



Rising Agricultural Prices: Causes, Consequences and Responses

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Introduction

World prices of wheat, coarse grains (in particular corn), rice and oilseed crops nearly doubled between 2005 and 2007 and continued to rise in early 2008. These prices, along with those of meat, sugar and dairy products, are likely to ease somewhat in the next 10 years, but are likely to stay well above the average of the past decade.

This price spike in agricultural commodities is due to a combination of factors, including droughts in key grain-producing regions, low stocks of cereals and oilseeds, increased use of feedstock to produce biofuels and rapidly rising oil prices. The fall in value of the US currency is also partly responsible, since the price for these commodities is typically quoted in US dollars. An unsettled global economy also appears to have contributed to a substantial increase in speculative interest in agricultural futures markets, helping to boost prices.

These high prices drive up the cost of food and will hit poor and hungry people hardest, particularly the urban poor in low-income countries. Food-importing developing countries overall will have to spend an even higher share of their limited income on food.

And this is not only a short-term problem. The OECD expects prices to come down again in future, but not to their past levels. On average over the coming decade, prices in real terms of cereals, rice and oilseeds are projected to be 10% to 35% higher than in the past decade.

Tight market conditions for essential agricultural commodities pose policy challenges for national governments as well as for international organisations. This *Policy Brief* looks at the causes of the current price spike, what it may mean for prices in the future, and how governments can craft policies to cope. ■

Why are food prices so high?

Recent price developments for some commodities are certainly unusual when viewed from the perspective of the past decade, but less so when seen in a longer historical context. Agricultural commodity markets are notoriously volatile and the current price spikes for wheat, coarse grains, rice and oilseeds are neither the only nor the most significant ones to occur in the last 40 years. It is also important to recall that prices for meat, poultry and sugar products have seen no or more modest increases recently.

Prices rise when supply does not keep up with demand. Between 2005 and 2007, unfavourable weather in major producing regions, pushed crop yields below long term average levels. World cereal output in 2007 was just 3% higher than in 2005, while oilseed output fell, although vegetable oil production rose by 7% due to rapid growth in palm oil output.

At the same time, demand for wheat, coarse grains and vegetable oil increased two percentage points more than output. More than half of the increase in use of both coarse grains and vegetable oil was due to higher use in the biofuels industry. The rest of the increase came from a rise in demand for cereals and vegetable oil for food and for cereal use for feeding livestock, primarily from countries outside the OECD area.

The production shortfall would in itself have been enough to send prices higher, although under 'normal' conditions stocks would have helped dampen the price rise. But stocks were already low in 2005 and they kept declining because of bad weather and low yields in major exporting countries. Supply shortfalls, low stocks, the continued increase in food and feed use, and the high growth in demand for biofuels all coincided to make the price increases exceptional. More recently, there has also been a significant increase in investments in agricultural derivative markets. It is likely that this activity has helped boost short term futures prices and is an additional factor in the price spike.

Some of the factors behind the price hikes are transitory while others may be more permanent. Making that distinction is an important ingredient in projecting market developments over the coming decade and in designing good policy to deal with any adverse consequences. ■

What factors will shape future agricultural prices?

The lower crop yields in key producing regions in recent years are likely to be temporary. Barring any underlying climate change or water constraints that could lead to permanent reductions in yield, higher output can be expected with a return to normal weather.

Macroeconomic conditions that favour economic growth, increases in purchasing power, and stronger demand for agricultural commodities are expected to continue, at least for many non-OECD economies. This is a permanent factor in future price determination, but not a new one: strong GDP growth in developing countries has been a feature of commodity markets for many years. Thus, this factor should slow the decline in real prices in the future, but not lift average prices to permanently higher levels.

Oil and energy prices are a critically important factor in increased production costs for agricultural commodities and food and ultimately in the market prices for these goods. If, as is widely believed, the recent rise in oil prices is permanent, this will lift future agricultural commodity prices to higher average levels in future.

Feedstock demand for biofuel production is expected to increase further, albeit at a slower rate than in recent years, and under current policy settings appears to represent a permanent factor in demand and price formation. While smaller than the increase in food and feed use, biofuel demand is the largest source of new demand in decades and a strong factor underpinning the upward shift in agricultural commodity prices.

Stocks of wheat, coarse grains and vegetable oil have fallen to low levels and are not expected to be fully replenished over the coming decade, implying that tight markets may be a permanent factor in the period to 2017. This should not lead to permanently higher prices, but provides the background for price volatility in the future.

The surge of investment in futures commodity markets from non-traditional sources may boost prices in the short term, but this may well be temporary since speculative funds can move rapidly in and out of commodity markets as profit opportunities dictate. Given the size of such funds, however, this may well be a new and permanent element in future price volatility.

Changing demand patterns may also increase future variability in world prices of agricultural commodities. First, industrial demand for grains and oilseeds and, in particular, demand for biofuels is generally considered less responsive to prices than traditional food and feed demand. Second, food demand becomes less responsive to price changes as incomes rise and the commodity share in the food bill falls. These factors too may lead to greater volatility in future world commodity prices. ■

What are the likely future trends?

The general outlook for agricultural commodity prices over the coming decade is for higher average prices than in the previous 10 years, but below recent peaks.

Looking ahead to 2017, the average level of wheat and coarse grain prices is expected to remain higher than in 2005, but well below levels in 2007-2008. World wheat and coarse grain areas are expected to increase somewhat and yields are expected to grow along historical trends. Oilseed prices are expected to remain strong, though slightly lower than 2007-2008 levels. Current high prices are expected to bring about a supply response that results in more land allocated to this sector and good yield growth. In addition, palm oil production is expected to increase by 40%. Rice production is expected to grow modestly with continued productivity growth offsetting a small decline in the area planted.

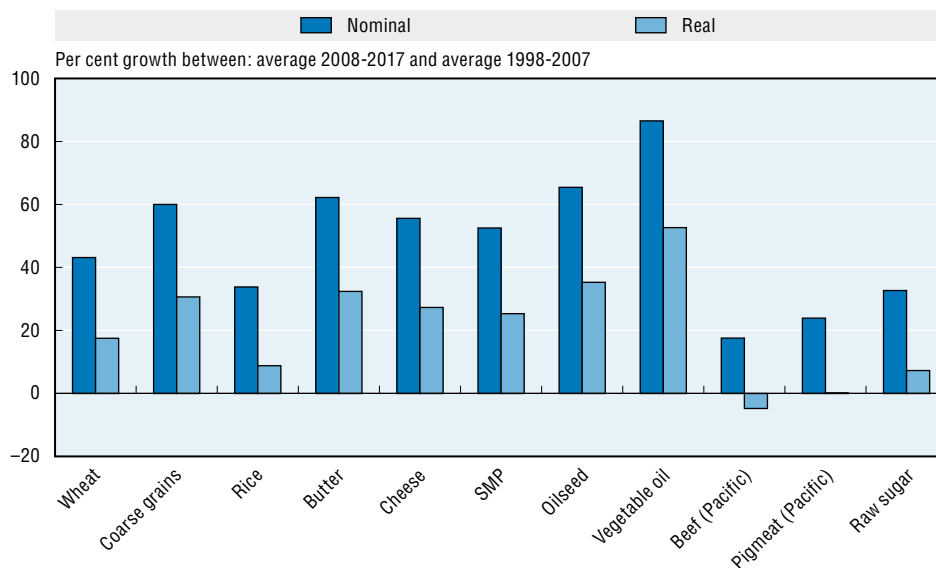
Demand for cereals for use as feed stocks in biofuel production is projected, under current policies, to almost double between 2007 and 2017, but the largest part of future growth in total use is explained by rising food and

feed demand, particularly in countries outside the OECD area that are experiencing strong economic growth and changing consumption patterns. Little rice is used for feed and almost none in biofuel production. Demand for rice, almost all for food use, is expected to increase by less than 1% per year and is dominated entirely by growth in developing countries. World population growth is expected to slow somewhat over the next 10 years to 1.1% from 1.2% in the previous decade, with most of the growth in the developing world.

Demand for biofuels derived from agricultural feedstock is expected to continue to rise, driven by high crude oil prices and continued public support, particularly in OECD countries. Biofuel use of vegetable oils is forecast to account for more than a third of the expected growth in vegetable oil use from 2005 to 2017, and other uses are also expected to grow substantially. Income growth drives much of this expansion in demand, with countries outside the OECD area increasing their consumption of vegetable oils by 50%. Demand for sugarcane for ethanol is also expected to surge, particularly in Brazil, with the share of the sugarcane crop being used for ethanol rising from 51% in 2005-2007 to 66% in 2017-2018. This is unlikely to put strain on sugar supply, however, since Brazil, the major world producer, expects to increase sugarcane production by more than 75% over the period.

Based on these developments, markets are expected remain relatively tight in the period to 2017, with prices down from current peaks but remaining higher on average than over the past decade, as shown in Figure 1. Nominal prices for cereals, rice and oilseeds are expected to be 35% to 60% higher than on average in the past ten years. Prices in real terms are projected to be 10% to 35% higher than in the past decade. Productivity gains and increasing competition in trade from countries outside the OECD area will eventually overtake stronger demand. As that happens, prices will resume their decline in real terms, though more gradually than in the past.

Figure 1.
PROJECTED PRICES BELOW RECENT PEAKS BUT ABOVE AVERAGE LEVELS OF THE PAST



World trade in all agricultural commodities is also expected to grow over the coming decade. The highest growth rates of between 40% and 50% are expected in vegetable oils, beef and pigmeat, while the lowest growth is projected for wheat, with total world imports in 2017 exceeding the average for 2005-2007 by about 15%. ■

What factors might change these projections?

The recent spikes in food commodity prices surprised most economic forecasters, reminding us that all projections are vulnerable to unexpected developments. The projections discussed here assume normal weather, unchanged policies, and stable economic performance. Looking at alternatives to these assumptions provides additional insights regarding the factors influencing future market conditions and prices.

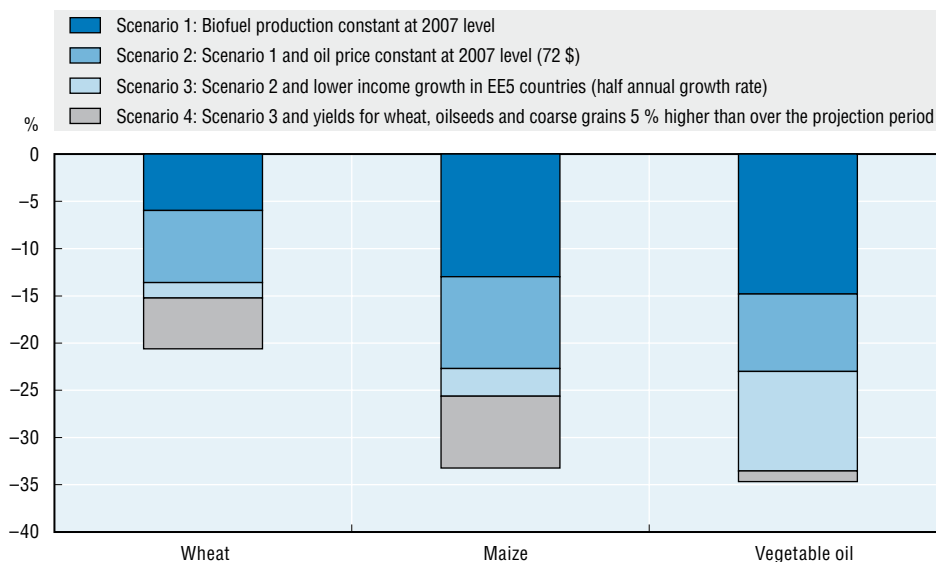
If biofuel production remained at 2007 levels and oil prices remained unchanged over the next decade, combined with slower than expected economic growth in Brazil, China, India, Indonesia and South Africa and higher than expected crop yields, for example, agricultural markets would be less tight and prices would be lower than currently forecast.

If all these factors are taken together, prices for wheat, coarse grains and vegetable oils in 2017 would be 20% to 35% lower than what is now projected. Such a combination is unlikely, but it does illustrate the relative significance of some of the factors that will determine future price levels. Of course, alternative scenarios that push prices back up could also be envisaged, such as a new shortfall in production in a major exporting country. ■

What are the impacts of high food prices?

The impact of high food prices on developing countries depends on the interplay of various factors. In general, commercial producers of these commodities will benefit directly from higher prices, as will in many cases the people they employ. Livestock producers, on the other hand, are squeezed

Figure 2.
SENSITIVITY OF PROJECTED WORLD PRICES TO CHANGES IN FOUR KEY ASSUMPTIONS
Percentage difference from baseline values, 2017



by both higher feed and energy costs and relatively flat product prices. For farm households producing mainly for their own consumption or for local markets insulated from price fluctuations on national and international markets, the impacts will be mitigated. But for the urban poor and the major food importing developing countries, the impacts will be strongly negative as an even higher share of their limited income will be required for food. Each 10% increase in the prices of all cereals (including rice) adds nearly USD 4.5 billion to the aggregate cereals import bill of those developing countries that are net importers of cereals.

The impact of high agricultural commodity prices on developed countries is relatively modest, overall. The agricultural commodity price component of final food product prices is relatively small (often 35% or less), as is the proportion of disposable income spent on food (10%-15% for most OECD countries). Of course these averages mask much more significant impacts on lower income consumers who spend a larger share of their expenditure on food. In addition, and to the extent that high prices persist and hence contribute to higher inflation, indirect economic impacts might also be important. ■

What can governments do?

In the short term, humanitarian aid is required. Before recent price increases, hundreds of millions of people were going hungry because they could not afford food. With higher prices, the numbers of people suffering from extreme hunger has increased even further – the UN Millennium Development Goal of halving the proportion of people suffering from hunger has become an even greater challenge.

In the medium term, there is a real need to improve the purchasing power of poor food buyers so they can acquire enough food even at the higher prices that are expected to prevail in the future. Fundamentally that requires fostering growth and development in poor countries. In some of the poorest countries, investment in agriculture may be the best way to cut poverty and stimulate economic activity. In others, there may equally be a need to diversify the structure of the economy. In many cases, investments in improving the overall environment in which agriculture operates may be most appropriate – improving basic governance systems, macroeconomic policy, infrastructure, technology, education, health, etc.

Policies that restrict trade have undesirable and often unintended impacts, especially in the medium and long term. Subsidies that distort markets are equally unhelpful. Export taxes and embargos may in the short term provide some relief to domestic consumers, but export restrictions contribute to global commodity market uncertainty and drive international market prices further up. On the import side, “protecting” domestic producers of agricultural commodities by providing high price support and border protection restricts growth opportunities for producers abroad and imposes a burden on domestic consumers.

Now, more than ever, it is important to counter growing calls for trade protectionism. More secure global food supplies will only come from

competitive producers around the world being provided the freedom to respond to current market opportunities. Continuing or introducing policies that create distortions and that undermine the appropriate market responses should be avoided. A swift and ambitious conclusion of the Doha Round of negotiations at the World Trade Organization (WTO) could make an important contribution to exploiting the potential of markets to balance global supply and demand.

It is also instructive to look closely at the causes of recent price increases. On the supply side, the link between production and yield shortfalls and climate change might be further explored. Investments in R&D, technology transfer and extension services, particularly in less developed economies, could do much to increase productivity and output. The use of genetic modification (GMOs) may also offer potential that could be further exploited. On the demand side, policies that encourage increased production and use of biofuels warrant a close review. Analysis suggests that the energy security, environmental, and economic objectives of biofuel support policies are unlikely to be delivered through production based on first generation agricultural commodity feed stocks. Alternative approaches, for example, that encourage improved energy efficiency, reduced energy demand and GHG emissions, provide for freer trade in biofuels, and accelerate introduction of “second generation” production technologies that do not rely upon current commodity feed stocks offer potentially greater benefits without the unintended impact on food prices.

The current hike in food prices is an issue of a truly global nature. It has complex causes and impacts, and requires a complex response at the international level. An objective, effective and coherent global response is needed to avoid making a difficult situation worse. The OECD will continue to monitor commodity market developments and government initiatives and report periodically on its findings. ■

**For further
information**

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For further reading

OECD (2008), **OECD-FAO Agricultural Outlook 2008-2017**, ISBN 978-92-64-04590-3, € 80, 230 pages.

OECD (2008), **Agricultural Policies in OECD Countries: At a Glance 2008**, ISBN 978-92-64-03213-2, € 24, 144 pages.

OECD (2008), **Biofuel Support Policies: An Economic Assessment**, ISBN 978-92-64-04922-2, € 30, 119 pages.

OECD (2007), **Agricultural Policies in Non-OECD Countries: Monitoring and Evaluation**, ISBN 978-92-64-03121-0, € 40, 196 pages.

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