agricultural production growth rates — close to twice those seen in previous decades. During this period, agricultural production growth outstripped population growth at a faster pace than had occurred over the previous 40 years.

But production growth was not uniform in agricultural producing regions across the globe. Significant differences arose between developed agricultural producing regions and emerging production centres. The 2000s saw continued strong production growth in South America and South-Eastern Asia, continuing trends from the 1990s. Other regions in Asia (excluding Western Asia) also experienced strong growth. In per capita terms, both South American and South-Eastern Asia also saw an acceleration in agricultural production volumes compared with past decadal growth rates. For Africa, while overall production growth was strong, in per capita terms growth was significantly lower than in other developing regions. Production growth in Europe and North America was significantly lower, and fell slightly in per capita terms in North America.

This paper draws on material from OECD (2015), *Issues in Agricultural Trade Policy: Proceedings of the 2014 OECD Global Forum on Agriculture*, OECD Publishing, Paris
<http://dx.doi.org/10.1787/9789264233911-en>.



Figure 1.
Net agricultural production
Period compound annual growth rates (per cent) *Regional growth 2000-12*



Net production refers to total production less cereal use for livestock feed
Source: OECD estimates based on FAOSTAT (<http://faostat3.fao.org/home/E>).

World trading patterns have changed

Over the longer term, the real value of agricultural and food products traded internationally has grown strongly. More countries are becoming involved in agricultural trade and a number of countries are trading more. Since the mid-1990s, growth in agro-food trade has averaged around 5 per cent per annum.¹ However, since the start of the 2000s growth rates in agro-food trade have been significantly higher – around 7% compared with 2% per annum in the period 1994-2000.

Another major development in world agricultural markets has been the increased importance of developing countries, in particular the major emerging economies.² Between 2000 and 2013, their share of world agricultural exports increased from 9.9 to 17.4 per cent, while their share of world agricultural imports increased from 6.5 to 15.6 per cent. Most of this increase represents increased trade with other emerging economies. For example, around 24 per cent of Brazil's total agricultural exports are to China. The OECD-FAO Outlook (2015) suggests that these trends will continue over the next ten years. At a regional level, the Americas will strengthen their position as the dominant export region, both in value and volume terms, while Asia and Africa will increase their net imports in order to meet growing demand.

¹ Estimates represent compound annual growth rates in the real value of reported agricultural product imports and exports respectively, based on Comtrade data for the period between 1994 and 2013.

² The major emerging economies referred to are Brazil, China, India, Indonesia, Russia, and South Africa.

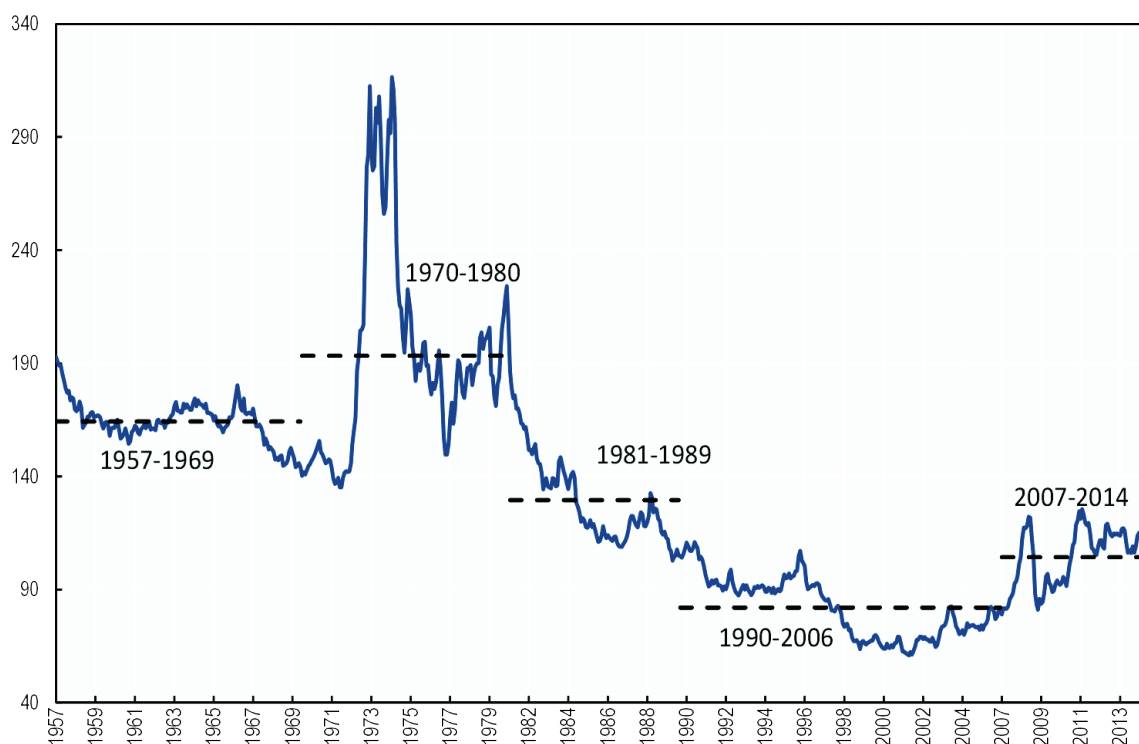
A reversal in past price trends

The sustained period of structurally declining food prices came to an end in the early-2000s, and was followed by an increase in prices and a series of food price spikes from 2007/08 to 2012 (figure 2). Since then prices have stabilised considerably, albeit at higher levels than before 2007.

Recent food price spikes were driven by a confluence of mutually re-enforcing longer term structural changes, short term market shocks, and policy responses (OECD, 2008; Piesse and Thirtle, 2009; Naylor and Falcon, 2010; Headey, 2011). On top of underlying structural changes to world agricultural markets from rising levels of food and feed demand, falling stock-to-use ratios and increasing production being channelled to biofuels production, world markets were hit by a number of short term shocks. Droughts in key grain producing regions and other weather effects, exchange rate movements, along with hoarding and panic buying by private agents helped spur already rising prices. On top of this, government policy interventions through trade restrictions, biofuels mandates, and even 'panic' purchases by some governments contributed to these price spikes.

Over the medium term, real prices for most agricultural products are projected to decline from 2014 levels (OECD-FAO, 2015). Prices for cereals are expected to decline modestly in real terms over the period from 2015 to 2024. Meat prices on the other hand are expected to see more significant real price declines over the projected period. Nevertheless, the projections suggest structurally higher prices than those seen between 1990 and 2006.

Figure 2.
Real food prices from 1957 to 2014



Nominal food prices were deflated by the US deflator. To convert to real prices, the average annual US GDP deflator was applied to each monthly observation.

The horizontal bars depict average price levels for selected periods.

Source: OECD calculations based on IMF IFS database
(<http://data.imf.org/?sk=5DABAFF2-C5AD-4D27-A175-1253419C02D1>).

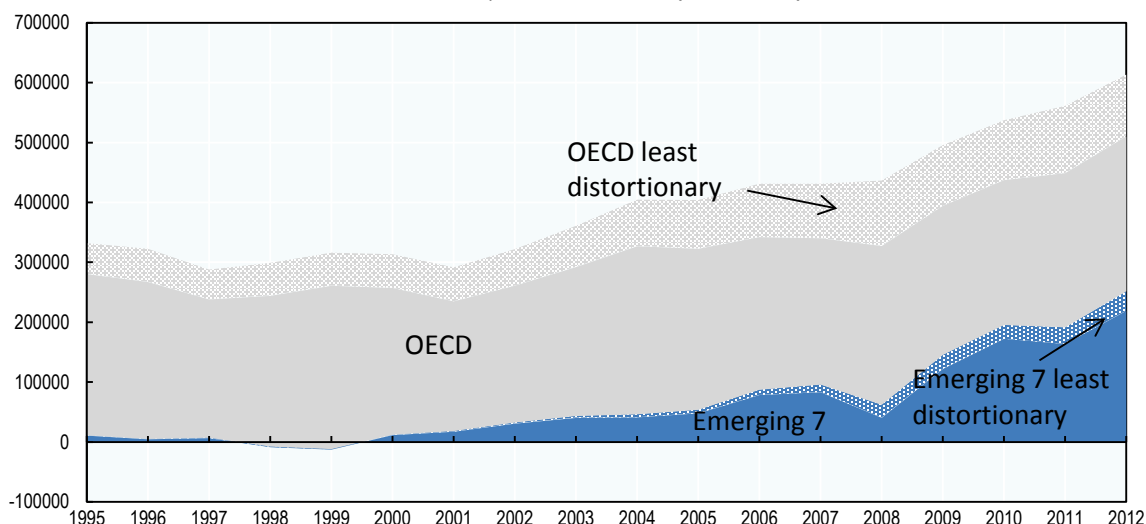
The policy landscape has evolved

Alongside developments in domestic and international agricultural markets, the extent and nature of government involvement in the sector has also changed. Market access, measured as average applied tariffs, has improved across the board including within the Mediterranean group of countries which have lowered average most-favoured nation agro-food tariffs since 2000 from around 36% to 25% in 2012.

Despite this, globally there increasingly appears to be a convergence across developed and developing countries in the use of policies that directly support individual farmers, rather than the sector as a whole. Since 1995, income transfers to individual farmers by emerging and developing countries have been increasing, driven in part by rising levels of development and incomes within these countries, and for some, a push towards policies aimed at achieving self-sufficiency in particular agricultural products. In 1995, the 7 emerging economies for which the OECD collects information on agricultural policies accounted for about 4 per cent of the total measured producer support estimates (PSE). By 2012, these same 7 countries accounted for over 45 per cent of the total (figure 3). This rising share is made up of stable nominal expenditures by OECD countries and growing expenditures in emerging countries.

The composition of the PSE within some emerging countries shows that the increase in PSE is mostly due to increases in the use of policies that are most distortionary in terms of their impact on trade — those of market price support, output based payments and input subsidies. In contrast, for most OECD countries, the share of the PSE made up of most distortionary policies has fallen since 2000, with an increase in the use of decoupled payments.

Figure 3.
Trends in PSE: OECD and emerging economies
Nominal PSE spend 1995 to 2012 (USD billions)



Source: OECD Stat (<http://stats.oecd.org>).

A contributing factor to this increase in producer support policies was the 2007/08 food price crisis. During the crisis, a number of governments imposed export restrictions and varied import duties in an attempt to insulate domestic consumers from rapidly rising international prices. For larger exporting countries, these interventions helped moderate the price increases faced by domestic consumers.

However, the use of defensive trade policy measures came at a cost. During the period of rapidly rising food prices, Anderson, Ivanic and Martin (2013) found that such policies exaggerated overall price movements. Similarly, Headey (2011) suggests that trade policy related decisions were a major driver of the observed price spikes. For rice, wheat, maize and soybeans, trade actions by countries related to export restrictions, buying to increase stockholdings and removal of import restrictions/import subsidies all contributed to the price spikes.

The effects of these policies were particularly felt by net food importing countries that already had low trade barriers. The exaggerated price movements created by the application of insulation policies in other countries created worse outcomes than what would have otherwise occurred. From a global perspective, the various individual country interventions targeted at improving food security lessened it. Anderson, Ivanic and Martin (2013) found that the trade based food price insulation policies implemented in 2007-08 could have actually increased the number of people living in poverty around the world.

In the period since, many countries have maintained a more defensive stance to international markets and increased intervention in agricultural markets. These stances are often pursued with reference to a desire to improve food security. The policy levers employed have varied, and many employ a raft of measures ranging from market price support provided by trade barriers, input subsidies and for some, through the use of public stockholding programs. However, not all policies applied have been distortionary, with many countries making significant investments in agricultural infrastructure, agriculture education and training, and research and development. There also remain pockets of very high tariff barriers for several agricultural commodities. In many cases the maximum duty for any agricultural tariff line is significantly above the average tariff level, often as high as several hundred percent. Further, potential tariff levels remain high. Many countries, developed and developing, have bound tariff levels that significantly exceed their applied levels.

In other policy areas, there have been notable improvements. Actual use of export subsidies have declined in recent years, in part as a result of high prices on international markets, but in part also due to policy reforms. Of the 18 WTO Members (counting all EU member countries as one) that had agreed non-zero export subsidy commitments in the Uruguay Round, ten countries have not used export subsidies in any year since the beginning of the Doha Round in 2001. More broadly, the WTO Secretariat has suggested that since the launch of the Doha Round there have been positive developments in other elements of the export competition pillar as well (WTO, 2014).

Further reforms are important

Growing trade volumes, the diversity of products that trade is able to deliver, and the expansion of global value chains have increased the importance of agricultural trade in delivering food and incomes to many domestic populations. Looking ahead, the agriculture and food sector will be expected to respond to rising global demand for food while using natural resources more efficiently and simultaneously coping with the uncertain impacts of climate change.

For policy makers, this means investing more in food and agriculture innovation, research & development, technology transfer, education, and extension services to enable higher productivity growth throughout the food supply chain. It means ensuring that the physical and institutional infrastructure is in place to enable farmers to use available land, water and biodiversity resources more efficiently, and to minimize losses and waste at all levels where they occur. It means harnessing the potential of trade to mitigate shocks and reduce volatility and to ensure available, accessible and stable food supplies for the most vulnerable populations.

Finally, it means rolling back the policy mechanisms that impede the structural adjustments needed for a resilient global food and agriculture system, with sometimes unintended negative impacts on sustainability and food security outcomes. Achieving such policy reforms is perhaps less difficult today than many governments imagine. As noted, average applied tariffs have already fallen in most developed and emerging countries, increasing the binding tariff overhang in many. Locking in these changes should be feasible, and would help to prevent backsliding and bring much needed predictability to international trade in food and agriculture products. This will help avoid a shift back to policies which have been consistently shown to be an ineffective way of fostering agricultural development, and to have almost exclusively negative impacts on food security, especially among the most vulnerable populations.

With prices of agricultural and food products relatively high in historic terms and demand likely to continue strong, most countries have stopped using export subsidies. However, as with market access, the possibility to use export subsidies remains in some cases progress could be made by locking in the status quo. On other dimensions of export competition, food aid has now largely been monetised and is no longer a major issue for export competition. Most of the state trading export monopolies in OECD countries have been abolished or reformed, although state trading companies charged with implementing complex market interventions have become prominent actors in some emerging countries in recent years. On the other side of the ledger, export restrictions of various kinds have become more prominent, especially during the 2007/08 food price crisis. While there may be no immediate plans to negotiate stricter multilateral disciplines on export restrictions, their ineffectiveness is well understood, as are the risks of disruption in international markets with negative consequences for the food security of importing nations.

On domestic support countries could begin to unravel provisions that are most distortionary to markets with a view to releasing resources for their longer term positive policy agenda. That agenda would favour, in particular, new investments in innovation for sustainable productivity growth. The current market environment should make this easier to do today than when WTO negotiations first started. Many countries have already begun to decouple support from production decisions, and new measures are less disruptive to markets and trade.

Others are exploring how to go to the next stage, using scarce fiscal resources to strengthen the productivity, competitiveness and profitability of the sector. Another group of countries, some of them major emerging economic powers, are already experiencing the drawbacks of market interventions which have resulted in huge stockholdings, high fiscal costs, a loss in the responsiveness of production to market demands, yet with only modest impacts on farmers' standards of living or improvements in food security. It is becoming clear that these policies will not be able to maintain farm incomes relative to rapidly growing incomes in other parts of the economy. These pressures require a different set of policies aimed at assisting those who remain in the sector to grow and become competitive producers while providing alternative economic opportunities for those who wish exit the sector.

Historically, countries have moved from taxing the farm sector, to providing market disrupting price support and border protection, to a positive reform agenda that aims to help the sector be more productive, competitive and sustainable over time. There are many country cases that can be explored and experiences that can be adapted to the situation of countries at various stages of development. Today, there is a compelling economic case for a re-orientation of policy away from distorting market and trade interventions to positive measures in favour of innovation and sustainable productivity growth. Doing so would bring significant and widespread benefits.

Conclusion

For the Mediterranean region, the Post 2015 development agenda focuses on issues related to food, water, land and climate insecurity, → key challenges that agriculture and agricultural policy makers need to prepare for and adapt to. Past experience in a wide range of countries suggests that for policies makers in the Mediterranean region as well it is important that agricultural policy remains forward looking, targeting sustainable productivity growth that can improve farm competitiveness and profitability while simultaneously addressing natural resource constraints.

Mediterranean countries as a group have taken steps to reduce barriers to trade in agriculture by lowering most-favoured nation tariffs levels since 2000, but levels remain high suggesting that more can be done. Further efforts in the development of policies to drive productivity growth, sustainably, should be complimented by international commitments to more open trading in agricultural markets. For consumers, such a policy stance would also provide the best policy footing.

Bibliography / More information

- Anderson, K. and E. Valenzuela (2013), *Estimates of Distortions to Agricultural Incentives, 1955-2011* (updated June 2013), World Bank, Washington, DC. Available at <http://www.worldbank.org/distortions>
- Anderson, K., Ivanic, M. and Martin, W. (2014), "Food Price Spikes, Price Isolation, and Poverty", Policy Research Working Paper, no. 7011, World Bank Group.
- Headey, D. (2011), "Rethinking the Global Food Crisis: The Role of Trade Shocks", *Food Policy*, vol. 36, pp. 136-46.
- Naylor, R. L. and W. P. Falcon (2010), "Food Security in an Era of Economic Volatility", *Population and Development Review*, vol. 35(4), pp. 693-723.
- OECD (2008), *Rising Food Prices: Causes and Consequences*, OECD Publishing.
- OECD (2015), *Issues in Agricultural Trade Policy: Proceedings of the 2014 OECD Global Forum on Agriculture*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264233911-en>.
- OECD/Food and Agriculture Organization of the United Nations (2015), *OECD-FAO Agricultural Outlook 2015-2024*, OECD Publishing, Paris, http://dx.doi.org/10.1787/agr_outlook-2015-en.
- Piesse, J. and C. Thirtle (2009), "Three Bubbles and a Panic: And Explanatory Review of Recent Food Commodity Price Events", *Food Policy*, vol. 34, pp. 119-29.
- WTO (2013), *Tariff Quota Administration Methods and Fill Rates 2002-2011*, Background Paper by the Secretariat. Document TN/AG/S/26/Rev.1, 28 March 2013, Geneva.
- WTO (2014), *Annual Export Competition Review: Submission from the Cairns Group to the 74th Meeting of the Committee on Agriculture (COA) in June 2014*, Document G/AG/W/129, 2 June 2014, Geneva.

