

Part II

WORLD FOOD AND AGRICULTURE IN REVIEW



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World food and agriculture in review

This is a period of grave concern for the fate of the world's hundreds of millions of poor and hungry people. When the 2008 edition of *The State of Food and Agriculture* (FAO, 2008b) was being prepared, the world's attention was focused on the global food crisis as rapidly rising prices of staple foods posed major threats to global food security. At the G8 Summit in Japan in July 2008, the leaders of the world's most industrialized nations voiced their deep concern "that the steep rise in global food prices, coupled with availability problems in a number of developing countries, is threatening global food security". The devastating effects of high food prices compounded an already worrisome trend of rising numbers of undernourished people throughout the world.

The episode of "soaring food prices" was followed in rapid succession by the most severe global financial crisis and deepest economic recession witnessed in the last 70 years. The crisis has hit large parts of the world simultaneously, pushing millions of more people into hunger and undernourishment. The impact has been particularly severe owing to the overlap with the food crisis of 2006–08, which had pushed basic food prices beyond the reach of millions of poor people. While food commodity prices in world markets have declined substantially in the wake of the financial crisis, food prices in domestic markets have often come down more slowly. Months of unusually high food and fuel prices have stretched the coping mechanisms of many poor households to the limit, as they have been forced to draw down their assets (financial, physical and human) in not-always successful attempts to avoid large declines in consumption.

By mid-2009, the severity, depth and breadth of the crisis make a swift recovery unlikely. In April 2009, the International Monetary Fund (IMF, 2009) projected a global decline in gross domestic product (GDP) in 2009 and a re-emergence of growth only in 2010, but expected it to remain sluggish compared with past economic recoveries. The IMF also emphasized the extreme uncertainty of the outlook and the concern that economic policies might not be sufficient

to arrest the vicious spiral of deteriorating financial conditions and weakening economies.

Both the prospects for recovery from the economic crisis and developments in agricultural markets are critical for the world's poor and hungry and for the possibility of moving towards rapid and sustained progress in hunger reduction. While the outlook for the global economy remains uncertain, agricultural market uncertainties have grown over the past year, making the agricultural outlook particularly unclear. The sources of, and risks associated with, the high food price episode of 2006–08 remain latent in 2009. Real energy prices still remain above trend levels while resumed income growth in developing countries could put renewed upward pressure on food prices. Biofuel feedstock demand is being sustained, if not by economic fundamentals, then by a plethora of consumption mandates, fuel blending requirements, subsidies and tax incentives in many countries (biofuels and their relationships with agriculture were reviewed in depth in the 2008 edition of *The State of Food and Agriculture* [FAO, 2008b]). Commodity prices have dropped considerably from their peak in mid-2008, but most of them still remain at or above trend levels. More seriously, while international indicator prices have fallen, commodity prices – and particularly retail food prices – inside many countries have been slow in coming down. Although consumer food price increases have calmed, retail food prices have not dropped in line with lower commodity prices. In addition, many of the various policies implemented by numerous countries to protect domestic consumers from high prices, several of which constituted a disincentive to a possible supply response, have been slow to be removed. Policy concerns about how to prevent a future food price crisis also remain. In short, considerable uncertainty persists in agricultural markets across the globe.

Beyond the overriding question of the timing and speed of recovery from the severe economic recession, some issues particular to agriculture and agricultural markets appear as critical for the future of global

agriculture and food security in 2009–2010 and beyond. How efficient are global and domestic food markets in transmitting price signals to producers and consumers? Will resumed growth of the global economy lead to a renewed phase of soaring food prices? What is the capacity of global agriculture to expand in the face of higher agricultural commodity prices? How much have policies initiated to protect domestic consumers from the effect of higher food prices distorted international markets, thereby exacerbating the problem and hampering an efficient supply response?

TRENDS IN GLOBAL FOOD SECURITY⁷

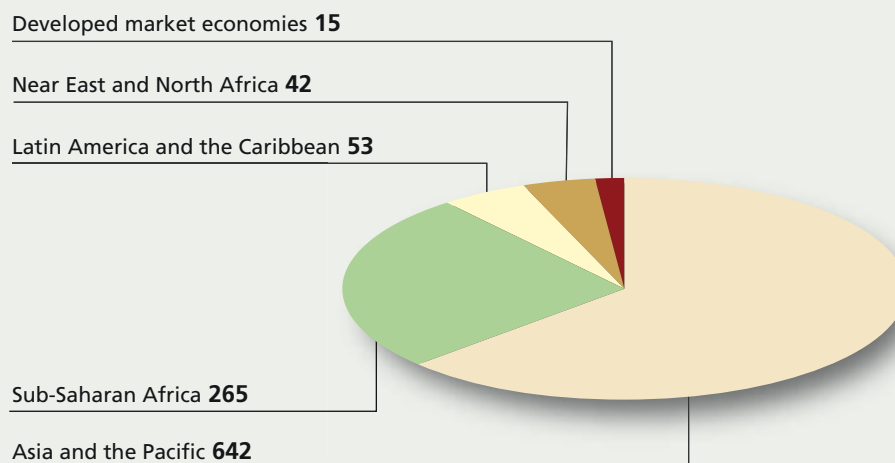
The incidence of hunger and undernourishment in the world has been dramatically affected by the two successive crises. FAO's current estimate of the number of undernourished people in the world in 2008 is 915 million (FAO, 2009c), the highest number estimated over the past 3–4 decades (although in terms of the percentage of

⁷ FAO (2009c) provides a more thorough analysis of trends in global undernourishment and the impact of the crisis on global food security.

the world's population, the share of hungry people is still far below that of 1970). Projections by FAO based on work by the United States Department of Agriculture Economic Research Service point to an increase in the number of undernourished people in the world to 1.02 billion during 2009. Figure 17 shows the regional breakdown of this number.

This sharp increase comes on top of an already worrisome upward trend observed over the past decade in the estimated number of undernourished people. The number of undernourished people had declined significantly in the 1970s, 1980s and early 1990s, in spite of rapid population growth, as the proportion of undernourished people in the developing countries fell from one-third in 1970 to less than 20 percent in the 1990s. However, since the mid-1990s, the number of undernourished people has been increasing despite a continued decline in the proportion of undernourished people to 16 percent of the developing country population and 13 percent of the world's population in 2004–06. Moreover, the recent crisis has led to an increase for the first time in decades in both the absolute number and in the proportion of undernourished people.

FIGURE 17
FAO estimates of number of undernourished people in 2009,
by region (million people)

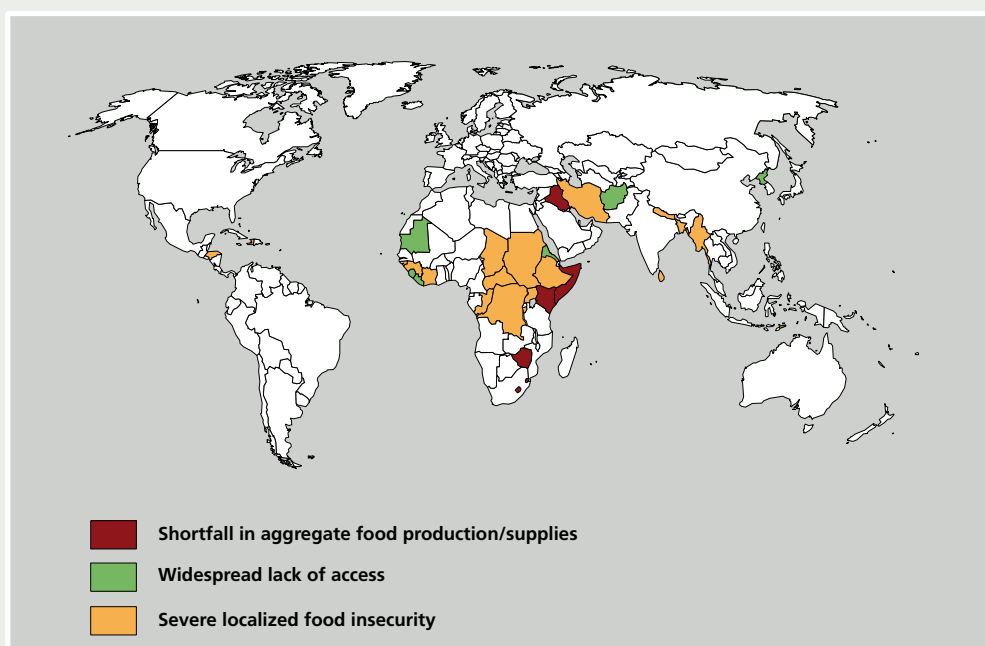


Source: FAO, 2009c.

BOX 19

Food emergencies

One indicator of vulnerability is the number of countries in crisis requiring external assistance. As of April 2009, 31 countries were in this situation, of which 20 in Africa, 9 in Asia and the Near East and 2 in Latin America and the Caribbean. These are countries that are expected to lack the resources to deal with reported critical problems of food insecurity. Food crises are nearly always caused by a combination of factors. However, for the purposes of response planning, it is important to establish whether the nature of the food crises is predominantly related to lack of food availability, limited access to food, or severe but localized problems (see map).



Source: FAO, 2009d.

The crisis is affecting large population segments. Those who were most affected by the high food prices crisis – rural landless, female-headed households and the urban poor (FAO, 2008c) – are in a particularly precarious situation. In many cases, they have already reached or come very close to the limit of their ability to cope. Both rural and urban areas are being affected by a reduction in numerous sources of income, including remittances. The urban poor are likely to be particularly affected as urban areas are linked more directly to world markets and may suffer more directly from declining export demand and reduced foreign direct investment. However, rural areas may also be affected by possible declines in agro-industrial activity and return migration.

AGRICULTURAL PRICE DEVELOPMENTS – HIGH VARIABILITY OF BASIC FOOD PRICES

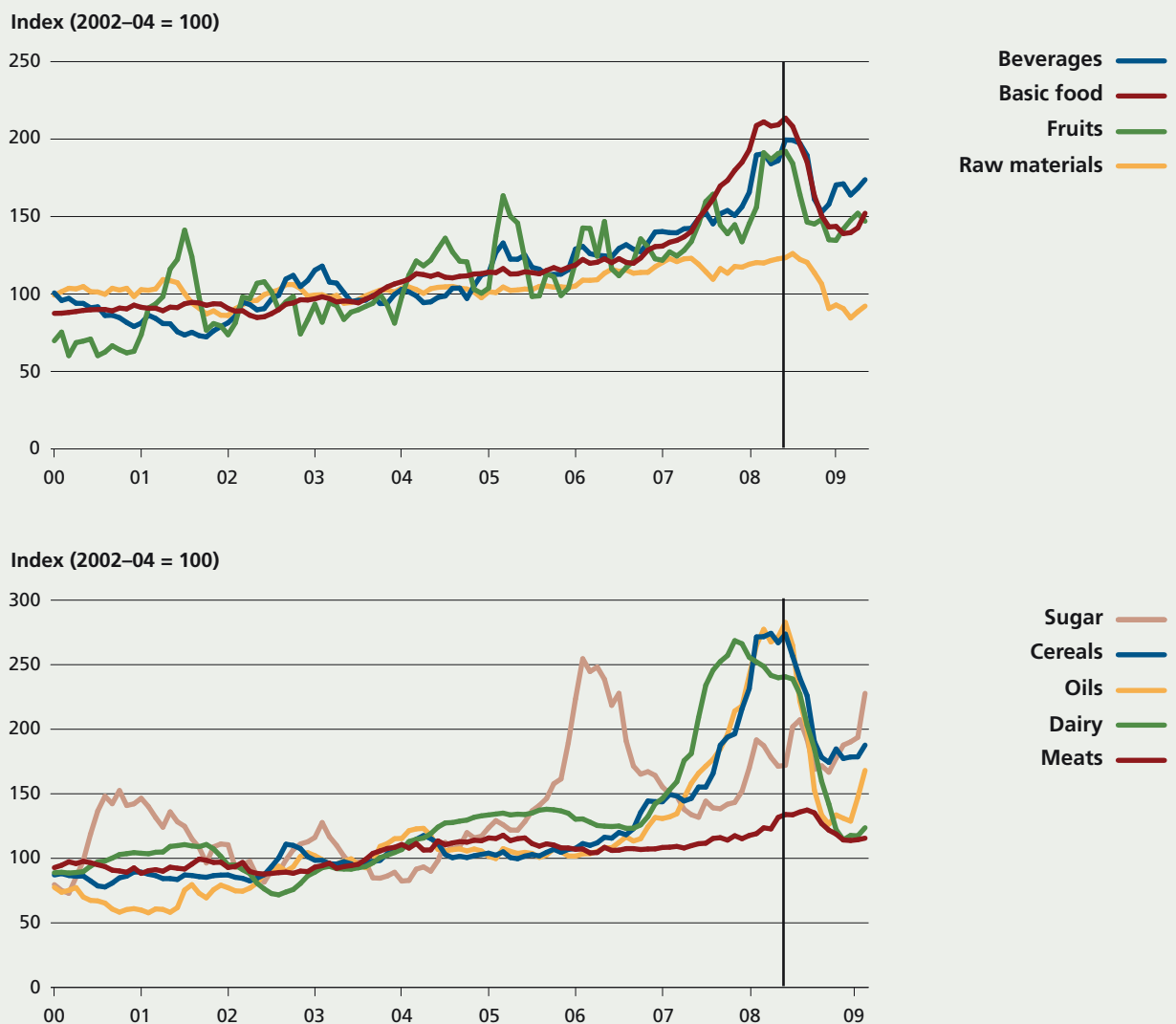
After a phase with soaring prices, international food commodity prices have come down (Figure 18). However, international food prices remain high by historical standards and, in many cases, domestic consumer prices have been slow in receding. Prices began rising slowly in the early years of this decade but accelerated precipitously in late 2006. The FAO food price index of internationally traded basic food commodities (base = 100 in 2002–04) attained a historical peak in June 2008 of 214, more than twice the level of the base

period and 139 percent above the average of the year 2000. From June 2008 to the end of the first quarter of 2009, the index fell a full 35 percent, returning to its level of the first quarter of 2007. In May 2009, after a renewed surge in international prices of several major basic food commodities (excluding rice and meat), the index stood at 152, almost 30 percent below the peak level of June 2008. However, this was still 152 percent above the base value and almost 70 percent higher than in 2000.

Most agricultural prices moved higher during the episode of high prices, but the fact that basic foods, especially cereals and

vegetable oils, rose the most and displayed the highest variability received particular attention as these food commodities represent the core components of both rural incomes and the diets of poor populations in developing countries. Other agricultural prices also displayed variability but, with the exception of dairy products, to a much lesser extent. Raw materials, which are important to the economies of some developing countries, barely rose during the critical 2006–08 period. In addition, in relative terms, these prices have been the most affected during the recession, given their strong dependence on income-sensitive

FIGURE 18
Indices of agricultural prices



Source: FAO food price indices; IMF raw material and beverage indices (rebased); fruit index constructed, FAO.

sectors. An example is hides and skins for leather used in durable consumables such as cars, the demand for which has fallen drastically since the onset of the global recession.

The essential causes of the price declines of food commodities have been widely attributed to faltering consumer/import demand under global recession and conditions of limited credit, as well as to lower biofuel feedstock demand resulting from lower energy prices. However, supply-side indicators have also made an important contribution to price declines, especially given a significant crop supply response in 2008, and to lower input prices, particularly for transport. Major uncertainty remains as to how these factors will evolve in the near term and affect the future of agricultural markets.

DOMESTIC FOOD PRICES IN DEVELOPING COUNTRIES

In spite of lower international prices for agricultural commodities, the transmission of these lower prices to domestic markets appears to have been low or delayed in many developing and low-income food-deficit countries, particularly in sub-Saharan Africa. In many cases, domestic prices were still higher in early 2009 than a year earlier and, where they had declined, price reductions had been relatively smaller than those on international markets (see Box 20, page 110). Such low price transmission is a symptom of inefficient markets, and it also tends to heighten variability in international markets.

Retail-level food price increases became a major factor of concern in both developing and developed economies in 2008. Evidence suggests that food price inflation has been tapering off significantly, following the drop in basic commodity prices in mid-2008. However, retail food prices have continued to increase in some countries and have fallen only marginally in others (Figure 19). "Stickiness" of retail prices is a common attribute of food markets, as changes in these prices also reflect the greater importance of other factors of production involved in the processing and distribution of food products.

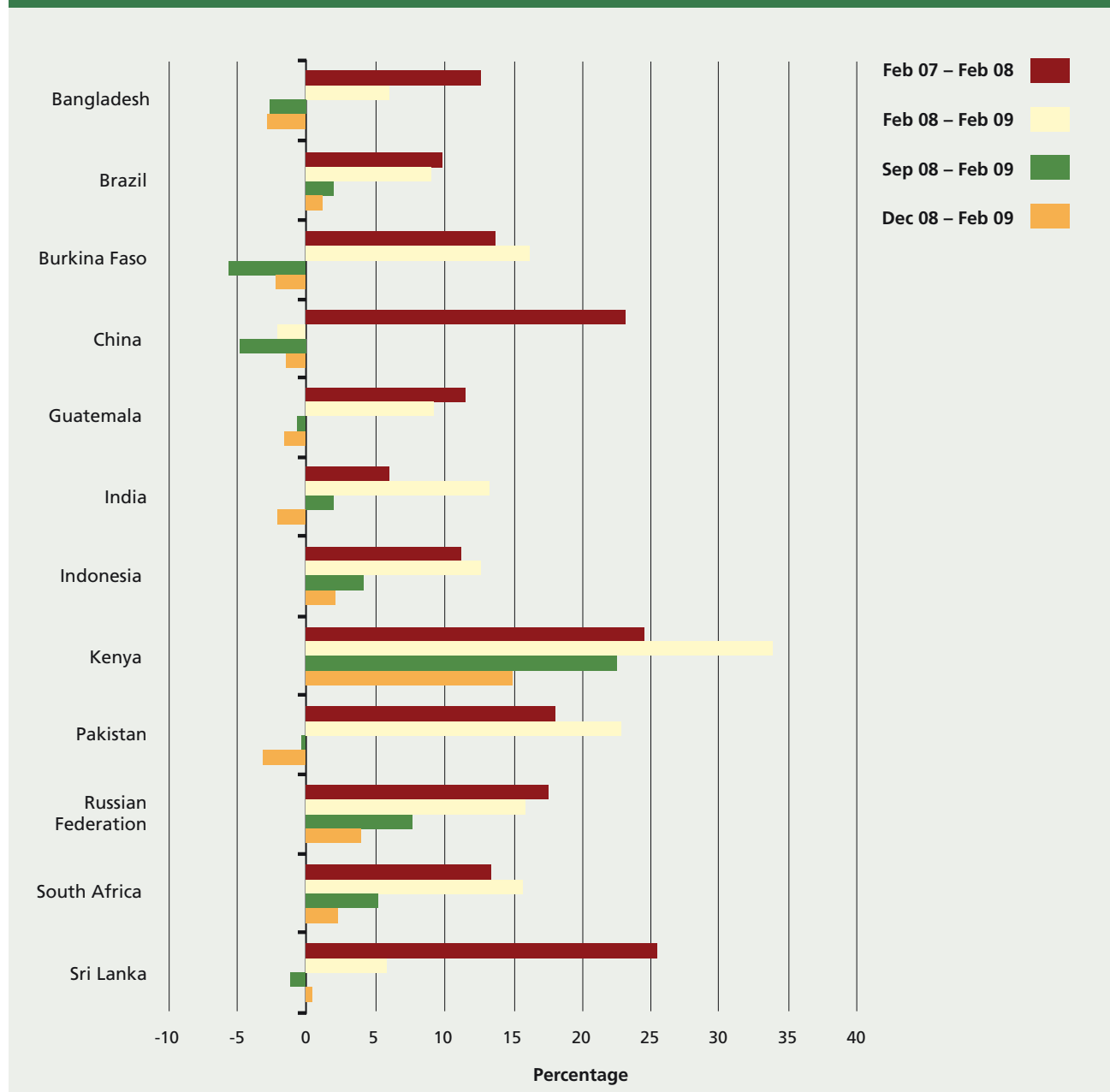
Thus, at the same time as the economic crisis is dramatically reducing incomes, persistent high food prices continue to constrain access to food for large numbers of low-income population groups, exactly those who tend to spend a large portion of their income on food. Most affected are the urban poor and net food buyers in rural areas.

MEDIUM-TERM PROSPECTS FOR INTERNATIONAL AGRICULTURAL COMMODITY PRICES

Although significantly below the peak levels of June 2008, commodity prices for food products remain high in 2009 by the standards of the past ten years. The Organisation for Economic Co-operation and Development (OECD) and FAO project food commodity prices to remain at these levels or to increase in the medium term, thus continuing to exceed in real terms the price levels preceding the price hikes of 2007–08 (OECD–FAO, 2009). The OECD–FAO projections also indicate that these expectations are relatively resilient to the global recession, although more income-sensitive commodities such as vegetable oils, meats and dairy products may be more affected by economic conditions should these deteriorate further.

Prospects that real agricultural commodity prices may remain at these higher levels over the medium term are largely contingent on three important factors. First, biofuel consumption mandates in several countries – which specify market shares for ethanol and biodiesel in proportion to total fuel consumption, irrespective of market conditions – as well as various subsidies and tax incentives appear likely to perpetuate the influence of biofuel production on agricultural prices. This is despite the fact that the price prospects for crude oil appear lower than they did in early 2008. As energy markets are large compared with agricultural markets, energy prices will tend to drive the prices of biofuels and their agricultural feedstocks (FAO, 2008b). Second, while crude oil prices are at levels that would not induce further increases in biofuel production in the short term, they still remain high in real terms by historical standards. This will

FIGURE 19
Consumer food price inflation 2007–2009, selected countries

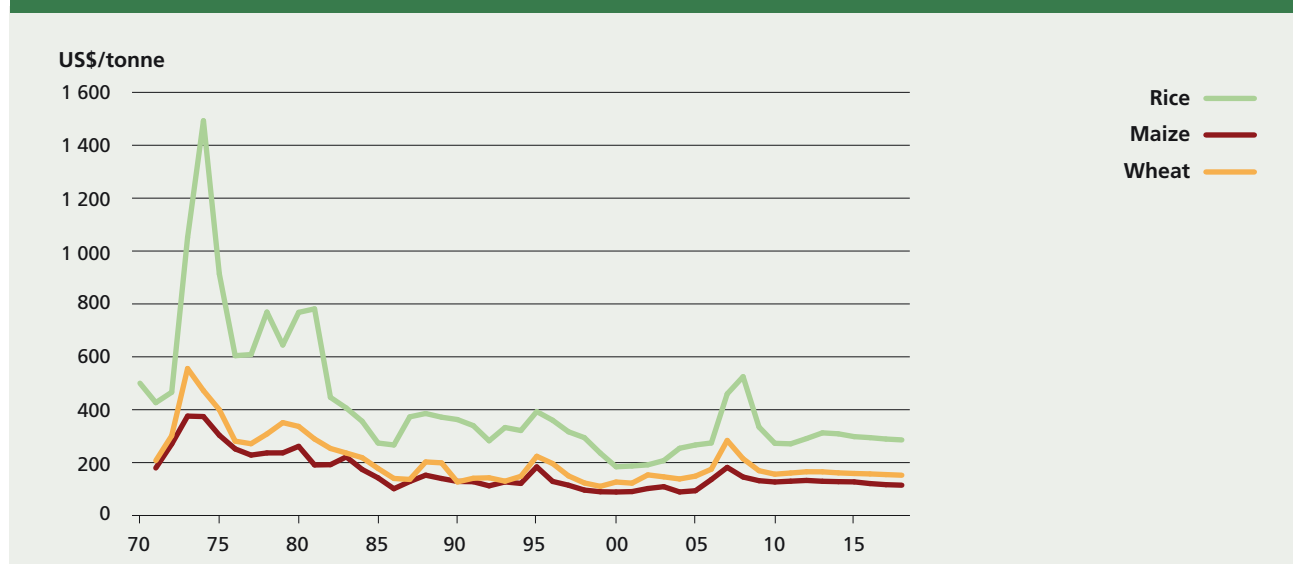


Source: OECD-FAO, 2009.

continue to translate into high input prices for chemicals and fertilizers as well as high transportation costs. Finally, agricultural productivity growth appears to be slowing, implying that, at the margin, increased production will require higher real costs per unit. Analysis of developments in real crop prices shows that the declining long-term trend, which had been evident for many

decades, may have stopped by 2000, and projections do not suggest a resumption of the downward trend in the medium term (see Figure 20).

FIGURE 20
Real cereal prices



Note: Wheat, HRW No. 2 US Gulf; maize, No. 2 US Gulf; rice milled, Grade B, Bangkok. Deflated by the USA GDP deflator.

Source: OECD–FAO, 2009, for projections from 2009 to 2018.

AGRICULTURAL PRODUCTION

How has agriculture responded to the price crisis of 2007–08, and how may it respond in the context of the global recession and beyond? According to estimates based on FAO production index numbers⁸ and OECD–FAO (2009), global agricultural production grew by 3.9 percent in 2008 relative to 2007 as a number of countries expanded production in response to the higher prices of 2007 and even better price prospects for 2008 (Figure 21). This response followed two successive years (2006 and 2007) of performance below the global trend growth for the decade of about 2.2 percent.

The agricultural supply response in 2008 differed by region. Most of the supply response originated in the European countries of the Commonwealth of Independent States (CIS) and in the industrialized countries. Growth in the former group is estimated at 13 percent, although this high rate is largely the result of excellent crop conditions after several years of low growth. The most significant quantitative response came from industrialized countries, which also dominate

export markets. Output from this group grew by almost 6 percent in 2008.

Among the developing countries, growth in Africa was significant, at 4 percent, mainly representing a rebound after negative growth in 2007. Estimates for the developing countries as a group indicate almost no above-trend production, with below-trend growth in Latin America and a small decline in output in Asia. Indeed, low price transmission in many developing countries along with supply-side constraints, particularly limited availability and use of modern inputs, lack of access to markets and weak infrastructures in many countries reduces the supply response to improved incentives.

While global agriculture did expand in 2008, the expansion was fairly modest and mostly confined to a limited number of countries that have been traditional cereal exporters supplying global markets. The prospects for growth in agricultural production in 2009 also appear limited, particularly under the severe economic recession, with weak demand and the difficulty in replicating the performance of 2008 in the developed countries. Moreover, the waiving of set-aside requirements for cropland set aside in the European Union (EU) was a significant factor behind the

⁸ FAOSTAT production index numbers of net agricultural production (FAO, 2009b).

BOX 20

Domestic food prices in developing countries remain high

As part of the FAO Initiative on Soaring Food Prices (ISFP) to assist in the monitoring and analysis of domestic food price trends in developing countries, the FAO Global Information and Early Warning System (GIEWS) has launched the "National basic food prices – data and analysis tool".¹ The database covers about 800 monthly domestic retail/wholesale price series of major foods² consumed in 58 developing countries as well as international cereal export prices.

An initial analysis (April 2009) of the data confirmed that domestic prices in developing countries generally remained very high, even though international prices were considerably lower than in 2008. International export prices of maize, sorghum, wheat and rice were, respectively, 31, 38, 39 and 30 percent lower than 12 months earlier and between 37 and 53 percent below their 2008 peaks. The situation for domestic cereal prices in developing countries contrasted sharply with this trend. In about 80 percent of the countries covered by the database, the latest nominal domestic price quotations³ were higher than 12 months earlier. In 35–65 percent

of the countries, depending on the type of cereal, they were higher than three months earlier, and in 10–30 percent of the countries the latest food prices available in GIEWS by late March 2009 were the highest on record.

The situation is even more dramatic in sub-Saharan Africa. Domestic prices of rice are much higher than 12 months earlier in all the countries covered in the database, while prices of maize, millet and sorghum are higher in about 89 percent of them. For wheat and wheat products, 71 percent of the countries surveyed show prices higher than 12 months earlier. With the exception of millet, the latest prices of other cereals were much higher than at their peak 2008 in about one-third of the countries, most of them in Eastern and Southern Africa. However, food prices remain at high levels also in other regions, particularly in Asia for rice and in Central and South America for maize and wheat.

¹ Available at www.fao.org/giews/pricetool

² Mainly cereals and cereal products but also beans, cassava, potatoes and some animal products.

³ The most recent price quotation refers, with few exceptions, to the period between January and April 2009.

Source: FAO, 2009d.

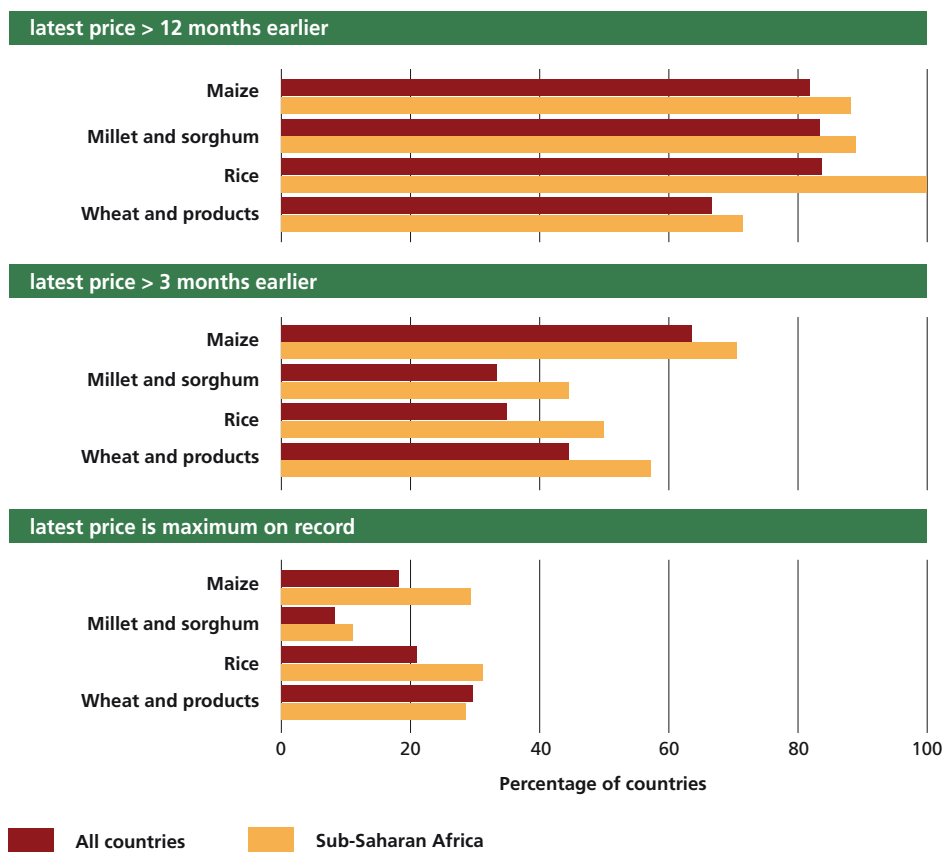
expansion in production. Production in the CIS and the industrialized countries will not reach the level attained in 2008. By contrast, production response in many developing countries may be stronger if higher prices persist in these regions.

Looking to the medium term, according to OECD–FAO (2009), agricultural output growth in the coming decade will not match that of the previous decade, with average annual growth falling from 2.0 percent in 1999–2008 to 1.7 percent in 2009–2018. This implies identical rates of growth on a per capita basis (of 0.6 percent).

The industrialized countries have seen the slowest growth in agricultural output in the past decade, particularly because of stagnant production growth in Europe. In fact,

agricultural output in the EU-27 is estimated to be lower in 2009 than it was in 2000. Despite a depreciated exchange rate, which tends to increase export demand, agricultural output in the United States of America is estimated to have increased by only about 12 percent over the same period. Moreover, in the coming decade, growth in agricultural production is projected to be slowest in the industrialized countries, while Latin America, Asia and the CIS countries will see much more rapid growth. By 2018, agricultural output in these regions is projected to be, respectively, 75, 53 and 58 percent higher than in 2000, compared with an increase of only 12 percent in industrialized economies. Brazil, whose agricultural output is estimated to have grown by a remarkable 50 percent

Percentage of developing countries in database where latest price quotation is higher than specified period or the maximum on record



since 2000, may expand by another 50 percent in the next ten years.

Longer-term growth opportunities in agriculture appear to lie in regions outside of the industrial countries (Figure 22). In this regard, investments are now being made in these potential supply regions by higher-income developing countries concerned about their own long-term food security. Such investments may offer the potential for development of the agriculture sector and may further change the long-term location of agriculture. However, in the context of underdeveloped land markets, for these investments to be sustainable and lead to equitable outcomes, they will require significantly improved frameworks to protect domestic resources and local

populations from exploitation (FAO, IIED and IFAD, 2009).

AGRICULTURAL TRADE

In the short term, trade volumes are very sensitive to economic conditions and to production changes by region, particularly in the net exporting regions. At the time of writing (June 2009), very little information was available on a global basis on changes in agricultural trade during the price crisis of 2008. It is also unclear how trade may be affected by recession in 2009 and 2010, considering also that availability of credit for importers, particularly in developing countries, is an important limiting factor.

BOX 21

A return to high agricultural commodity prices?

Agricultural commodity prices fell substantially with the onset of global recession in the second half of 2008. Virtually all primary product prices fell precipitously in the face of weak demand and supply responses to the often record-high agricultural prices of the two previous years. What would be the likelihood of a resurgence of prices if world growth were to resume a more rapid pace and if oil prices returned to the levels of 2008?

The OECD-FAO's Aglink-Cosimo model was used to generate a scenario in which world economic growth for all countries resumes the rapid pace experienced in the period 2004-07 and in which world oil prices return to the level of US\$100/bbl.¹ The resulting scenario is compared with the baseline projection of the *OECD-FAO Agricultural Outlook 2009-2018* (OECD-FAO, 2009), in which economic growth of developed and developing countries is some 1 and 2 percent lower, respectively, and in which world oil prices range from US\$60/bbl in 2012 to US\$70/bbl in 2018.

The model simulations indicate that under this simple scenario of resumed growth and higher crude oil prices, international basic food prices would increase by some 20-25 percent relative to the baseline projection. However,

they would not return to the levels of 2007-08. An exception is maize, which is more closely linked to crude oil prices (owing to its importance as feedstock in ethanol production). However, the analysis clearly demonstrates the current high sensitivity of the agriculture sector to increases in energy prices, which affect the supply side and increasingly also the demand side of the global food economy.

¹ More precisely, in the scenario, growth resumes in 2011 and world oil prices move up to US\$100/bbl by 2012. All other conditioning factors, such as productivity, economy inflation and exchange rates, remain constant as documented in OECD-FAO, 2009. Source: FAO.

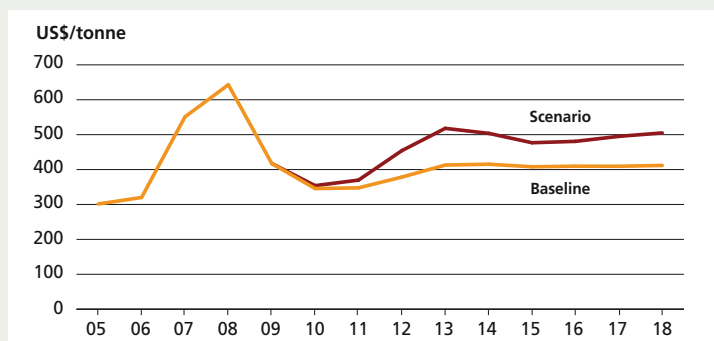
For the medium term, projections based on OECD-FAO (2009) indicate that real food commodity trade values will continue to expand slowly (Figure 23).⁹

Medium-term trends in trade in food commodities imply a changing landscape of international trading patterns (Figure 24). With relatively slow growth in agricultural

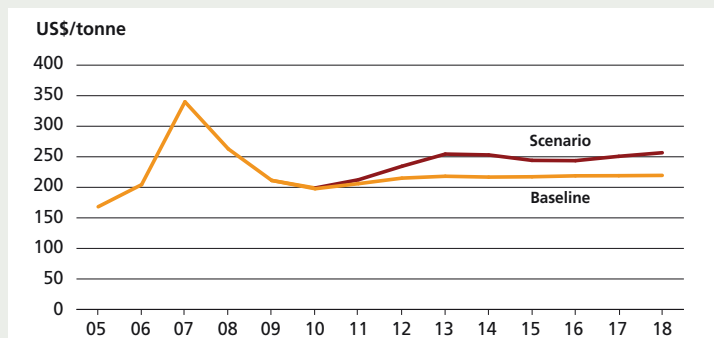
output and stagnating food demand, real net food commodity exports from industrialized countries have been stagnant in recent years, a pattern that is not expected to change in the medium term. As a group, industrial countries will remain excess suppliers, exporting to other countries, while developing countries will remain, as a group, net food commodity buyers.

However, within the developing countries, a continued significant expansion in net trade is projected from Latin American countries, notably Argentina and Brazil, while the Asia Pacific and Africa regions will see a widening of their net import

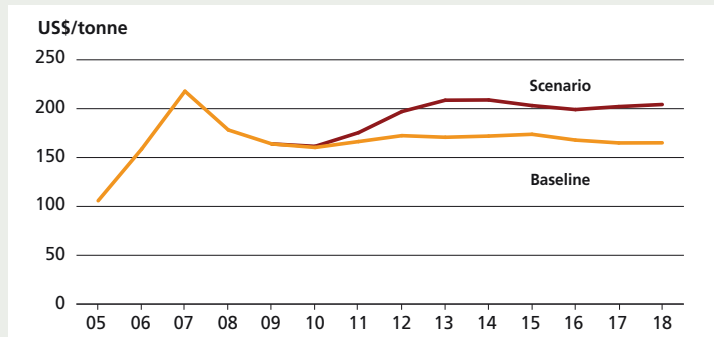
⁹ Real food trade value (like the net agricultural production indices) is estimated at constant reference prices averaged for 1999-2001 from basic food commodities. Annual trade from these estimates is approximate as they combine both marketing-year-basis data for crops with calendar data for other commodities. Estimates are used to examine recent trends, not annual trade performance.



RICE PRICES



WHEAT PRICES



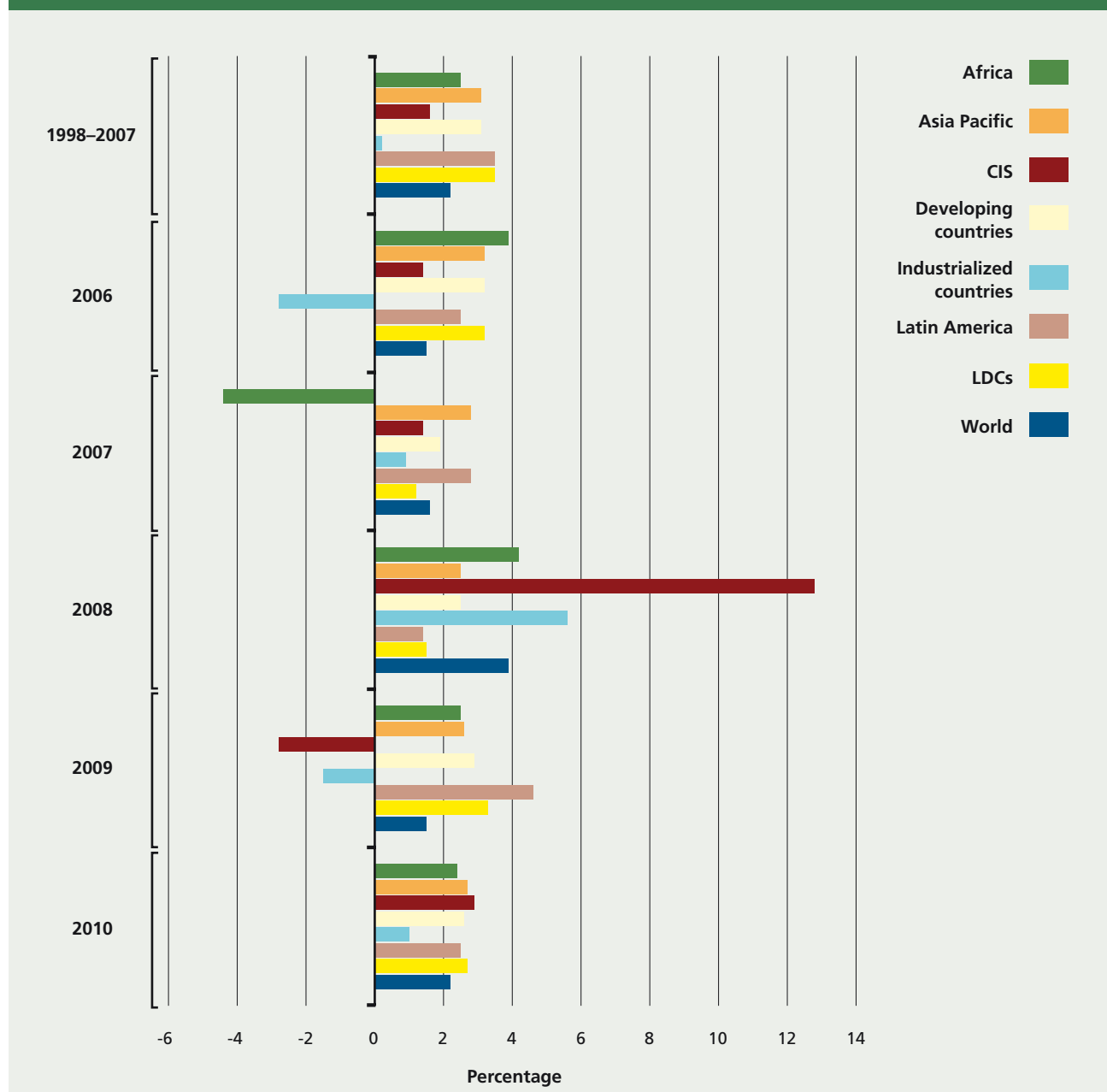
MAIZE PRICES

position. The net food surplus of Brazil has grown almost four times since 2000, and is expected to grow another 50 percent in the next ten years. The CIS countries are expected to emerge as net suppliers of food, reversing their position from that of net importers to that of net exporters in the medium term. An area of particular concern is the continued significant food deficit of the least-developed countries (LDCs), particularly those in Africa, which is anticipated to increase in real terms by over 50 percent in the next ten years, thus further increasing their dependence on foreign supplies.

POLICY RESPONSES TO HIGHER FOOD PRICES AND THEIR IMPACT ON AGRICULTURAL MARKETS

Faced with high and rising world food prices in 2007 and 2008, many countries adopted policy measures designed to reduce the impact on their domestic populations (FAO, 2009e). These measures, involving different key commodity sectors, can be classified into four broad categories: trade, production, consumption and stock policies. Most of these policy measures were implemented for limited periods. However, some introduced in 2007 still remain in effect in 2009 despite

FIGURE 21
Growth in agricultural production, by region



Source: FAOSTAT net agricultural production index to 2007 (FAO, 2009b). Extrapolation based on OECD-FAO, 2009.

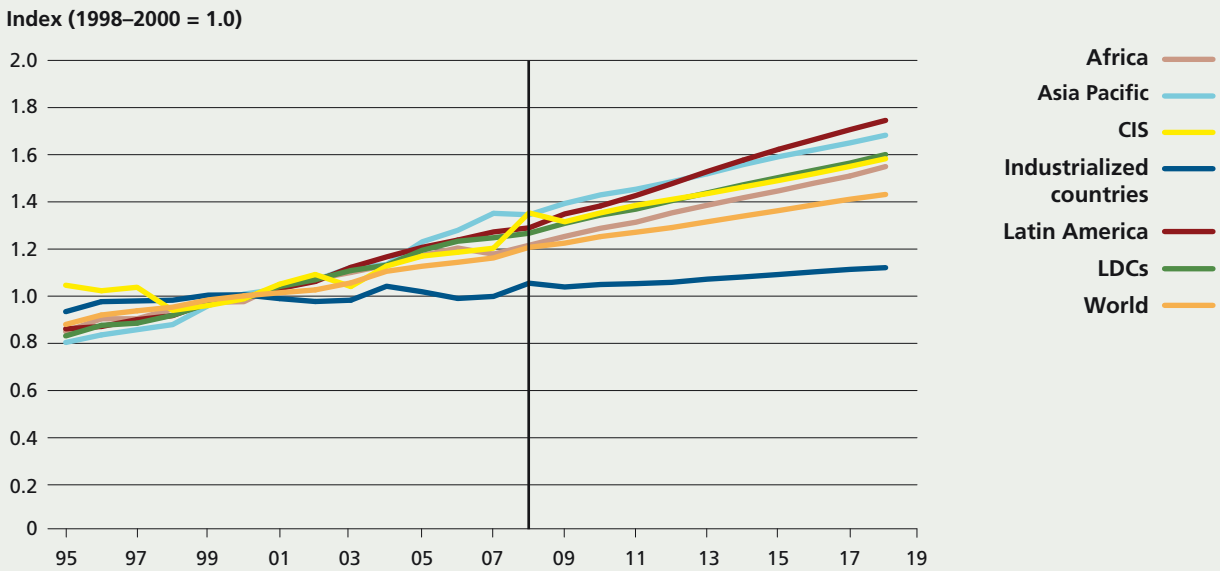
the substantial retreat of international prices.

An important question concerns the combined impact of these policy responses on both international and domestic markets and whether uncoordinated policy actions may have had the effect of destabilizing international markets by introducing greater price volatility. The question is important for at least two reasons. First, actions by

one country or group of countries may impede or reduce the effectiveness of actions taken by others. Second, some policy measures may simply be ineffective, if not counterproductive, in addressing the key problem – the impact of high food prices on poor consumers.

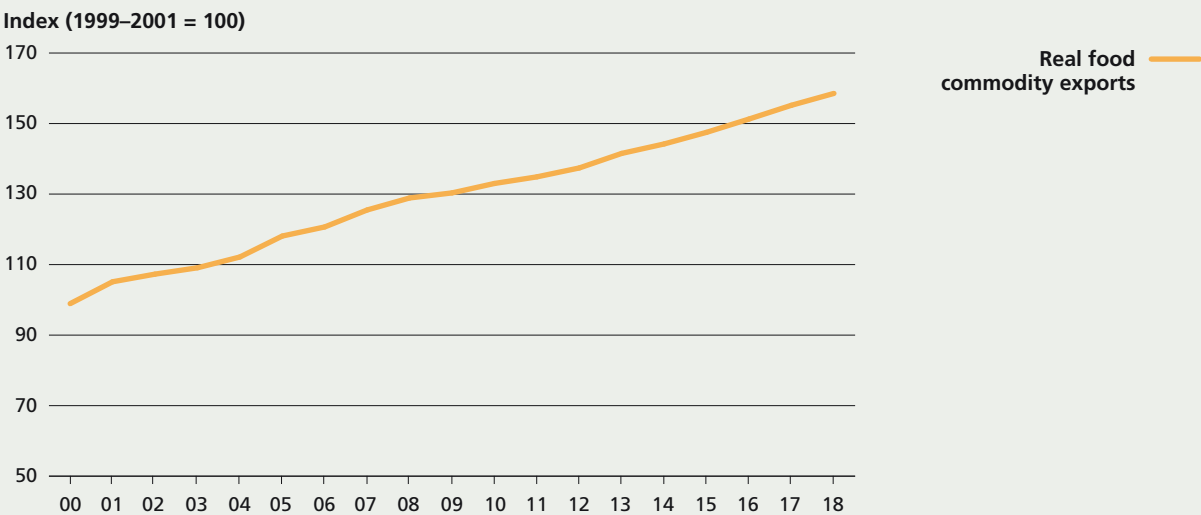
This section reviews the various policy measures put in place by various countries and discusses their different anticipated

FIGURE 22
Long-term trends in agricultural production, by region



Source: FAOSTAT net agricultural production index to 2007 (FAO, 2009b). Extrapolation based on OECD-FAO, 2009.

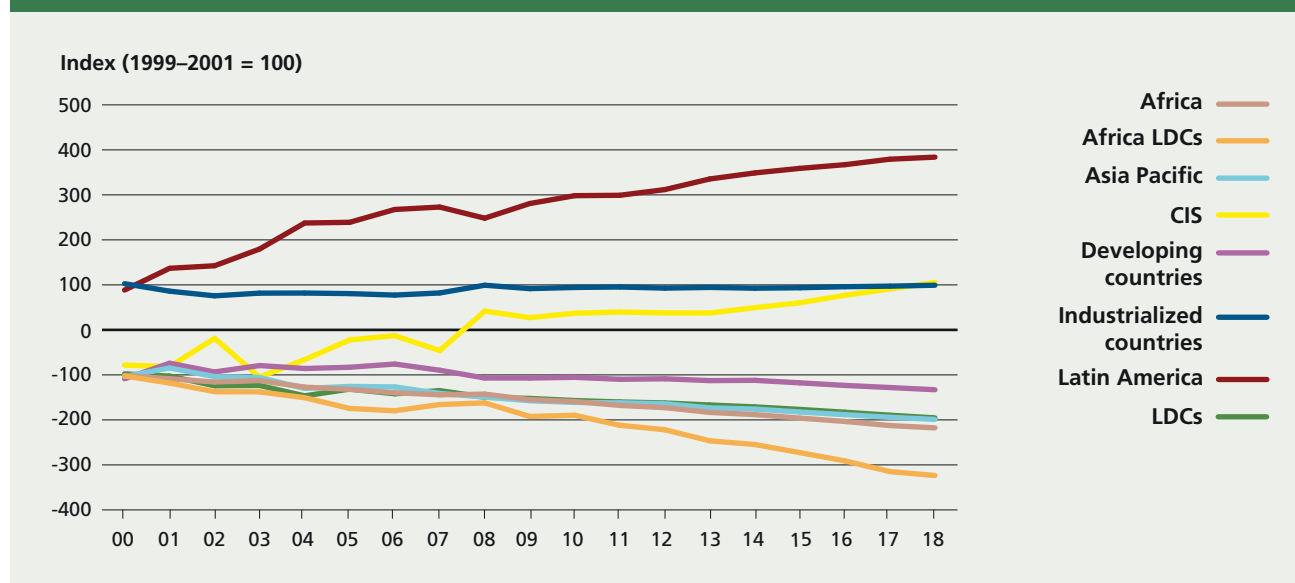
FIGURE 23
Changes in global real food commodity exports



Note: Index of real exports using 1999–2001 reference prices to weight exports by commodity, measures changes in exports in constant US dollars.

Source: OECD-FAO, 2009.

FIGURE 24
Changes in real food commodity net trade, by region



Note: Index of real net exports by region, using 2000 reference prices to weight net exports by commodity.

Source: OECD-FAO, 2009.

impacts. It concludes by presenting some simple scenario analysis, based on the OECD-FAO Aglink-Cosimo model, in order to gauge the nature and magnitude of the impact of these measures on agricultural markets.

Trade-related measures

Export measures

Export policies include export taxes and subsidies, export bans and other quantitative restrictions. They have typically been applied by net exporting countries to enhance supply on the domestic market. Such taxes, bans and quotas are highly distortionary, particularly in the case of bans (as these completely sever the link between the domestic and international markets). Depending on the specific policy and the exact degree to which they restrict trade, such policies tend to reduce prices to domestic consumers. However, they reduce the gains and, hence, the incentives to producers from higher prices, thus limiting their longer-term supply response. Moreover, by curtailing exports, they tend to increase prices on international markets. On the other hand, export taxes may increase the government's fiscal capacity to implement targeted social programmes or safety nets.

India, the world's third-largest rice exporter, banned exports of non-basmati rice and restricted those of basmati rice, thus significantly reducing global exportable supplies. In addition, India banned maize exports. China eliminated rebates on value added taxes on exports of wheat, rice, maize and soybeans and imposed an export tax on a series of grains and products. Prior to 20 December 2007, exports of these agricultural products were entitled to a 13 percent rebate of their declared value at exporting ports. Bangladesh, Cambodia, Egypt, Indonesia and Viet Nam banned exports of rice, while India, Pakistan, Serbia and Ukraine banned those of wheat. Kazakhstan and the Russian Federation raised export taxes on wheat and the Russian Federation imposed an export tax on barley of 30 percent. Similarly, Malaysia imposed export taxes on palm oil, while Argentina raised taxes on exports of wheat, maize, soybeans and soybean products.

Import measures

One of the most commonly applied policy measures, typically adopted by net importing countries, was the removal or reduction of import duties and taxes on food commodities. Like export policies, these policies have the effect of reducing both

consumer and producer prices. However, the magnitude of the price reduction tends to be less pronounced than for export bans and taxes as the extent of the reduction is limited by the size of the existing tariff or tax. Governments see a decline in revenues from such measures. In the case of food commodities, the reduction in taxes is progressive relative to income as poorer people tend to spend a larger share of their income on food. However, targeting is not as efficient as it may be in the case of targeted safety net programmes.

A number of countries (and the EU) reduced or eliminated food tariffs or taxes. They included Bangladesh, Egypt, India, Indonesia, the Islamic Republic of Iran, Mali, Mexico, Morocco, Pakistan, Peru, the Philippines, Senegal and Turkey. In some cases, the tariff cuts were very substantial. Nigeria slashed duties on rice imports from 100 to 2.7 percent and Turkey cut import taxes on wheat from 130 to 8 percent and those on barley from 100 to zero percent, while India removed a 36 percent import tariff on wheat flour.

Several countries suspended or reduced domestic taxes on food commodities. Brazil reduced its taxation of wheat, wheat flour and bread. Similarly, value-added tax was reduced on a range of basic imported foodstuffs and other goods in the Congo, on rice in Madagascar, on rice and bread in Kenya and on foodgrains and flour in Ethiopia.

Production policies

With a view to encouraging an expansion in production, various forms of producer support measures were introduced, including input subsidies, output price support and an easing of cropland set-aside requirements. Some of these policies are expensive, and the impact on domestic consumer prices is limited in the context of open markets but more substantial if linkages to international markets are weak. If not well administered, input subsidies may also lead to an increase in input prices as demand for inputs increases, thus benefiting input suppliers more than agricultural producers. The easing of set-aside requirements, which may otherwise constrain the production response to higher prices, is most effective at increasing

production and may effectively reduce domestic prices in a closed-market situation. In the case of major exporters, such as the EU, it may also have a significant dampening effect on international prices.

Countries that increased input subsidies include Bangladesh, China, Dominican Republic, Indonesia and Madagascar. In some cases, this was accompanied by measures to improve access to funds and credit, as well as by border measures such as reduced import taxes and higher export duties on inputs. China increased its floor price for rice and wheat. It also expanded non-price government support, including direct payments, seed subsidies, subsidies for farm machinery, and subsidies for fuels used on farms as well as fertilizers to farmers in 2008 (Fang, 2009). Total subsidies in 2008 reached RMB102.9 billion (US\$14.8 billion), double the level of the previous year. The Government imposed chemical fertilizer export taxes several times in 2008 in order to control exports and satisfy domestic demand from farmers. India increased the minimum support for common paddy rice by as much as 37 percent between 2006/07 and 2008/09 (from Rs6 200/tonne to Rs8 500/tonne) (Gulati and Dutta, 2009). In order to increase production, Indonesia launched a rice intensification programme involving the State Board of Logistics (Bulog), private companies, banks and groups of farmers. The fertilizer subsidy was also increased by 240 percent. The EU waived its 5 percent mandatory set-aside requirement for cropland for the 2008/09 crop, a measure that was an important factor in the sizeable expansion in EU cereal production in 2008.

Concerns over the reliability of international markets as a source of food supplies has resulted in a renewed focus in many countries on food self-sufficiency as a means of achieving national food security. Many net food-importing countries around the world are adjusting their agricultural development strategies and giving priority to expanding production in order to reduce import dependence. The Philippines has decided to promote food production with the aim of achieving self-sufficiency in staple foods by 2010. Armenia announced an attempt to reach self-sufficiency in wheat by 2009/10 through subsidies for expansion of

cropland and irrigation. The Government of Kazakhstan planned to inject US\$3 million into the agriculture sector to help farmers withstand the impact of the global credit crisis. Malaysia allocated US\$1.29 billion to promote rice-growing while also increasing government minimum prices for rice.

Consumption policies

Policies to support consumers and vulnerable groups have included:

- direct consumer subsidies;
- tax reductions;
- distribution from public stocks;
- price subsidies;
- public-sector salary increases;
- social safety net programmes.

Targeted transfer programmes can potentially reach the poor much more efficiently and effectively than tax reductions and price subsidies. Examples of such food assistance are direct food transfers, food stamps or vouchers and school feeding.

Self-targeting food-for-work programmes have been put in place by countries such as Bangladesh, Cambodia, Ethiopia, Haiti, India, Liberia, Madagascar and Peru, while Afghanistan, Angola, Bangladesh and Cambodia have distributed emergency food aid. School feeding programmes have been implemented in Brazil, Burkina Faso, Cape Verde, China, Honduras, Kenya, Mexico and Mozambique. Countries such as Dominican Republic, Egypt, Ethiopia, Indonesia, Jordan, Lebanon, Mongolia, Morocco, the Philippines and Saudi Arabia have sold food at subsidized prices to targeted groups.

Stock policies

Building and releasing public stocks in order to stabilize domestic food prices have been common measures implemented to contain the problem of rising food prices. Increasing and holding stocks could lead to higher food prices, while releasing stocks to the market has the opposite effect. In a context of closed domestic markets, depending on buying and selling behaviour, stock policies may stabilize or destabilize domestic prices. At the global level, higher stock demand, either by national intervention programmes, companies or individual producers speculating on higher prices, may cause

higher prices. However, in the longer term, higher stock levels have been associated with lower international prices.

Bangladesh, Cameroon, China, Ethiopia, India, Indonesia, Pakistan and Senegal all released food from public stocks to lessen price increases and offered targeted and untargeted subsidies for staple food. However, several countries contributed to higher international prices by building up stocks through purchases from the international market with a view to stabilizing their domestic market. The national grain reserve systems in China increased temporary grain stocks. The Food Corporation of India made record purchases of rice and wheat in 2008, allowing it to release sufficient stocks into the domestic market to stabilize prices. India's stocks of wheat and rice are expected to be 40–45 million tonnes by July 2009 (against a norm of 26 million tonnes). The Government of the Philippines, the world's largest rice importer, increased its imports for 2008 to 2.4 million tonnes (from 2.1 million tonnes in the previous year) in a bid to ensure at least a 30-day stockpile until the end of the year. The Government of Saudi Arabia, one of the major importers of rice in the Near East, proposed that rice importers consider raising their stocks of grain by 50 percent in 2008 to meet national consumption requirements for a 6–8-month period.

IMPACT OF POLICY RESPONSES ON GLOBAL MARKETS

Measuring the impacts of the complex assortment of policy responses to confront the high food prices is difficult. Even more difficult is disentangling these impacts from the other factors underlying the volatile market situation in 2007–08, in which these policies were implemented. However, there are important lessons to be learned from such an examination. The OECD–FAO Aglink-Cosimo model of international commodity markets was used to study some of the more important policy initiatives implemented in response to the high commodity prices. Policies were examined against a baseline scenario into which key policies were then introduced. Thus, the

analysis compared two scenarios – one with and one without these key policies in place.¹⁰

The policy measures that are the subject of the analysis were introduced into the model according to the time in which they were put in place, starting in the 2007/08 marketing year, and maintained until the time they were discontinued. In the case of policies still in place, they were maintained within the modelling framework throughout the baseline period to 2012.¹¹ The analysis focused on global rice and wheat markets, as these were the main markets most affected by policies. Estimated impacts for individual countries may vary substantially from these aggregate projection scenarios.¹²

The scenario impacts on global rice and wheat markets, presented in Figure 25, illustrate some important issues. Rice markets, which are relatively “thin” compared with global production and consumption levels, saw a clear destabilizing effect of policies implemented to address high food prices, with significantly higher international prices in 2007 and 2008 than in the baseline scenario. The most distortionary policies in the case of rice were border policies implemented in 2007 and 2008. These alone drove international rice prices higher by an estimated 12 percent on an annualized basis in both 2007 and 2008. Had the policies been maintained throughout both marketing years, the measured effects would have been much greater. Stock policies are estimated to have driven global rice stocks up by some 30–35 percent in both years, adding some 5 and 3 percent to international rice prices in the 2007 and 2008 marketing years, respectively. Production policy measures, relatively minor in the case of rice markets, are estimated not to have

affected international prices at all in the first few years of the scenario period. Moreover, consumption-enhancing measures had little impact on market prices. Overall, the policies examined are estimated to have increased global rice production in 2007–09 but to have led to decreased global consumption in 2007.

For wheat markets, effects on world prices are estimated to have been smaller than for rice. With the exception of the initial period, where border measures drive prices up by 4–5 percent, the most significant impact on markets is attributable to production policies, which indeed reduced prices by as much as 6 percent (in 2009) and induced both higher consumption and production of wheat. In the case of wheat, border measures are estimated to be much less important than for rice. This is because the prevalence of such measures was less than that for rice but also because international wheat markets are much less “thin” than those for rice.

In conclusion, the analysis suggests that implemented policy measures increased wheat production and consumption, with lower global reference prices. However, it also suggests that they destabilized rice markets, without any significant longer-term effect on consumption levels. It is important to add that the reduction to zero of mandatory cropland set aside in the EU was not included in this analysis. Had it been included, the estimated positive impact on crop production and consumption would have been significantly higher, especially for wheat and other major crops in Europe.

CONCLUSIONS

The rapid succession of two major crises – the global food crisis and the subsequent financial crisis and economic recession – has delivered the hardest blow to world food security in decades. The two crises have led to a sharp increase in the number of people suffering from chronic hunger and undernourishment in the world and a reversal of the previously declining trend in the proportion of the world’s population without access to adequate food for a healthy and active life.

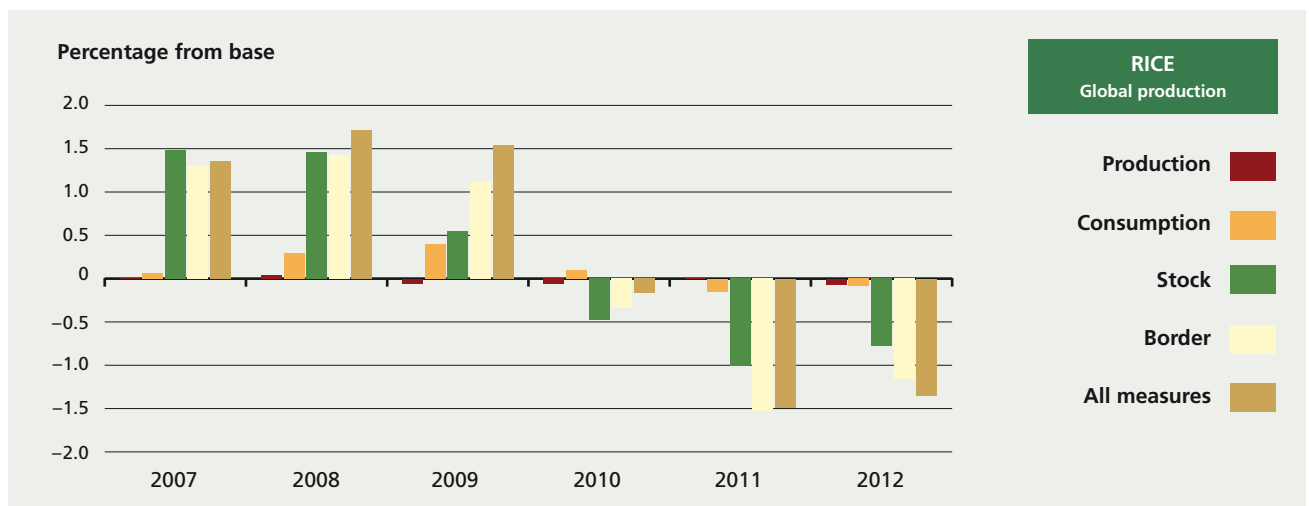
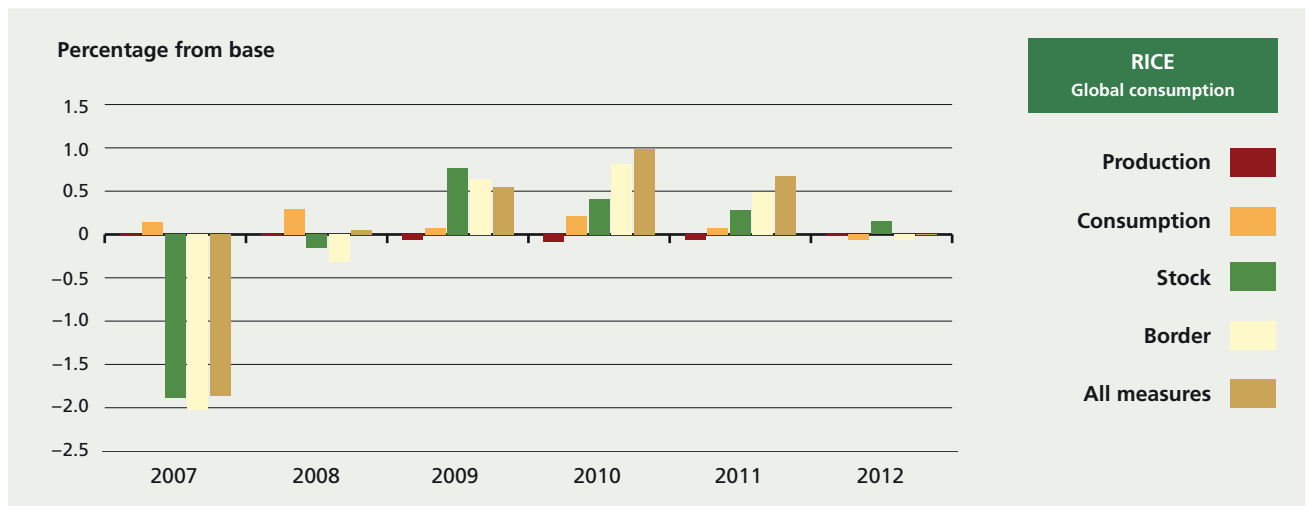
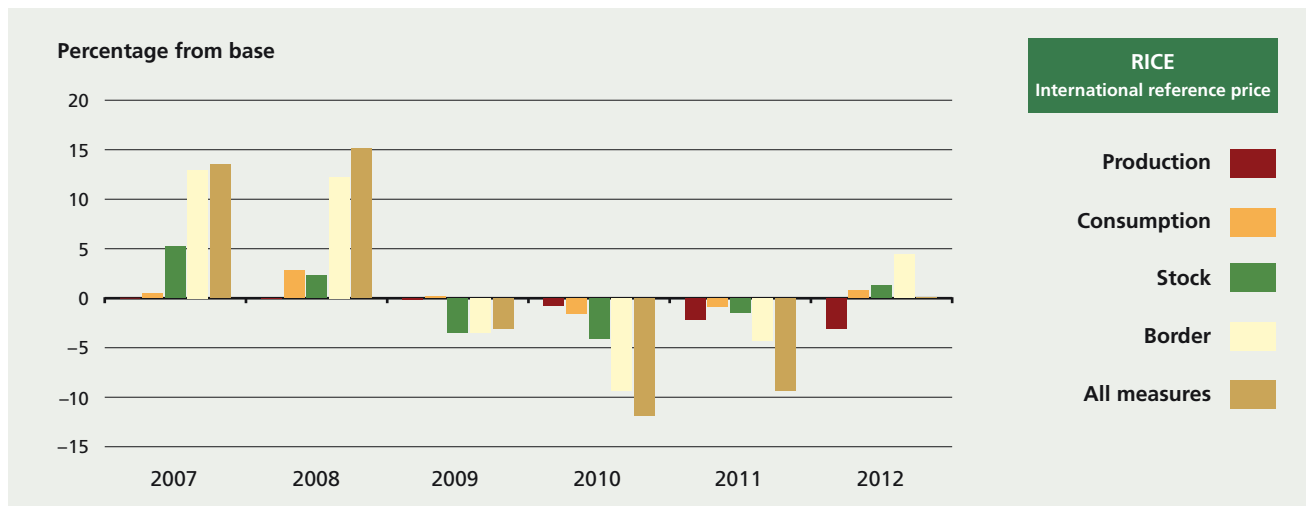
The financial crisis – and the consequent economic downturn – originated far

¹⁰ Model simulations are based on information contained in FAO (2009f), but coverage of policies focuses on those that were adaptable to the modelling environment and that were expected to have a measurable market impact.

¹¹ The OECD–FAO Aglink-Cosimo model is annual. The impacts of policies that were in place in part of two or more years were introduced proportionately in the different marketing years. However, in the case of policies that were in place only for short periods, this procedure may have had the effect of underestimating the magnitude of the short-term effects by distributing them over two years.

¹² A forthcoming report will assess impacts for other commodity sectors and refine the analysis.

FIGURE 25
Estimated impact of production, consumption, stock and border measures on rice and wheat markets

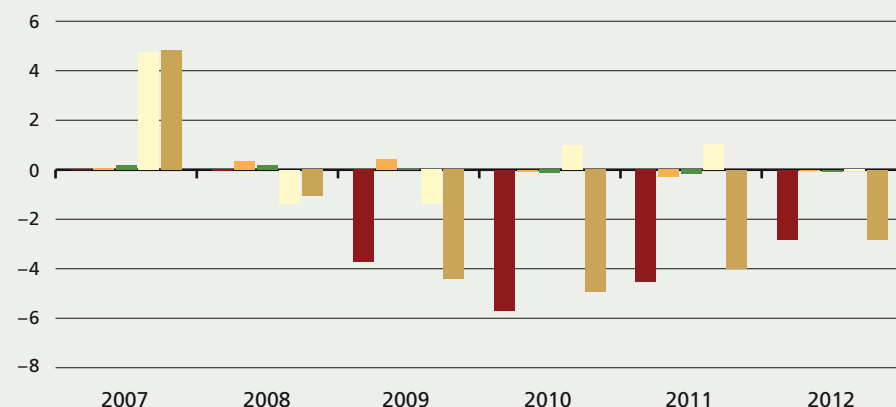


(Cont.)

FIGURE 25 (cont.)

Estimated impact of production, consumption, stock and border measures on rice and wheat markets

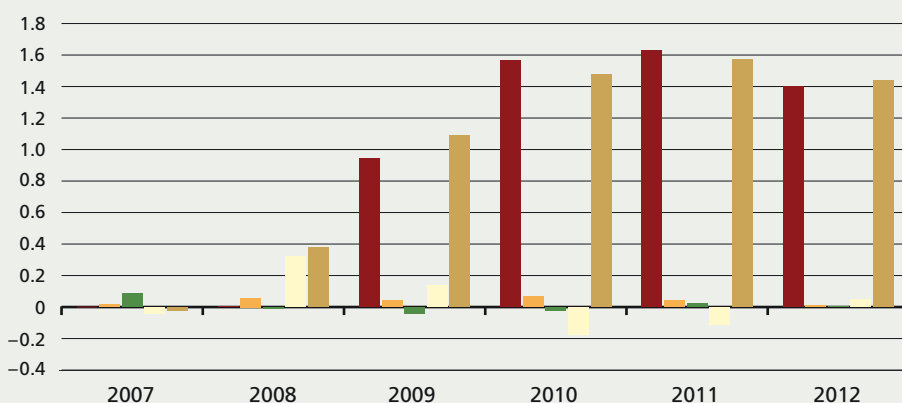
Percentage from base



WHEAT
International reference price

- Production ■
- Consumption ■
- Stock ■
- Border ■
- All measures ■

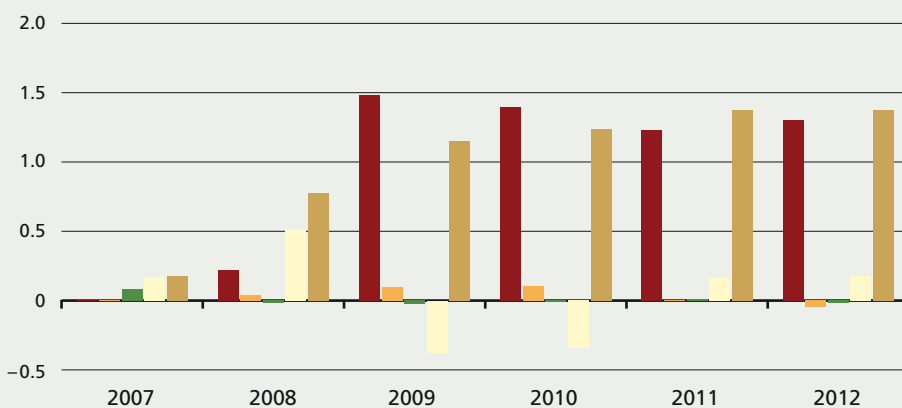
Percentage from base



WHEAT
Global consumption

- Production ■
- Consumption ■
- Stock ■
- Border ■
- All measures ■

Percentage from base



WHEAT
Global production

- Production ■
- Consumption ■
- Stock ■
- Border ■
- All measures ■

from the agriculture sector and far from the developing countries, where its most devastating effects on the poorest segments of the population are being felt. While recovery from global economic recession, however rapid, will depend on factors beyond the areas of food and agriculture, the impact of the recession requires immediate and effective measures to protect the poor and food-insecure who are the most severely affected victims of the crisis.

Beyond the – hopefully swift – recovery from the crisis, there remain many problems related to global food and agriculture that have been highlighted in this report and are cause for concern. In spite of a decline from their peak levels of 2008 and the economic recession notwithstanding, global food prices are still high compared with recent historical levels and are expected to stay high, at least over the medium term. At the same time, various currently latent underlying factors may cause a return to even higher food prices. Resumed income growth in developing countries will lead to renewed expansion of demand for agricultural commodities. Higher real energy prices may affect agricultural food production through input and transportation costs as well as through increased demand for agricultural commodities as feedstock for biofuel production. Consumption mandates and other incentives for biofuel production and consumption in several countries will in their own right contribute to upward pressure on agricultural prices. To these can be added concerns over declining agricultural productivity growth, while the experience of the food crisis of 2006–08 has shown that several policy responses aimed at protecting domestic populations may have exacerbated problems at the international level and destabilized markets.

This report has presented an analysis of the likely consequences of higher income growth and a return to higher energy prices. It confirms that there would be a significant impact and that agricultural prices could be pushed to higher levels. The report has also analysed the impact on agricultural production and markets of policies implemented to protect against high prices, concluding that many of them had a destabilizing effect. Similarly, *The State of Food and Agriculture 2008* (FAO, 2008b)

also analysed the impact on agricultural markets of growing biofuel demand as well as the implications of different scenarios for agricultural productivity growth.

In the present situation of severe hardship and future risks and uncertainties, efforts are required in at least four directions. It is necessary to address the immediate impact of the crisis through appropriate safety nets and social programmes to protect the poor and food-insecure. There is a need to step up investment in agriculture with the dual purpose of stimulating sustainable productivity increases to expand supply and of exploiting the potential of agriculture to contribute to economic development and poverty alleviation in the LDCs. In this regard, high prices also represent an opportunity for agricultural producers and imply higher returns to investments in the agriculture sector, whether public or private. The fact that hunger was increasing even before the food and economic crises suggests that technical solutions are insufficient. To lift themselves out of hunger, the food-insecure need control over resources, access to opportunities and improved governance at the local, national and international levels based on right-to-food principles. Finally, it is necessary to strengthen the international trading system in order to prevent measures implemented to protect domestic populations from destabilizing international markets and penalizing other countries.

These broad areas for action are now widely recognized and supported at the international level. If it is possible to point to a single positive aspect of the current severe crisis, it certainly lies in its contribution towards generating renewed attention on agriculture, agricultural development and global food security. This attention is finding its expression on ever more numerous occasions and in ever more important fora. It should lead to a more determined effort at all levels to promote agriculture as a source of development and poverty alleviation and to more decisive action to eliminate hunger and food insecurity in the world.