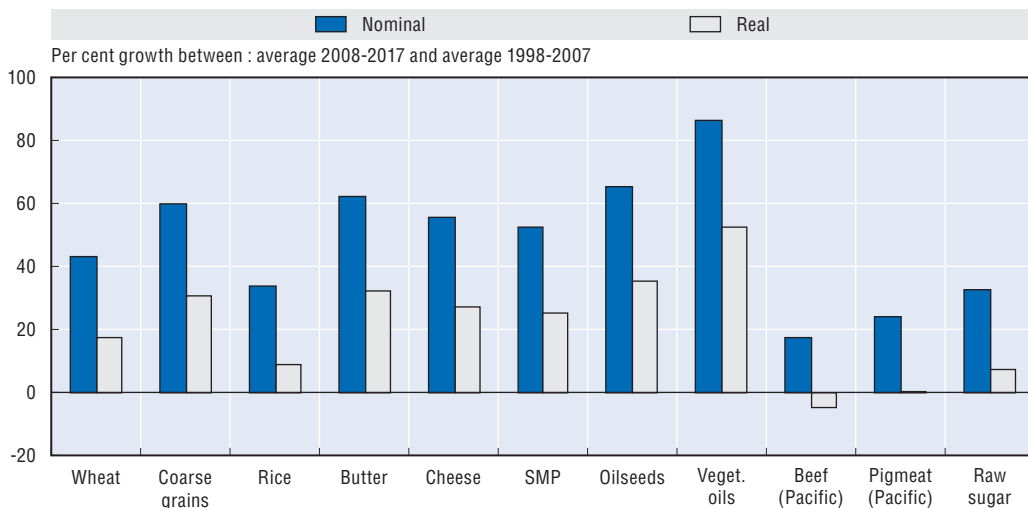


Chapter 1

Overview

This version of the *OECD-FAO Agricultural Outlook* is set against a background where world reference prices for most agricultural commodities covered in this report are at or above previous record levels, at least in nominal terms. While some of the reasons for these high prices are transitory, there is strong reason to believe that there are now also permanent factors underpinning prices that will work to keep them at higher average levels than in the past (Figure 1.1).

Figure 1.1. **World commodity prices at higher average levels**



Source: OECD and FAO Secretariats

The *Outlook* paints a picture of a further gradual shift in the epicentre of agricultural production, consumption and trade from OECD to developing countries. This happens against a backdrop of record high prices of almost all agricultural products at the beginning of the *Outlook*. The *Outlook* indicates that current price levels can be explained by both transitory and permanent factors. There is strong reason to suspect that the more permanent factors will result in a structural upward shift in real agricultural commodity prices. But from these sometimes substantially higher average levels, when compared to the past decade, real prices will again begin to decline, though at a more gradual rate than in the past.

The *Outlook* is set in a context of assumed sustained economic growth around the globe, high crude oil prices, contained inflation, constant real exchange rates and unchanged policies. Markets are assumed not to be influenced by “abnormal” weather conditions, and any possible impacts of climate change and water shortages are not considered. Deviations from these assumed conditions would lead to potentially much different market outcomes.

The principal underlying assumptions

Lower but sustained economic and population growth underpins demand

Economic activity at the beginning of the *Outlook* is slowing most notably in the US, the world's leading economy. The slowdown in the US and some other OECD economies is occurring despite continuing robust economic conditions in many other parts of the world. Within this context, growth prospects for OECD countries in the short and longer term are just above 2% (annual average). Robust activity levels in the main emerging economies are projected to remain a major driver of global economic expansion in the near term. In the medium and longer term a modest deceleration is projected. China and India will remain growth leaders among developing countries, with substantial market expansion and GDP growth anticipated for both countries as they become further integrated into the global economy and world trade.

Population dynamics are important determinants of the future global economic environment, directly affecting demand for agricultural commodities. Population growth over the next decade will decline relative to the last 10 years to an average of 1.1% annually to reach approximately 7.4 billion in 2017. The fastest population growth is expected in Africa (annual average above 2%), whereas in Europe, population is expected to essentially stabilise over the coming decade (Table 1.1).

Table 1.1. Some decline in population growth

Average annual growth over 10 year period, percentage

	Population growth	
	1998-2007	2008-2017
World	1.23	1.12
Africa	2.37	2.21
Latin America and Caribbean	1.28	1.14
North America	1.01	0.88
Europe	0.30	0.10
Asia and Pacific	1.27	1.11
Oceania developed	1.18	0.92

Note: Average annual growth is the least-squares growth rate.

Source: UN World Population Prospects (2006 Revision).

No major hike in inflation despite continued high oil prices

Despite recent hikes in food prices, sustained global growth and world trade expansion, general price levels in many countries have remained remarkably stable. This situation has reinforced expectations that inflation in OECD countries will remain low over the longer term. Measured by the Private Consumer Expenditure (PCDE) deflator, inflation will remain low in the coming decade. For OECD countries as a whole, inflation is assumed to be just above 2% per year. High consumer price inflation continues to plague some emerging and developing countries such as the Russian Federation and India with levels above 5% per annum. Inflation in Russia is, nevertheless, expected to fall to less than half the prevailing rate during 2005-07. A significant decline is also assumed for Argentina, with inflation at below 5% per year.

The world oil price assumption underlying this year's *Agricultural Outlook* is based on that published in the *OECD Economic Outlook* n° 82 (December 2007). It assumes prices to slowly increase over the outlook period from USD 90 per barrel in 2008 to USD 104 per barrel by 2017. This does not exclude the possibility of substantial variations around these

levels throughout the period or within any given year. However, future oil prices are a major uncertainty in the Outlook. Some analysts emphasise that high oil prices will slow demand, ultimately reducing the price of oil. Others argue that consumption, production and processing capacities are relatively inelastic in the short term, sustaining continued high, or even further increasing, prices. This year's *Agricultural Outlook* is based on the high-price scenario. Pressure on oil prices has been maintained thus far as geopolitical tensions combine with processing capacity constraints to keep global supply from the major oil producers below effective demand.

Conditions remain favourable for further growth in biofuel production

For the first time, this Outlook specifically includes projections for supply, demand, trade and prices of ethanol and biodiesel derived from agricultural feedstock. The main forces driving further growth in biofuel production are high crude oil prices and continued public support, in particular in OECD countries. However, the latest bioenergy policy changes in the EU and the US are not taken into consideration. Neither do the projections and the assessed impacts on commodity markets take account of the possibility of changes in production technologies. Such changes would modify the economics of biofuel production and affect the market and trade outcomes.

The US dollar is expected to strengthen against most currencies

Under an assumption of constant real exchange rates, inflation differentials *vis-à-vis* the United States are the primary determinant of projections for exchange rates over the Outlook period. This implies a strengthening of the US dollar against most currencies, even if currently there are signs of a further weakening of the dollar in the short term. Over the course of the Outlook period, the euro exchange rate is projected to remain stable. However, very low levels of inflation in Japan relative to the United States mean that the Yen is expected to appreciate further. The currencies of high growth/high inflation countries such as Brazil, India, Turkey and South Africa will depreciate most over the medium term.

The Outlook reflects policies in place in early 2008

Agricultural and trade policies play an important role in both domestic and international markets for agricultural commodities and food products. While agricultural policies are becoming increasingly decoupled from production decisions, non-agricultural policies, such as those for instance with respect to energy, or the environment, are having a growing impact on the agri-food sector. Policies influence the composition and levels of both production and consumption, thereby creating (or sometimes correcting) market distortions and influencing prices. There is a tendency towards increased price responsiveness on the supply side with ongoing policy reform in some OECD countries. Also, relatively elastic supply and demand in a growing number of developing countries, coupled with an increasing share of these countries in world trade, is improving adjustments in agricultural markets. As in the past, this Outlook assumes constant policies over the period to 2017. This implies, notably, that any changes in the new US farm legislation to replace the current FSRI Act, or in the EU's Common Agricultural Policy as a result of the scheduled "health check" or changes in trade policies reflecting a conclusion of the negotiation under the Doha Round, are not considered in this report. In addition, neither the US Energy Independence and Security Act (EISA) nor proposals for a new EU bioenergy directive have been taken into account. However, recently increased export taxes in Argentina are taken into consideration.

Main trends in commodity markets

Grain markets set to remain tight

Despite record wheat and coarse grain crops in 2007/08 and a sustained moderate rise in production thereafter, grain markets are expected to remain tight in the period to 2017. The prolific demand for maize arising from the rapidly expanding ethanol sector in the United States has profoundly affected the coarse-grain market. By 2017, approximately 40% of the country's maize crop could be destined for energy production. Growth in grain-based ethanol industries, in particular in North America and Europe, as well as rising feed requirements for flourishing livestock sectors, look set to further pressure the already critically low global grain stocks-to-use ratio over the course of the *Outlook*.

Owing to currently low stocks and high prices there will be an incentive to plant more land for grain production. In addition to a foreseen sustained recovery in production in drought-stricken Australia, the area under cereals is projected to rise for a number of reasons. There will in particular be some reallocation of land from other crops in the main OECD producers such as Canada, the US or the EU. In addition, land is taken out of set-aside in the EU for 2008. Finally, new land will be taken into cultivation, particularly in South and Latin America, Sub-Saharan Africa and the Commonwealth of Independent States (CIS). However, overall there will be constraints in expanding new arable areas in many countries and competition for land and resources among grain and oilseed crops is set to intensify with those crops offering the highest returns gaining the most ground. As a result, beyond the initial years of the *Outlook*, much of the growth in world grain output is expected to stem from productivity gains, but yield growth is not expected to match the rate attained in the previous decade.

Grain trade to reach new heights

Wheat exports have remained subdued in recent years, reflecting adverse weather in several important countries, especially in Australia and successively poor harvests in the EU. But global wheat trade is projected to expand at an average annual rate of less than 1% over the *Outlook* period. Australia is foreseen to resume the mantle of being the second-largest wheat exporter after the United States. As for coarse grains, the recuperation of traditional export sources will be supplemented by an export expansion in Ukraine.

Developing countries, such as those situated in South and East Asia, as well as Nigeria and Egypt, will continue to fuel global wheat demand. Saudi Arabia is also projected to become a major importer in view of the recent change in its policy to gradually phase out production subsidies. Although the *Outlook* projects expanding exports from OECD countries, most of the growth in import demand will be satisfied through larger shipments from emerging and developing countries, particularly Ukraine and Argentina. Rising per capita incomes and developing food markets are behind increased global demand that has outpaced domestic production capacity. But more generally, growth in per capita food consumption of wheat is expected to remain modest or even to decline, notably in China, as diets slowly shift towards more value-added processed foods given the strong rise in incomes. The growth in international demand for coarse grains will be predominantly driven by increased feed demand from thriving livestock industries in developing economies. Imports by these countries as a group are projected to grow to 94 million tonnes, representing nearly 75% of the world total, which compares to less than 70% over the base period.

Productivity gains underpin rice supply

Global rice production could expand on the order of 10% by the end of the Outlook, fuelled by larger crops in South and South-East Asian countries. The overall trend of rising output masks an expected fall in area, which gathers momentum from 2011-12 onwards, reflecting lower plantings in Asian countries due to rivalry with other crops and non-agricultural sectors for land, which leads to an intensification of competition for water and labour resources. Developed countries are also foreseen to plant less by 2017-18, as a reflection mainly of ongoing policies in Japan and the EU. Owing to the dissemination of improved varieties and better production practices, yield growth over the next decade will assume greater prominence in supporting the sector, and this is expected to surpass the growth witnessed over the previous 10-year period.

Rice remains a basic food commodity, and its importance has extended beyond Asia. However, rapid income growth and diversification of diets is expected to depress per capita rice consumption, especially in Asia. In contrast, rice is expected to gain importance in African diets, where per capita consumption rises from 22 kg to more than 24 kg over the 10-year period. As a share of world production, rice trade is expected to fall slightly, indicating a lessening reliance on the global market that is consistent with a return to more stringent rice self-sufficiency policies in several countries. Much of the expansion in world imports is fuelled by demand in Africa and in Asia, with Thailand forecast to account for around one-third of all rice exports. The tendency for declining global rice stocks could be reversed over the course of the Outlook, as recent concerns over supply availability and price volatility foster a rebuilding of reserves.

Strong demand drives the oilseed complex

Increasing world livestock production will continue to be the driving force behind the consumption of oilseed-derived protein meal, with most of the growth taking place in non-OECD countries. Comparing 2017 with the 2005-07 base period, oilseed meal consumption in the developing region will rise by almost 50%, with China accounting for roughly half the growth alone, to satisfy its burgeoning livestock sector. While the EU should continue to hold its position as the largest importer of oilseed meals, its import dependency is likely to fall as a growing proportion of the region's protein meal consumption comes from domestically produced and crushed oilseeds, in particular rapeseed meal.

Notwithstanding the foregoing world oilseeds crush is projected to be mainly driven by vegetable oil demand. Largely sustained by income growth, vegetable oils, both from oilseed crops and from palm, will remain the fastest growing commodity in terms of consumption covered in this Outlook. Most of the demand growth is for food use, but bioenergy mandates will play an increasing role. Over the Outlook period, again comparing 2017 with the 2005-07 base period, the derived demand for vegetable oil in biodiesel production could increase by 14.3 million tonnes, about one third of the total increase in global vegetable oil consumption. The use of vegetable oils for bioenergy purposes is expected to grow strongly, and may alter trade patterns and the consumption mix in diets in some countries depending on policies in place. This may be particularly the case in the EU, where bioenergy use of vegetable oils has been mostly oriented to the use of rapeseed oil and could reach over 8% of worldwide and 41% of domestic vegetable oil consumption by 2017. In addition, biodiesel industries are expected to develop in several other countries, notably in Canada and Australia. Emerging biodiesel production will increase the consumption of domestically produced palm oil in Indonesia and Malaysia and soyabean oil in Brazil at the expense of exports of vegetable oil or oilseeds originating from those countries.

In addition to continued fast growth in feed use, biofuels look set to become a more significant long-term driver of the global oilseed complex, both directly through demand for vegetable oils in the bio-diesel production process and indirectly as increased cereal demand for ethanol production affects the relative prices of oilseeds and thereby the competition for arable land between these crops, especially in the United States. Furthermore, given the relative scarcity of maize, the share of oilmeals in total feed use may well be increasing over the Outlook period, even as a source for energy.

Buoyed by higher relative prices, land reallocation from competing crops, diverted pasture lands and new arable land could pave the way for global oilseed output to expand by 28% by 2017 when compared to the base period. Much of the foreseen expansion will be concentrated in Brazil, the EU and Argentina. Bolstered by a differential export-tax system, Argentina looks set to consolidate its position as a regional hub for oilseed crushing, despite a slowdown in the expansion of domestic crushing capacity. The country is expected to reaffirm its status as the world's major centre for shipments of soybean meal and oil, in a context of growing global import demand. China continues to import seeds and crush them domestically to capture the value added from processing oilseeds into protein meals and vegetable oil. Reflecting diminishing consumption growth, China's crushing industry is expected to develop at an average rate of 3.5% per annum compared to 8.5% in the previous decade. By 2017, China will have become the world's second-largest importer of oilseed meals and vegetable oils, after the EU, and it will have further reinforced its position as the leading importer of oilseeds. Brazil's share of global oilseed exports is expected to grow from 30% in 2008 to almost 40% in 2017, when the country easily surpasses the United States as the world's foremost oilseeds exporter.

Steadfast consumption growth and policy reform could lead to some tightening in sugar markets

Brazil is and will remain the world's leading sugar and ethanol producer and exporter, and the major centre of international price discovery for sugar. With the composition of Brazil's private-vehicle fleet increasingly being dominated by flex-fuel vehicles over the Outlook period, the derived demand for sugar cane from ethanol is expected to surge over the projection period, especially in the context of high projected crude oil prices. As a result, the projected share of the sugarcane crop going to ethanol increases from 51% on average in 2005-07 to 66% in 2017-18. Nevertheless, this development is not expected to unduly constrain the amount of cane available for sugar production and sugar exports, since sugarcane production in Brazil is foreseen to rise by over 75% from the base period to 2017. However, in the wake of steadfast domestic and international demand, there will be a propensity for sugar prices to strengthen over the projection period.

On the ethanol front, a number of other sugar producing countries are currently embarking on, or reinvigorating existing, renewable energy programmes, such as the EU, Japan, Malaysia, Indonesia, India, South Africa, Colombia, and the Philippines, particularly for use in the transport-fuel sector. Most of these fledgling fuel ethanol programmes, however, are expected to use molasses or starch sources rather than raw sugarcane juice as the preferred feedstock. As molasses is produced as a by-product of the sugar refining process, molasses-based bio-ethanol production should not greatly impair sugar production in these countries and may even stimulate further growth in cane and sugar output. Furthermore, in some regions, such as the EU, specific sugar crops (industrial beets) are being separately designated and developed for non-food uses such as bio-ethanol production.

Following reform of its sugar regime, the EU is expected to reduce production in the context of rising imports and World Trade Organisation (WTO) bound controls on subsidized exports and may eventually emerge as the world's leading sugar importer. Total sugar imports by the EU are expected to increase sharply by 2017-18, driven mainly by preferential exports from least-developed countries (LDCs) under the Everything But Arms (EBA) initiative and from the Africa-Caribbean-Pacific (ACP) group. However, the level of EU preferential imports from the latter group remains an important uncertainty. Mexican sugar exports to the higher priced United States market should increase with duties and restrictions eliminated under NAFTA on 1 January 2008. When considering shipments from third countries in addition to those from Mexico, United States purchases may exceed the import volume trigger for suspending the marketing allotments program of the 2002 FSRI Act, in all years of the projection period. As a result, public stock purchases (CCC) are expected to be required in each year out to 2017-18 to defend the US sugar loan rate price support system with domestic prices driven down to minimum loan-rate levels.

Developing countries account for virtually all the increase in world sugar production and consumption over the Outlook, due to faster population growth and rising incomes. India and China account for the lion's share in the increase in global consumption. Demand for sugar in China has been growing rapidly in the current decade from relatively low per capita consumption levels. With tightening government controls on artificial sweeteners, sugar consumption in China is projected to increase by 1.5% per year, implying rising imports that exceed the tariff quota of 1.95 Mt from 2008 onwards.

Despite increasing feed costs, world meat production continues to grow

Against a backdrop of high feed costs, low profit margins and competition for land resources, the global outlook for meat is characterised by substantial increases in production and consumption in developing countries and a more stable path of development in the mature OECD markets; though overall growth is expected to take place at slower pace than witnessed in the past decade.

Over the Outlook period, world meat production is expected to grow on average by 2% per year, but this trend disguises marked differences in growth rates of the different economic regions. Meat production among OECD members is expected to rise annually by around half a per cent, while growth in non-OECD countries could reach around 2.5% annually. Continuing investment, capacity building, better infrastructure and the dissemination of improved production technologies, are the main factors spurring such growth in meat and meat products, particularly in the more dynamic developing economies such as China, Brazil and – for pork and poultry predominantly – also in Argentina. As a result, some of them have been able to increase substantially their presence in supplying international meat markets. Brazil is a prime example of this feat. Given abundant land resources, capital and technology in combination with policy reforms, Brazil is expected to assume a 30% share of total world meat exports by the end of the projections. However, there are lingering concerns about the sustainability of this expansion. With trade recovering from the effects of animal-disease outbreaks, a small number of major exporters including the United States, Canada, Argentina and Australia alongside Brazil will remain dominant in world markets. However, in contrast, the export share of the EU is expected to further deteriorate over the Outlook.

Fuelled by greater purchasing power and urbanisation, diets in developing countries are increasingly shifting away from staple foods of vegetal origin towards proteins of animal

origin. Meat consumption in developing countries is expected to account for more than 80% of global growth. Much of this expansion will take place in Asia and the Pacific region, and will reflect in particular the rise in consumption of cheaper sources of animal protein, mainly poultry and pork. Consumption of pork in particular is expected to rise in China where pork is traditionally the most important meat and where 2007 consumption was reduced due to an outbreak of Porcine Reproductive and Respiratory Syndrome (PRRS). Import dependency in meat products is likewise expected to grow in many dynamic developing countries as burgeoning demand surpasses the domestic capacity for meat production throughout the duration of the *Outlook*. Among the developed countries, the Russian Federation is set to remain the world's largest net meat importer by 2017, followed closely by Japan.

Tightness in dairy market to ease

A pressing issue for the projections concerns how the global dairy industry will react to the unprecedented price spikes across dairy products that were observed in 2007. There is broad consensus that the industry has undergone structural change, where international markets have shifted from a supply-driven paradigm supported by distorting policies which used these markets as a dumping ground for excess supplies, to a more demand-driven paradigm, responsive to market signals and consumer wants. The growing relative importance of demand factors is further explained by urbanisation and higher incomes which have shifted diets in some developing economies towards a more diversified basket of dairy products, encouraged by growth in dairy marketing and retailing channels.

The *Outlook* foresees that high international prices of dairy products will transmit strong signals for supply response from both traditional and emerging exporters. More importantly, where trade linkages allow higher prices to be transmitted to producers in developing countries, they may create incentives for investment, expansion and restructuring. This will help to reshape their industries, which will be increasingly geared towards higher value-added processing of dairy products. Rising supply potential will enable future production growth and improved domestic marketing linkages, placing these countries in a stronger competitive position in regional and global markets.

Milk production gains over the *Outlook* period will be overwhelmingly driven by output growth in non-OECD countries. Dairy expansion in India, the largest producing country in the world, will be especially marked, where surging demand growth will stimulate a strong increase in milk and butter production. Driven by substantial yield gains, strong growth in milk production is also expected in China. This contrasts with moderate growth in the OECD area, where milk production increases mainly due to gains from Oceania and the United States and is chiefly constrained by domestic production controls in many other countries. These supply developments constitute one of the more prominent trends in the *Outlook* for dairy markets.

Supply response, however, could be checked by higher production costs induced by both higher feed and energy prices. These affect production, processing and distribution of milk products, and will encourage the competitiveness of pasture-based systems. They also will affect trade, as higher transportation costs put local production at greater advantage. The evolution of world dairy markets will also be influenced by extensive policy interventions and by internal food-security concerns, but also increasingly by environmental constraints linked to high livestock populations, water availability and competition for pasture land. Increasingly, a higher production response in many countries will come from higher yields as opposed to increased cattle numbers. A key for the dairy

outlook is the potential for dairy markets to adjust in the presence of increased price volatility and low global stock levels of dairy products.

OECD countries continue to dominate world dairy exports

World exports of dairy products are expected to grow for all products, with only a few developing countries able to affect the shares of traditional OECD exporters of Australia, New Zealand and the EU. In the latter, export shares could decline substantially, in light of a tight domestic market. Among the new exporters, Argentina is emerging as a dominant player in markets for whole-milk powder (WMP) and cheese, supported by its rising milk production capacity. Similarly, Ukraine is expected to increase its presence on the export markets mainly for cheese.

Import markets will remain rather fragmented compared to those for exports. The six largest importers of dairy products are expected to cover less than 50% of the world market. In China, despite a strong increase in milk-production, demand will continue to outpace supply and imports are expected to grow over the *Outlook*, in particular for milk powders, where China will become one of the leading importers. Russia is foreseen to remain as the world's most prominent importer of butter and cheese, with imports rising by more than 60% over the *Outlook* period compared with the 2005-07 base. Driven by milk-reconstitution needs, global imports of milk powders will grow by over 3% annually over the medium term, mostly in Asia and the Middle East.

Biofuel production and use on an upswing

Production and use of both ethanol and biodiesel have increased significantly in recent years. Production of fuel ethanol tripled between 2000 and 2007, with the US and Brazil accounting for the majority of this growth. However, a large number of other countries either commenced renewable energy programmes or increased fuel ethanol production in this period as well. Biodiesel output witnessed an even more pronounced expansion over the same period, having grown from less than one billion litres to almost 11 billion litres. Initially the EU accounted for more than 90% of global biodiesel production, but with increased biodiesel output in many other countries, in particular the US, its share has declined to less than 60% in 2007.

Near-record prices for maize, wheat and vegetable oils at the start of the *Outlook* have reduced the economic viability of biofuel production in many countries, despite strong public support and increasing fossil fuel prices. Public support in the form of tax concessions and tax credits, blending obligations and regulations, and import tariffs are widely applied to help offset higher production costs of biofuels compared to fossil fuels. The one exception is bio-ethanol production from sugarcane in Brazil. In this case, lower world sugar prices associated with a large global surplus have improved the economic viability and profitability of ethanol production in Brazil, which remains competitive with gasoline at a crude oil price of around USD 35 per barrel. Most commodity prices are expected to fall from current highs over the *Outlook* period with larger crop production. Coupled with expected high crude oil and biofuel prices over the next few years, the economic situation of biofuel producers should improve compared to the situation in 2007 but remain less favourable than in 2005 and 2006.

Ethanol production to grow as prices stabilise at higher levels

Global ethanol production is projected to increase rapidly and to reach some 125 billion litres in 2017, twice the quantity produced in 2007. World ethanol prices are

expected to exceed USD 55 per hectolitre in 2009 as crude oil prices rise, but should fall back to levels around USD 52-53 per hectolitre over the remainder of the projection period as production capacity expands in a number of countries. Following increased mandates international trade in ethanol is expected to grow rapidly to reach 6 billion litres in 2010 and almost 10 billion litres by 2017, despite continuing trade protection. Most of this trade will originate in Brazil, and will be destined for markets in the EU and the US.

Global biodiesel production and use to be driven mainly by public policy

Global biodiesel production is set to grow at slightly higher rates than for bioethanol – which maintains the largest share – to reach some 24 billion litres by 2017. This growth in output occurs despite the fact that world biodiesel prices are expected to remain well above production costs of fossil diesel, and to stay within the range of USD 104-106 per hectolitre, for most of the projection period. As in the case of ethanol, increased blending mandates should stimulate demand and boost international trade in the initial years of the *Outlook*. World trade is, however, projected to remain largely unchanged in following years due to technical constraints in the use of palm-oil based biodiesel in the colder climates and as production in the main consuming countries increases. Most of the trade should originate in Malaysia and Indonesia with the EU as the main destination.¹

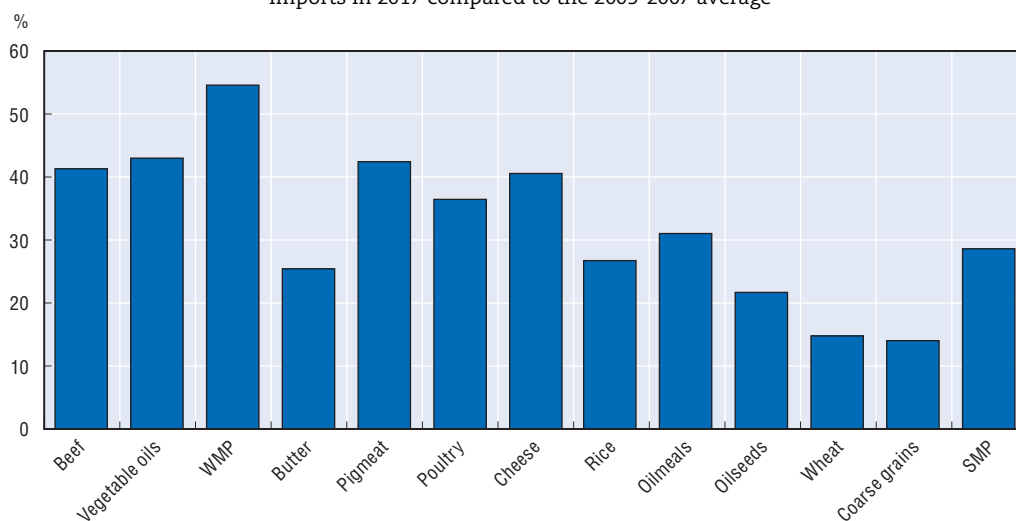
Main developments in trade in agricultural commodities

Rapid expansion of world trade overall, dominated by developing countries

When measured by imports, world trade is expected to grow for all commodities covered by the *Outlook*. The weakest growth is projected for wheat, with total world imports by 2017 exceeding the average for 2005/07 by nearly 15%. The highest growth rates of between 40 and 50% over this period are projected predominantly for vegetable oils and for certain livestock products (Figure 1.2).

Figure 1.2. Overall strong growth in world trade

Imports in 2017 compared to the 2005-2007 average



Source: OECD and FAO Secretariats.

When the focus is on crop imports, the projections show that for all crop products in the *Outlook*, except vegetable oils, developing countries dominate the picture of trade expansion. For wheat, sugar, oilseeds and oilmeals, most of the growth takes place in Asian developing countries. For oilseeds, import growth in Asia exceeds even total trade expansion and is offset to some extent by a decline in imports by OECD countries. For rice and coarse grains, most of the growth in imports takes place in African developing countries, and much of that in the LDCs.

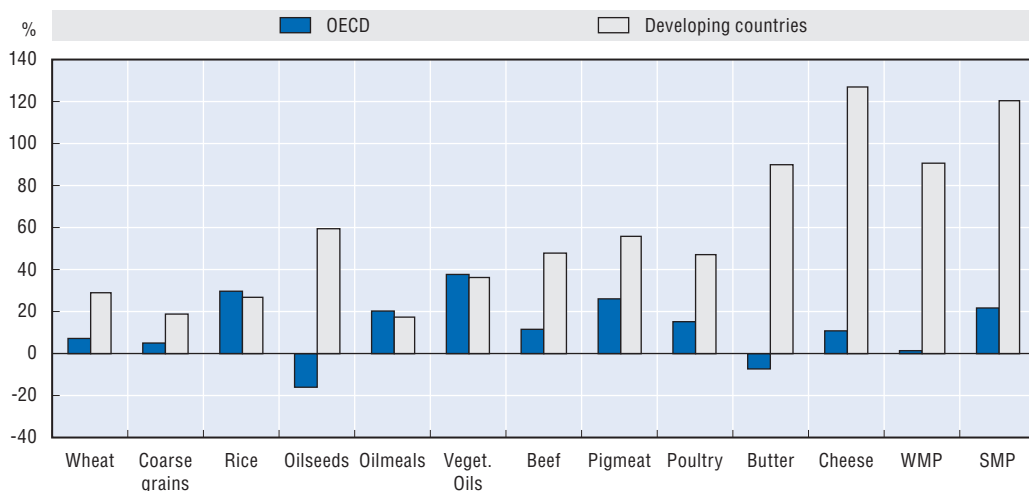
Turning to imports of livestock products, the picture is much different. For the relatively expensive products such as beef, pork and cheese, import growth is dominated by OECD countries. For poultry and milk powders, most of the growth in global imports is explained by larger imports in Asian developing countries. While these countries also represent over 40% of import growth for butter, the largest contribution to the trade expansion for this product is due to larger imports in the CIS countries.

Emerging exporters challenge the dominance of OECD countries

Developing countries not only dominate import growth for most of the commodities in the *Outlook*, they also show with few exceptions the strongest growth rates for exports. For all products in the *Outlook* but rice, sugar and vegetable oils the growth in exports from developing country origin exceeds those from OECD countries. The leading growth position for the OECD for these products has to be seen in the context of trade growing from a small base, and in 2017, the OECD share in world exports is only 6% for vegetable oils and 14 and 10% for sugar and rice, respectively. Export growth in developing countries is greater – and sometimes much greater – for all other products, leading to declining shares of OECD countries in world exports for these products. Nevertheless, these countries continue to dominate the world export picture with shares of world trade ranging from 58 to 70% for wheat, coarse grains, pork and all dairy products. It is only for beef and poultry where the export share from developing countries of about 60% exceeds those of the OECD (Figure 1.3).

Figure 1.3. **Growth in world exports dominated by developing countries**

Exports in 2017 compared to the 2005-2007 average



Source: OECD and FAO Secretariats.

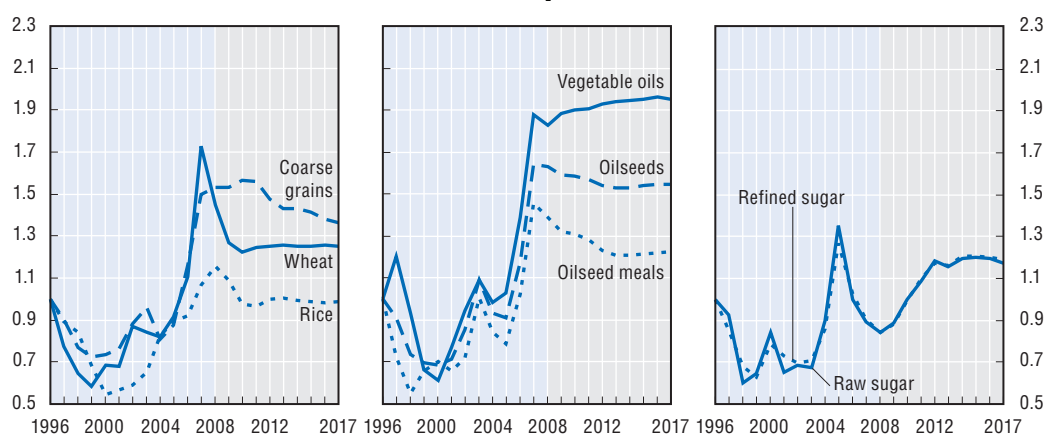
The outlook for world prices

World prices to retreat from current highs but firmness expected to prevail over the medium term

In the context of generally lower global stocks in recent years, biofuels impose an additional dimension to global demand for grains, oilseed products and sugar. Coupled with sustained global income growth which is particularly underpinning demand for food and feed in certain developing and emerging countries, with limitations to land and productivity based increases in supply and with higher oil prices which raises production costs, this situation is expected to underpin international quotations. All three of these factors are expected to lift price levels for arable crops that are, on average, substantially higher than in past projections. Higher average crop prices and associated feed costs, in turn, lead to higher livestock product prices over the Outlook period as well. When compared to the average for 1998 to 2007, prices projected for the period 2008 to 2017 will – in nominal terms – on average be around 20% higher for beef and pork, some 30% for raw and white sugar, 40 to 60% for wheat, maize and skim milk powder, more than 60% higher for butter and oilseeds and over 80% higher for vegetable oils (Figures 1.4 and 1.5).

Figure 1.4. Outlook for world crop prices to 2017

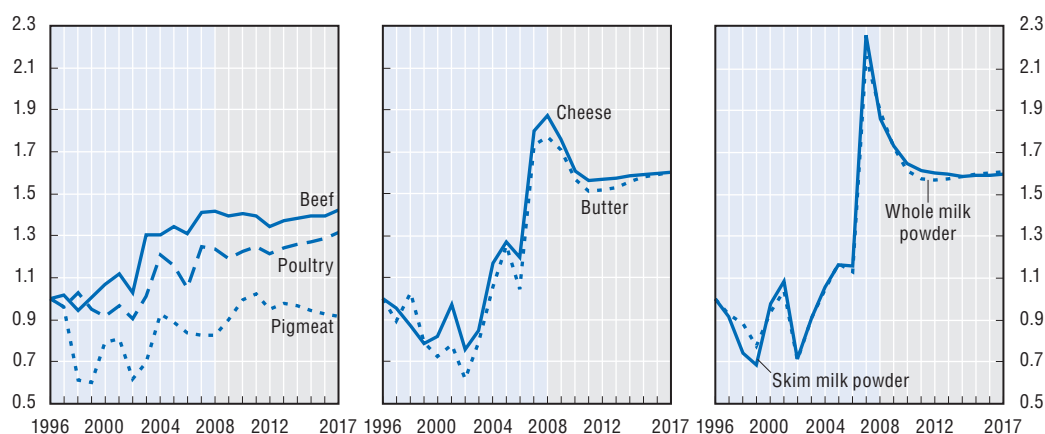
Index of nominal prices, 1996 = 1



Source: OECD and FAO secretariats.

Figure 1.5. Outlook for world livestock product prices to 2017

Index of nominal prices, 1996 = 1



Source: OECD and FAO Secretariats.

When expressed in real terms, the decade-over-decade increase is obviously smaller, but remains very substantial for crops and dairy products.

Despite this rise in their average level, prices of most agricultural commodities fall and are expected to remain below current or recent peak levels by the end of the Outlook. In addition, there would not appear to be any structural changes in the functioning of markets that would suggest reduced price variability. On the contrary, a number of factors are at play that may well render market prices more variable than in the past. Such factors include continued low stock to use ratios, a possibility of more variable weather conditions, less responsive consumer demand to farm level price changes as the commodity share in the food bill falls, increased industrial demand for agricultural commodities, which also tends to be less price-sensitive than food and feed demand, and massive amounts of non-commercial investment funds that may enter or leave agricultural futures markets with either net long or net short positions as profit opportunities dictate.

Low stock-to-use ratios support cereal prices and prices in the oilseed complex

In spite of the expectation of a strong recovery in grain production in 2008, prevailing low stock levels suggest continued market tightness, especially when demand prospects for food, feed and fuels show no sign of abating. Cereal markets are expected to remain closely balanced over the Outlook as stock to use ratios are expected to remain low in the years to come and despite growth in cereal production. This implies high grain prices throughout most of the Outlook. However, continued productivity increases in line with their long-term trend and some increase in areas planted are expected to see prices below their 2007 peak levels. For wheat this is the case throughout the Outlook period, while for coarse grains prices are likely to remain high for some years to come before falling below present record levels. Despite this decline, grain prices will average above their mean levels of the previous decade, even in real terms. From that higher level, however, real prices continue their long-term downward trend.

International rice prices are anticipated to remain firm in the short term, as countries replenish rice inventories. While weaker prices are projected from 2010, they are unlikely to fall much in consideration of higher production costs. With lower buffer stock levels projected on thin world markets, world prices are likely to manifest much higher volatility than in the past, as the market becomes more vulnerable to supply and demand shocks.

Rising demand for vegetable oils, for both food and the growing biodiesel sector, is expected to weigh heavily over the medium term, leaving stock to use ratios in the oilseed complex under pressure. The combination of strong demand and low inventories will be extremely supportive to prices in the next few years, but from then on prices will gradually fall back as supply and demand adjust. As is the case for cereals, prices for oilseed and oilseed products, once corrected for inflation, are expected to decrease in real terms but to stay considerably above their long-term trend.

Sugar prices strengthen with increasing premium for white sugar

As the world market is brought into closer balance and excess sugar stocks drawn down, world indicator prices for raw and white sugar are projected to rise strongly in nominal terms, but will still trend downwards in real terms over the projection period. The margin between raw and white sugar prices should widen over the Outlook given expectations of increasing supply of raw sugar and rising costs of refining. With reforms having reined in the use of exports subsidies in the EU, reducing its role as a major white-

sugar exporter, the white-sugar premium in future years should reflect more the cost of further sugar refining.

Meat prices projected to stay above current averages, but dairy prices expected to gradually retreat from 2007 record levels

Given rising feed costs and strong meat demand in the major emerging economies, meat prices are expected to rise above historic levels in the medium term. Non-ruminant production is notably affected by high cereal and oilseeds prices as low-priced distiller's dry grains (DDGs) cannot easily be integrated into their feed rations. These higher input costs are expected to result in increased meat prices over the next decade.

World dairy prices are expected to weaken somewhat over the next two years as supply responds sufficiently to strong price incentives. While prices are anticipated to decline from currently high levels, the expectation is that they will remain firm over the entire outlook and stay higher compared to the previous decade. As with the majority of other agricultural commodity prices, when expressed in real terms the well-established longer term falling trend was reversed radically in recent years. However, dairy products are expected to resume a modest declining trend in future years, albeit from a much higher level than in the past.

Some major issues and uncertainties

This year's *Outlook* has been prepared in an environment characterised by increased instability in financial markets, higher food price inflation, signs of weakening global economic growth and food-security concerns. The commodity markets have shown dramatic rises in prices across a range of commodities on a weekly basis, attracting the attention of the daily press and stimulating discussion on the food-feed-fuel debate. Although projections for agricultural commodity markets have always been subject to a number of uncertainties, these have taken on more importance in this year's edition. As in the past, weather conditions, animal-disease outbreaks, the macroeconomic environment and domestic policies are all factors that will continue to affect agricultural market outcomes. The question for the forthcoming period is how these key factors and uncertainties will change over time and to what extent they will change the market outlook. Some of these uncertainties are discussed in detail in a separate section in this report.

On the supply side, weather-related production shocks have always been the single most important factor for agricultural production and recent bad weather spells in several important producing regions have been responsible for much of the supply shortages on commodity crop markets. Is the recent spell of bad weather merely an episodic event, or does it foreshadow more systematic changes linked to global warming and more variable weather patterns around the world? In the presence of high prices and the related increased food security concerns, what is the scope for further productivity gains, technological advances and breakthroughs in production and harvesting or for bringing new areas into cultivation? In developing countries, what is the potential for the expected plateau of higher average prices to be transmitted to domestic markets, reinvigorating agricultural industries and improving their competitive position in local and international markets? What will be the timing of the availability of second generation biofuel production technologies? Coupled with unforeseen changes in crude oil prices, how will this affect the production of biofuels and agricultural commodity markets?

The uncertainties on the demand side seem to be lesser as steady year-on-year income driven consumption growth remains a basic feature of many commodity markets. Nevertheless, macroeconomic conditions are playing a crucial role for future market developments and a slowdown in economic growth as compared to that assumed in the *Outlook* would moderate demand, international trade and agricultural commodity prices. In addition, exchange rate developments could have an important influence on the markets as a change in domestic currencies *vis-à-vis* the US dollar would affect comparative advantages and domestic market responses given price changes on international markets. A particular uncertainty on the demand side of agricultural markets is the growing presence and investments of non-commercial interests, such as financial funds, in futures trading on commodity markets. To what extent is the growing demand for financial derivatives affecting demand, risk management strategies and spot market prices for crops? And how will this further evolve in the future.

Policy interventions can also create uncertainty in commodity markets. Changes in biofuel policies, either to raise or to lower domestic targets or to review current policy incentives downwards, could be of major importance for agricultural markets given that biofuel production is one of the important factors lending strength to these markets over the medium term. In more general terms, there will be changes to domestic policies in key producing and trading countries such as new farm legislation in the United States, any changes that may result from the “health check” of the EU CAP or an eventual outcome to the current round of the Doha multilateral trade negotiations. Such and other changes have not been anticipated in this *Outlook* and would affect market outcomes. Finally, high international commodity prices have recently led governments in several countries to introduce measures to restrict exports. While such policies may in the short term provide some relief to domestic consumers, at the expense of some further belt tightening by their neighbours, they impose a burden on domestic producers, dampen the supply response in these countries, and aggravate the global commodity market situation.

The policy issues

The key feature of this year’s *Outlook* is the record-high level of many agricultural commodity prices. These are partly due to short-term factors such as drought in major cereal-producing areas and speculative activity. Once the influence of these transitory factors is removed or changes, prices will fall from current highs. However, there are factors at play that will keep prices well above average levels over the past decade. These include the steady growth in demand linked to population and income growth as well as changing diets in emerging economies, in particular China and India. But there are also factors that are uncertain into the future: energy prices, the diversion of land and crops for bioenergy, and climate change.

High prices are always good for some and bad for others. They are good for producers of farm produce, including in many cases for the people they employ, even though high prices of cereals, for example, mean higher costs for producers of cereal-based animal products. High prices are not only beneficial for some farmers in OECD countries, but may also be good news for commercial producers in developing countries. Insofar as those higher prices more than offset higher energy and other input costs in these countries, higher farm incomes can have important multiplier effects and lead to higher income levels in rural areas. For farm households producing mainly for their own consumption or for local markets that are insulated from price fluctuations on national and international

markets, the impacts will be mitigated. But for the poorer segments of the population, and in particular for those in the net food importing developing countries, the impacts will be strongly negative as an even higher share of their limited income will be required for food consumption.

What are appropriate policy responses?

According to an old adage, the best remedy for high prices is high prices. High prices stimulate supply and dampen demand on agricultural markets, the balance will change and prices will come down. But the *Outlook* also shows that prices are likely to continue to average around substantially higher levels than in the past, possibly with larger variations around that higher average.

The *Outlook* for lower prices in the foreseeable future with the possibility of a turnaround being more rapid than is currently foreseen calls for caution in taking any precipitous policy action. However, the fact that certain groups in the population and certain countries suffer from current high prices and may continue to be worse off in a context of sustained higher price levels in the future provides a policy challenge.

In the short term, humanitarian aid for the populations in countries most severely affected is urgently required. Before recent price increases, although there had been improvements, 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 and the first UN Millennium Development Goal has become an even greater challenge. As suggested recently by the World Bank, aid in the form of cash or vouchers is more appropriate in many cases than commodity shipments, provided supplies can be procured. Such aid may also be more effective than short term measures, such as export taxes or embargoes, that restrain exports in order to ensure domestic market supplies.

In the medium term, there is a real need to foster growth and development in poor countries and to assist in developing their agricultural supply base. In some of the poorest countries, investment in agriculture, including in agricultural research, extension and education, which has been lagging in recent years, is often the best way to cut poverty and stimulate economic activity. Expected high farm prices may provide an incentive for this. In other situations, investment in agriculture may be helpful, but there is also a need to diversify the structure of the economy. In general, investments in improving the overall environment in which agriculture operates may be most appropriate. These include improving governance and administrative systems, macroeconomic policy, infrastructure, technology, education, health, and defining and enforcing property rights.

Agricultural trade policies require further reform. Trade restricting policies – whether they restrict exports or imports – have undesirable and often unintended impacts, especially in the medium and long term. On the import side, “protecting” domestic producers of agricultural commodities by providing high price support and border protection – including the increasing resort to non-tariff barriers – restricts growth opportunities for producers abroad and imposes a burden on domestic consumers. Export taxes and embargoes may in the short term provide some relief to domestic consumers – including to the wealthier ones who may not need these measures – but they impose an even larger burden on domestic producers and limit their supply response, as well as contribute to global commodity market uncertainty.

It is also necessary to examine more closely the causes and impacts of the recent price increases. On the supply side, the link between production and yield shortfalls, climate change and water availability warrants further analysis, both in terms of trends, variability and risk. Investments in R&D, technology transfer and extension services, particularly in less developed economies, could do much to increase productivity and output and there may be a role for governments to foster this, especially where there are wider public benefits. In addition, the future development of genetically modified organisms (GMOs) also offers potential that could be further exploited, both to improve productivity and to enhance the attributes of crops destined for either food or non-food uses.

The largely policy driven nature of the rapid increase in the supply and demand for biofuels is one of the reasons for current and future higher prices. OECD/IEA analysis to date² suggests that the energy security, environmental, and economic benefits of biofuels production based on agricultural commodity feed stocks are at best modest, and sometimes even negative, and are unlikely to be delivered by current policies alone. Alternative approaches may be considered that offer potentially greater benefits with less of the unintended market impact, such as policies that encourage reduced energy demand and greenhouse-gas (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.

Notes

1. For a detailed analysis of the market impacts of biofuel policies, see OECD/IEA Economic Assessment of Biofuel Support Policies (forthcoming).
2. For further details, see OECD/IEA Economic Assessment of Biofuel Support Policies (forthcoming).