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# Food Price Watch

THE WORLD BANK

POVERTY REDUCTION & EQUITY

POVERTY REDUCTION AND EQUITY GROUP
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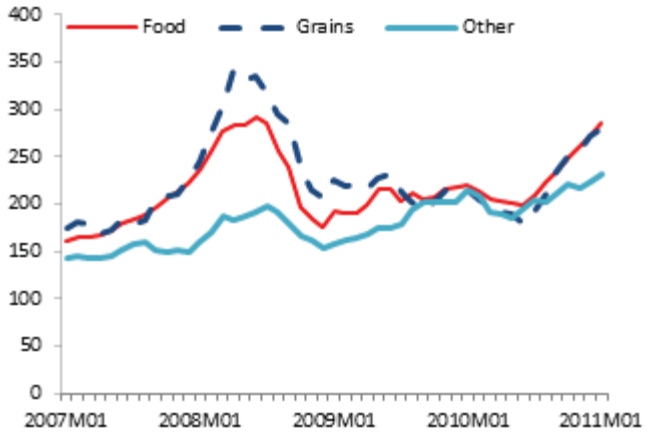
Global food prices continue to rise. The World Bank's food price index increased by 15% between October 2010 and January 2011 and is only 3% below its 2008 peak. The last six months have seen sharp increases in the global prices of wheat, maize, sugar and edible oils, with a relatively smaller increase in rice prices. Higher global wheat prices have fed into significant increases in local wheat prices in many countries. Higher maize, sugar, and oil prices have contributed to increase the costs of various types of food, though local maize prices have largely been stable in Sub-Saharan Africa. Local rice prices have increased in line with global prices in some large rice-consuming Asian countries. These food price rises create macro vulnerabilities, particularly for countries with a high share of food imports and limited fiscal space, as well as increases in poverty. Estimates of those who fall into, and move out of, poverty as a result of price rises since June 2010 show there is a net increase in extreme poverty of about 44 million people in low- and middle-income countries. In the immediate term, it is important to ensure that further increases in poverty are curtailed by taking measures that calm jittery markets and by scaling up safety net and nutritional programs. Investments in raising environmentally sustainable agricultural productivity, better risk-management tools, less food-intensive biofuel technologies, and climate change adaptation measures are all necessary over the medium term to mitigate the impact of expected food price volatility on the most vulnerable.

**Global food prices continue to rise, though not uniformly for all grains.** The World Bank's food price index rose by 15% between October 2010 and January 2011, is 29% above its level a year earlier, and only 3% below its June 2008 peak (figure 1). A breakdown of the index shows that the grain price index remains 16% below its peak mainly due to relatively stable rice prices, which are significantly lower than in 2008. The increase over the last quarter is driven largely by increases in the price of sugar (20%), fats and oils (22%), wheat (20%), and maize (12%).

**Among grains, global wheat prices have increased the most in recent months.** A confluence of weather shocks to various large producing countries, followed in some cases by export restrictions, curtailed supply and caused wheat prices to more than double between the lows of June 2010 and January 2011 (figure 2). Currently two factors are keeping wheat prices high. On the supply side, there is uncertainty about the size and the quality of wheat exports from Australia—where crops were damaged by excessive rains and floods—as well as concerns about China's winter wheat crop. Demand

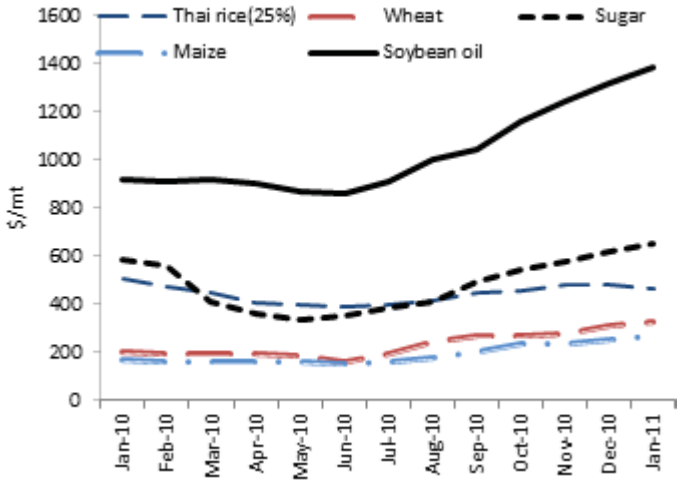
**Figure 1. World Bank Food Price Indices**




*Source*: World Bank Development Prospects Group.

*Food Price Watch*, produced by the Poverty Reduction and Equity group at the World Bank, is a series that aims at drawing attention to trends in domestic food prices in low- and middle-income countries and their policy implications. Contact: Hassan Zaman (hzaman@worldbank.org)

**Figure 2. Global Prices of Key Food Commodities**




*Source*: World Bank Development Prospects Group.

drivers center around the possibility of large wheat-importing countries, particularly in the Middle East and North Africa, coming to the market with large orders. These are related to assuring the public that adequate domestic food stocks exist during uncertain political times in some countries. Another reason is that countries like Saudi Arabia are progressively reducing domestic production of wheat to conserve valuable water resources and relying more on imports.

**Higher global wheat prices have fed into sharp increases in domestic wheat prices in many countries.** The transmission rate of global wheat price increases to the domestic price of wheat-related products has been high in many countries. For instance, between June 2010 and December 2010, the price of wheat increased by large amounts in Kyrgyzstan (54%), Bangladesh (45%), Tajikistan (37%), Mongolia (33%), Sri Lanka (31%), Azerbaijan (24%), Afghanistan (19%), Sudan (16%), and Pakistan (16%). Several of these countries have a large share of calories consumed from wheat-based products, particularly for the poor (table 1).

**In several other countries, the adjustment to higher global wheat prices has been shared by the government and consumers.** In India, higher domestic procurement prices for wheat have contributed to record domestic grain stocks, which have been released to curb prices. In parallel, the subsidized wheat program has been scaled up. In Egypt, the bread subsidy is estimated to reach around 85% of the population. Nevertheless, even in these countries, consumers are not fully exempted from the impact of global price rises as prices of nonsubsidized wheat products, as well as other basic staples, have increased. Local practices have also shielded consumers from higher global wheat prices—for instance in Cambodia bread prices have remained stable as consumers use flour made from locally produced cassava.

**Maize prices have increased sharply and are affected by complex linkages with other markets.** In January 2011, maize prices were about 73% higher than June 2010. These increases are due to a series of downward revisions of crop forecasts, low stocks (U.S. stocks-to-use ratio for 2010/11 is projected to be 5%, the lowest since 1995), the positive relationship between maize and wheat prices, and the use of corn for biofuels. Ethanol production demand for corn increases as oil prices go up, with sugar-based ethanol less competitive at current sugar prices. Recent United States Department of Agriculture (USDA) estimates show the share of ethanol for fuel rising from 31% of U.S. corn output in 2008/9 to a projected 40% in 2010/11. Increased demand for high fructose corn syrup from countries such as Mexico, as they substitute away from higher priced sugar, also contributes to higher demand for corn. Prospects of easing in this market depend partly on the size of the crops in Latin America, particularly Argentina, which has been affected by unusually dry weather due to the La Nina effect, and the extent of import demand from China in 2011 as well as oil and sugar price trajectories.

**The transmission of higher global maize prices is varied and has depended significantly on domestic harvest conditions.** Countries in Sub-Saharan Africa have benefitted from excellent maize harvests, which have led to a sharp fall in prices. The declines from June–December 2010 shown in table 1 come on the heels of even sharper price falls in the early part of the year—on average, maize prices were lower in 2010 in comparison to 2009 in Uganda (52%), Rwanda (37%), Kenya (33%), Malawi (30%), Ethiopia (22%), and Tanzania (19%).[1] However, these prices also exhibit considerable volatility, which has adverse impacts on both producers and consumers. For instance, after a sharp decline in the early part of 2010, maize prices in Rwanda have rebounded by 19% since June 2010. Several Latin American countries saw the price of maize rise dramatically in the last half of 2010 as dry weather lowered yields—the largest increases were witnessed in Brazil (56%) and Argentina (40%). Higher global maize

[1] The prices for Uganda, Rwanda, Kenya and Tanzania are in U.S. dollars.

## Table 1. Largest Movers in Domestic Prices, June to December 2010

| Product by country | Change in price (%) | Calorie share (%) | Product by country | Change in price (%) | Calorie share (%) |
|---|---|---|---|---|---|
| **Wheat** | | | **Rice** | | |
| *World price (US$, HRW U.S. Gulf Ports)* | 75 | | *World price (US$, 5% Thai, Bangkok)* | 17 | |
| Kyrgyzstan (retail, Bishkek) | 54 | 40 | Vietnam (retail, Dong Thap) | 46 | 59 |
| Bangladesh (retail, national average) | 45 | 6 | Burundi (retail, Bujumbura) | 41 | 3 |
| Tajikistan (retail, national average) | 37 | 54 | Bangladesh (retail, Dhaka) | 19 | 70 |
| Mongolia (retail, Ulaanbaatar) | 33 | 42 | Pakistan (retail, Lahore) | 19 | 6 |
| Sri Lanka (retail, Colombo) | 31 | 14 | Indonesia (retail, national average) | 19 | 50 |
| Azerbaijan (retail, national average) | 24 | 57 | Mozambique (retail, Maputo) | 14 | 8 |
| Afghanistan (retail, Kabul) | 19 | .. | Cambodia (wholesale, Phnom Penh) | -11 | 65 |
| Sudan (wholesale, Khartoum) | 16 | 15 | Mexico (wholesale, Mexico City) | -9 | 2 |
| Pakistan (retail, Lahore) | 16 | 37 | **Maize** | | |
| Brazil (wholesale, São Paulo) | 14 | 13 | *World price (US$, U.S. Gulf Ports)* | 73 | |
| Bolivia (wholesale, La Paz) | 10 | 18 | Brazil (wholesale São Paulo) | 56 | 7 |
| Cameroon (retail, Yaounde) | -15 | 6 | Argentina (wholesale, Rosario) | 40 | 3 |
| **Sorghum** | | | Rwanda (wholesale, Kigali)[a] | 19 | 5 |
| *World price* | 88 | | Peru (wholesale, national average) | 12 | 11 |
| Somalia (retail, Mogadishu) | 26 | .. | Guatemala (retail, national average) | 8 | 40 |
| Sudan (wholesale, Khartoum) | -37 | 26 | Kenya (wholesale, Nairobi)[a] | -8 | 35 |
| Mali (wholesale, Bamako) | -13 | 13 | Ethiopia (wholesale, Addis Ababa) | -8 | 21 |
| **Beans** | | | Moldova (retail, Chisinau) | -8 | 22 |
| Burundi (retail, Bujumbura) | 48 | 16 | **Cassava** | | |
| Cameroon (retail, Yaounde) | 43 | 4 | Congo, Dem. Rep. of (retail, Kinshasa) | 20 | 53 |
| Uganda (wholesale, Kampala)[a] | 38 | 5 | Mozambique (retail, Nampula) | -39 | 32 |
| Kenya (wholesale, Nairobi)[a] | 22 | 4 | Cape Verde (retail, Santiago) | -26 | .. |

***Source***: FAO, GIEWS.
a. Prices in U.S. dollars because local currency prices unavailable.

prices are also passed through to consumers indirectly by raising animal feed prices, meat prices, and the price of many processed food categories.

**Global rice prices have increased at a slower rate than other grains and the outlook remains stable.** The export price for Thai rice has increased by 8% (Thai 5%) between October and January 2011, and 17% since June 2010. They remain about 70% below the peak reached during the 2008 food crisis. Following good harvests in large exporting countries, the decision by the Philippines to limit imports, and the release of large stocks onto the market by Thailand, prices appear to be leveling off. One factor limiting the downward pressure on rice prices are recent announcements by large importers such as Bangladesh and Indonesia to significantly increase domestic stocks.

**Domestic rice prices have risen sharply in some countries and remained steady in others.** The domestic price of rice was significantly higher in Vietnam (46%) and Burundi (41%) between June–December 2010. Indonesia (19%), Bangladesh (19%), and Pakistan (19%) have increased in line with global prices. These Asian countries are large rice consumers, especially among the poor. Rice prices have increased in Vietnam despite good domestic harvests. This is primarily due to the depreciation of the currency, which has fuelled overall inflation and expectations of higher demand from large importers and led to the minimum rice export price being raised by the Vietnamese government. Rice price increases in Sri Lanka (12%) and China (9%) have been relatively moderate in the second half of 2010, while in Cambodia and the Philippines the retail price of rice remained largely unchanged during this period. Rice prices outside Asia remained stable in many countries, such as Cameroon, Guatemala, Mexico, Panama, and Somalia, during this period.

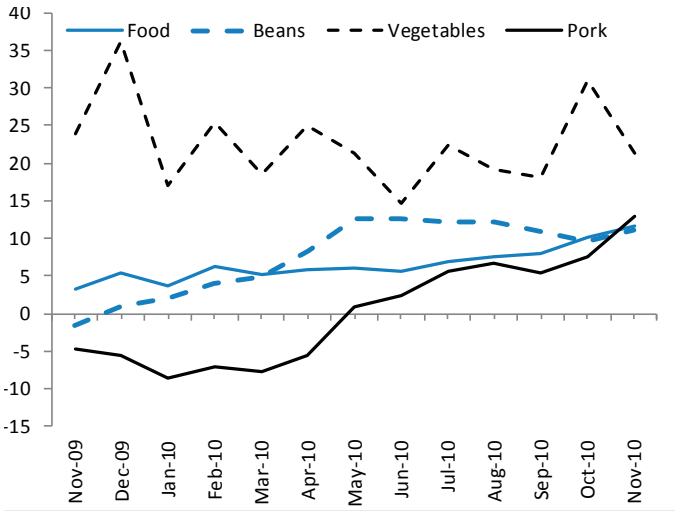
**Sugar and edible oil prices have increased sharply in recent months.** Sugar prices have risen by 73% since June due to supply shortfalls from Brazil, the largest exporter, and weather shocks in Australia. Similarly, edible oil prices were up on account of a number of weather-related shocks. Prolonged dry weather related to La Nina lowered expectations of yields in Brazil and Argentina, which together account for roughly 45% of soybean exports. On the other hand, floods in southern Malaysia and Indonesia have hindered palm oil harvests. These higher prices feed through to domestic prices quickly in many countries—for instance, sugar prices doubled in Cambodia between June and December 2010 and edible oil prices increased by 15% between September and December in Afghanistan. Several countries have intervened to temper this pass through. In Algeria, taxes and import duties on sugar and edible oil were sharply reduced in January 2011 due to double-digit prices rises. In Indonesia, the government has reduced taxes on sugar and increased subsidies to local cooking oil producers.

**Prices of other food items essential for dietary diversity have risen in many countries.** In India, food inflation stood at 18.3% in December partly due to the higher prices of fruits and vegetables, milk, meat, and fish. In China, similarly, food inflation was driven largely by vegetables (see figure 3). In the second half of 2010, beans prices increased dramatically in Burundi (48%), Cameroon (43%), Kenya (38%), and Uganda (22%). In Mongolia, an outbreak of the foot and mouth disease, coupled with a severe winter experienced in 2010, led to a sharp increase in meat prices. Average mutton meat prices were 32% higher in 2010 compared to 2009.

**These food price rises create a range of macro vulnerabilities.** One aspect is the impact on domestic food inflation and overall inflation. More than one-third of the countries in Eastern Europe and Central Asia had more than 10% food inflation in 2010. Countries with a high share of net food and energy imports face current account vulnerabilities. These include Tajikistan, the Kyrgyz Republic, Georgia, and Albania in Eastern Europe and Central Asia, a region where limiting current account deficits is particularly important following the 2009 financial crisis. The fiscal impact of these price rises depends on the extent to which food tax revenues increase and expenditures on mitigating measures—such as for social protection programs—are increased.

**Our estimates suggest that an additional 44 million people may have fallen into poverty in low- and middle-income countries due to the rise in food prices since June 2010.** In order to assess the impact on poverty of the change in food prices in the second half of 2010, we extend a model used to estimate the impact of the 2008 food price crisis (see box 1 for the details). Net producers of food benefit from higher prices while net consumers suffer. Our results show that extreme poverty in low-

**Figure 3. Food Inflation in China (percent of change, year-on-year)**




*Source*: World Bank East Asia and Pacific Region.

and middle-income countries may have increased by 44 million people in net terms as a result of the food price increases between June and December 2010. This reflects 68 million people who fell below the $1.25 poverty line and the 24 million net food producers who were able to escape extreme poverty.

**There are nutritional implications related to higher food prices.** Higher poverty is associated with increased malnutrition as poorer people eat less and substitute away from more expensive, nutritious food and into cheaper staples. These nutritional setbacks are particularly severe for infants between the ages of zero and two as well as pregnant women. The complex linkages across food markets also affect obesity—for instance, the increased demand for high fructose corn syrup, as a substitute for more expensive sugar, has public policy implications in a country like Mexico, where obesity is a serious public health concern.

**There are two factors limiting the poverty impact of the current global price spike.** In many countries in Africa, good harvests of domestic crops—like maize, sorghum, millet and cassava—have limited the pass through of global staple prices and allowed for substitution away from imported wheat and rice in some of the most vulnerable countries. Second, in sharp contrast to 2008 and buoyed by good harvests in Vietnam and Thailand, the fundamentals in the supply situation in the rice market remain strong. Rice is an important commodity not only because it is the primary staple for many developing countries, but also because it was the main source of the contagion that precipitated the 2008 crisis when many large exporters banned its export.

**There are several short- and medium-term policy implications of this recent round of food price rises.** There are certain key commodity markets, such as rice, where informational uncertainty (for example, of stocks held by large exporters) and 'panic buying' may keep prices from falling to the levels expected by the good harvests. The publication of regular, accessible data on stocks as well as commitments by larger exporters not to impose export restrictions would help maintain stability, which is crucial to prevent further increases in poverty. At the same time, safety net and nutritional programs need to be scaled up in vulnerable countries—and the international community may need to focus on countries like Afghanistan, Burundi, the Democratic Republic of Congo, the Kyrgyz Republic, and Mongolia, to name a few, that are facing large price spikes. Countries that are large net commodity importers with low reserve cover and limited fiscal space will need to be monitored to assess their external financing needs. The frequency of extreme weather-related events over the past year and their impact on food prices underscores the vulnerability of the poor to climate change. Over the medium term, investments in raising environmentally sustainable agricultural productivity, climate change adaptation measures, and finding less food intensive biofuel technologies are all necessary to mitigate the impact of food price volatility on the most vulnerable. Finally, these spikes underscore the importance of efforts to raise incomes of the poor so that they spend a lower share of their budgets on food and are less vulnerable to such shocks.

*Box 1 next page*

### Box 1. Estimating the Poverty Impact of Recent Food Price Rises

To quantify the poverty impacts of the recent rise in food prices, we use a global computable model (Global Trade Analysis Project [GTAP]) with a sample of 28 household surveys with data on individual households' expenditures and income sources. These national surveys are drawn from low- and middle-income regions from around the world and represent 41% of the population living in these countries (see table 1).We use local food price changes for the commodities where we have data for the June–December 2010 period. For the commodities where the local price data do not exist, we work out the pass through of global commodity price changes on local prices using the share of that commodity's import in total consumption. In the second stage of our calculations, we apply the expected domestic price changes to determine the increase in the cost of living for net consumers and the increased profits of net producers. Combining these two impacts, we calculate the net impact on each household and determine whether it has been thrown into or lifted from poverty, defined at the expenditure level of $1.25 per person per day. The results show that in half of our sample, we observe an increase in poverty greater than 0.5 percentage points, and in eight countries an increase of more than 1 percentage point, including Tajikistan, where poverty is expected to have risen by more than 3.6 percentage points, and Pakistan, where the 1.9 percentage point increase in poverty is mostly due to higher wheat prices, with the impact on consumers far outweighing the beneficial impact on medium and large farmers. In contrast, in Vietnam, poverty is expected to have declined because a large portion of poor households are net producers of rice and benefit from their high price. Applying the population-weighted average increase in poverty to the total population in low- and middle-income countries, we infer that the recent rise in food prices may have put 44 million people into poverty in these countries. This reflects 68 million people who fell below the $1.25 poverty line and the 24 million net food producers who were able to escape extreme poverty.

| Country type | Total population (millions) | Sample population (millions) | Share of the population covered by sample (%) | Poverty rate change, percentage points | Poverty rate change (millions) |
|---|---|---|---|---|---|
| Low-income countries | 828 | 286 | 34.5 | 1.1 | 9.5 |
| Middle-income countries | 4,758 | 1,987 | 41.8 | 0.7 | 34.1 |
| Total | 5,586 | 2,272 | 40.7 | 0.8 | 44.0 |

*Source*: World Bank staff estimates produced by the Agriculture and Rural Development Unit of the Development Research Group and the Poverty Reduction and Equity Group. Estimates for the poverty impact of 2008 food price increases using this model can be found in M. Ivanic and W. Martin (2008), "Implications of Higher Global Food Prices for Poverty in Low-Income Countries," *Agricultural Economics* 39 (Supplement): 405–16.