

Food Price Watch



THE WORLD BANK



POVERTY REDUCTION AND EQUITY GROUP
POVERTY REDUCTION AND ECONOMIC MANAGEMENT (PREM) NETWORK
THE WORLD BANK

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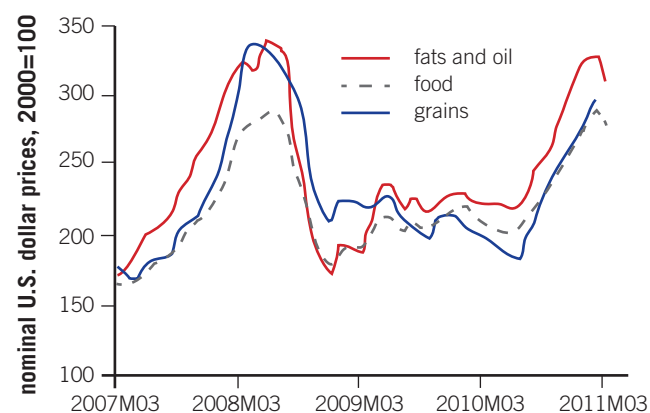
Global food prices remain high, partly due to increasing fuel prices, and the World Bank's Food Price Index is around its 2008 peak. Since June 2010, an additional 44 million people fell below the \$1.25 poverty line as a result of higher food prices. Simulations show that a further 10% increase in the Food Price Index could lead to 10 million people falling into poverty, and a 30% increase could increase poverty by 34 million people. Low-income and lower-middle-income countries are experiencing on average 5% points higher food price inflation compared to better-off countries. A special focus on the Middle East and North Africa region in this issue shows double-digit food price inflation in Iran, Egypt and Syria, with more moderate levels in other parts of the region. Global maize prices are 17% higher in the first quarter of 2011 compared to the last quarter of 2010 due to increasing demand for industrial uses and low stocks. Several countries in Sub-Saharan Africa have faced double-digit increases in maize prices during the first quarter of 2011. A comparison of price changes within countries shows that price spikes, and therefore poverty impacts, can be highly localized. Immediate actions include targeting social assistance and nutritional programs to the poorest in areas where food prices have spiked. Macro-policy measures need to be informed by the extent that commodity price increases are feeding into inflationary expectations; net commodity importers need to monitor external sector vulnerability. Policy actions that will reduce the pressures on tight global food markets include relaxing biofuel mandates when food prices exceed a threshold level and removing export restrictions on grains. Investments in increasing agricultural yields in an environmentally sustainable manner, efficiency gains in food import supply chains, and greater use of risk-management tools such as hedging products are examples of medium-term policy goals to improve food security.

The World Bank's global Food Price Index remains close to its 2008 peak. In March 2011, the food index remained 36% above its level a year earlier, despite a small recent drop (figure 1). Key staples that remain significantly higher than what they were at this point last year include maize (74%), wheat (69%), soybeans (36%) and sugar (21%); importantly, rice prices have been stable. A comparison of average prices for the first quarter of 2011 with the last quarter of 2010 (table 1) shows that prices have risen for a broad spectrum of food commodities.

Global food prices remain volatile following recent events in the Middle East and Japan. Following events in the Middle East, crude oil prices have increased 21% in the first quarter of 2011. The tragic events in Japan on March 11 contributed to a slide in corn, soybeans and wheat futures' prices, reflecting prospects of lower import demand, which have since bounced back (figure 2).

The recent food price volatility is in the context of several other factors that have driven prices higher over the past year. These drivers include: (i) severe weather

Figure 1: World Bank Global Price Indices (nominal U.S. dollar prices, 2000 = 100)



Source: DECPG.

events in key grain exporters such as the Russian Federation, Kazakhstan, Canada, Australia, and Argentina in the second half of 2010; (ii) the broad-based increase in agricultural commodity prices in 2010, which increased the competition for land and other inputs; and (iii) the link between higher oil prices and biofuels (see below). These factors have taken place amidst a medium-term context of: (i) food demand growth outstripping output growth over the past decade (figure 3); (ii) the consequent draw-down of grain stocks to historically low levels; (iii) the impact of climate change on weather variability and yields; (iv) increased use of grain export restrictions since the 2008 food price spike; and (v) a higher share of grain exports originating

from the Black Sea and Latin America, where yields are more variable than for traditional OECD exporters.

Food price increases are linked to energy price increases. Crude oil prices surged by 10.3% in March and are 36% higher than a year earlier. These oil price increases impact the price of food—a 10% increase in crude oil prices is associated with a 2.7% increase¹ in the World Bank Food Price Index—through multiple channels (figure 4). First, higher crude oil prices encourage greater use of food products such as corn, vegetable oil, and sugar in the production of biofuels. In an April 2011 assessment, the U.S. Department of Agriculture (USDA) reports that the use of corn for biofuels in the United States has increased from 31% of total corn output in 2008/9 to a projected 40% in 2010/11. The 2010/11 estimate in April is slightly higher—an additional 50 million bushels—than projected in March due to strong blender incentives and higher margins, according to USDA.² A second channel of impact is that higher energy prices feed into the cost of food production through higher fertilizer prices, the cost of irrigation, and other farm inputs. The extent of energy price impact varies significantly depending on the type of crop and level of mechanization. A third channel of energy price impact is through increases in the costs of crop transportation to destination markets, which leads to larger price variations within countries and increases costs for importing countries. For example, maize prices in

western Guatemala have increased significantly more than the rest of the country due to higher transport costs. Similarly, sharp increases in wheat-related products in Tajikistan, Azerbaijan, and the Kyrgyz Republic over the past year partly reflect increased transport costs from Kazakhstan.

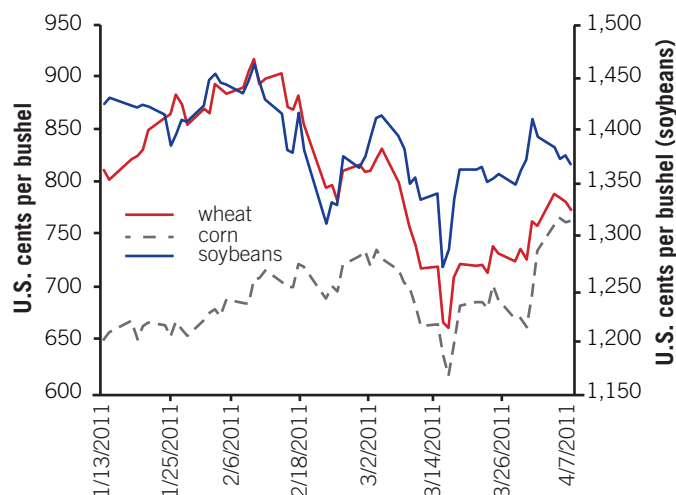
Food price inflation has increased over the past year in many countries. Figure 5a shows changes in food price inflation rates in select East Asian countries over the past two years. In February 2011, food price inflation in Vietnam, Indonesia, and China was 17%, 15%, and 11%, respectively,

Table 1. Specific Food Commodity Price Changes

Commodity	Change in average price	
	1st quarter 2011/ 1st quarter 2010 (%)	4th quarter 2010/ 1st quarter 2011 (%)
Wheat (US, HRW)	69.1	16.5
Maize (No. 2, yellow)	73.8	17.1
Rice (25%, Thai)	-2.4	-1.3
Soybeans (U.S., cif, Rotterdam)	35.6	8.3
Soybean meal (cif Rotterdam)	18.3	3.1
Palm oil (Malaysia, 5% bulk)	54.9	12.9
Sugar (World)	21.0	8.1
Bananas (Central/South American)	23.4	21.1
Beef (Australia/New Zealand)	30.3	16.0

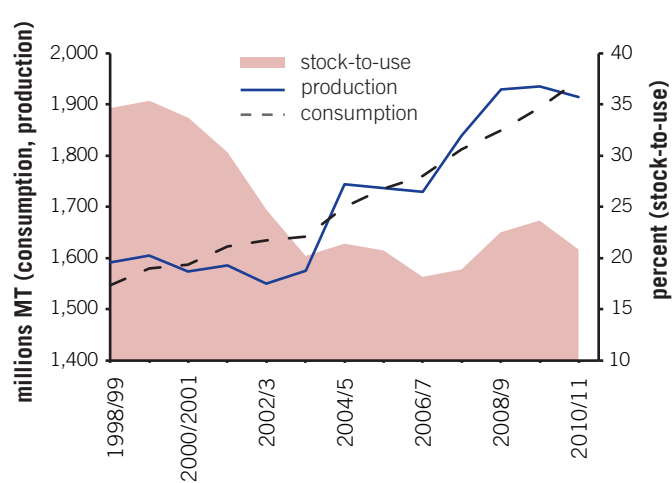
Source: DECPG. The price changes are for average prices of the reported commodities over the relevant quarters. For example, the first column reports the change in average prices in the January–March period in 2011 compared to average prices in January–March of 2010.

Figure 2: Soybean, Wheat, and Corn Futures



Source: Chicago Board of Trade. The plotted prices are closing prices for each day of trade and correspond to May 11 delivery.

Figure 3: Production, Consumption and Stocks-to-Use Ratio



Source: “Responding to Global Food Price Volatility and Its Impact on Food Security,” Development Committee Paper (2011).

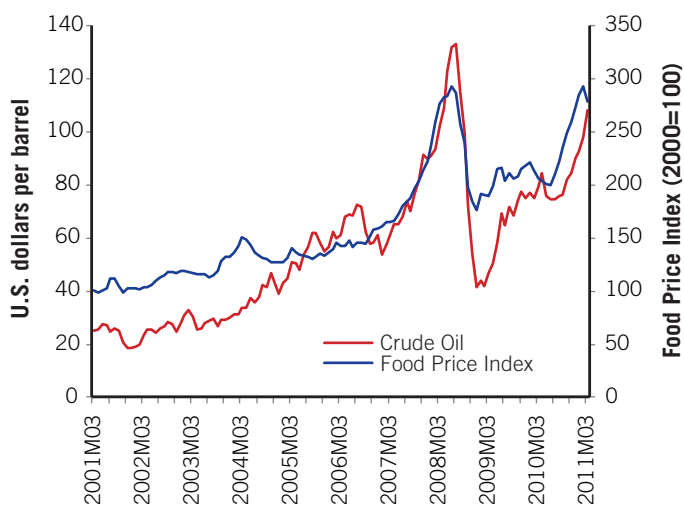
and in single digits in the Philippines, Thailand, and Malaysia. Higher vegetable prices resulting from poor weather and supply bottlenecks have contributed to food inflation in China, as have higher meat prices, which in turn are affected by the increasing cost of animal feed. In Vietnam, the 18% devaluation of the currency against the U.S. dollar since November 2009 has increased the costs of imported food items and animal feed. In Central American countries, food price inflation has steadily increased over the past year (figure 5b). In the Europe and Central Asia region, food price inflation in most countries was higher in 2010, with the Kyrgyz Republic and Georgia experiencing food price inflation in excess of 20% (figure 5c).

The macro impacts of these increases in food prices need to be monitored. The extent to which these commodity price changes feed into inflationary expectations, along with the overall state of the economy, will determine the appropriate use of monetary policy. In East Asia, higher food price inflation is taking place in the context of higher than average credit growth in most countries, which has contributed to overall inflationary pressures—monetary tightening may be a feasible policy choice given the signs of overheating.³ In Eastern Europe and Central Asia, several countries are making a gradual recovery from the financial crisis and any monetary tightening will need to take the state of the financial sector and growth into account.⁴ On the external front, net importers of food, fuel, and other commodities are the most

vulnerable, especially those with large current account deficits and/or low reserve cover.

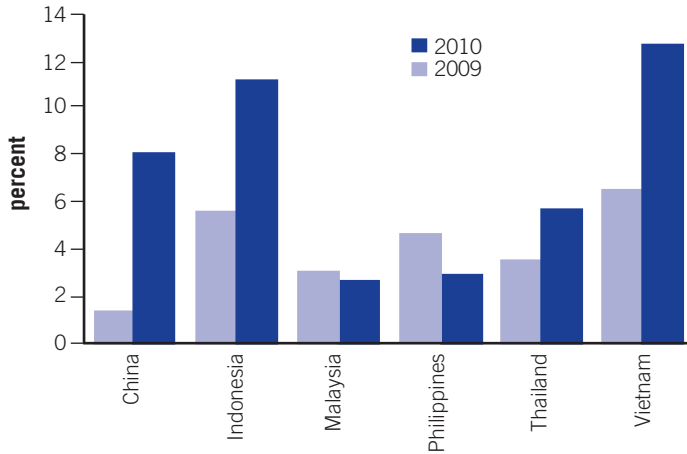
Low- and low-middle-income countries have experienced higher food inflation rates, especially when commodity prices spike. Data from 46 countries for 2007–10 suggest that low- and low-middle-income countries have experienced higher levels of food price inflation compared to upper-middle- and high-income countries, particularly when international prices spike. The gap between the two sets of countries in average food price inflation was around 5 percentage points in 2008 and 2010 (figure 6). One explanation is that food marketing channels in poorer countries are unable to

Figure 4: Food and Fuel Price Trends



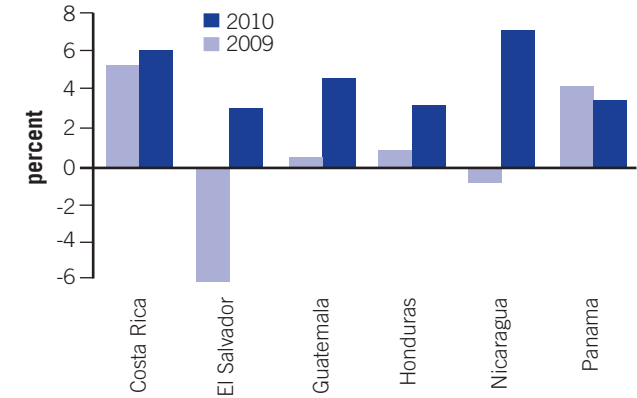
Source: Adapted from DECPG data.

Figure 5a: Food Price Inflation in East Asia (% change)



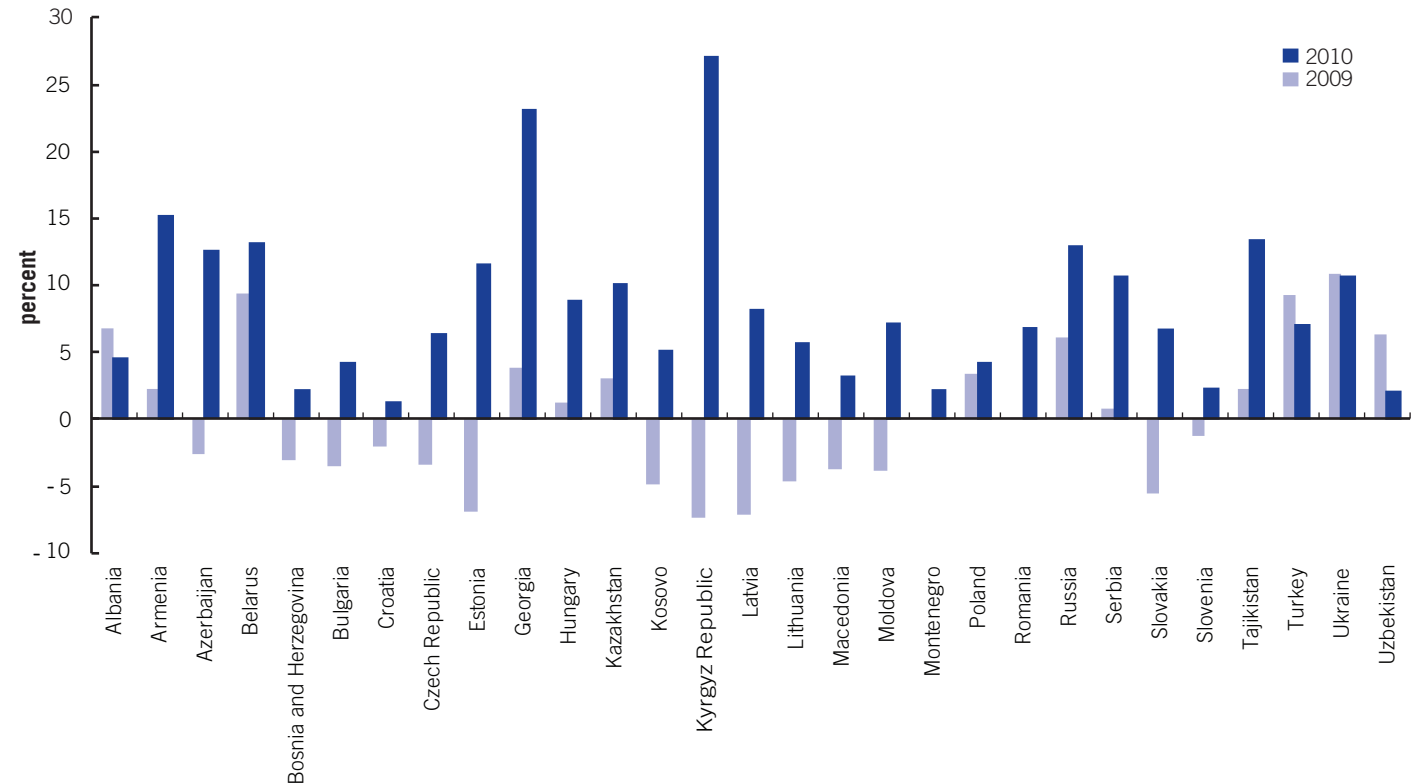
Source: East Asia PREM. Plotted values are y-o-y numbers for the December of the corresponding year.

Figure 5b: Food Price Inflation in Central America (% change)



Source: Latin American and the Caribbean Region PREM. Plotted values are y-o-y numbers for the December of the corresponding year.

Figure 5c: Food Price Inflation in Europe and Central Asia



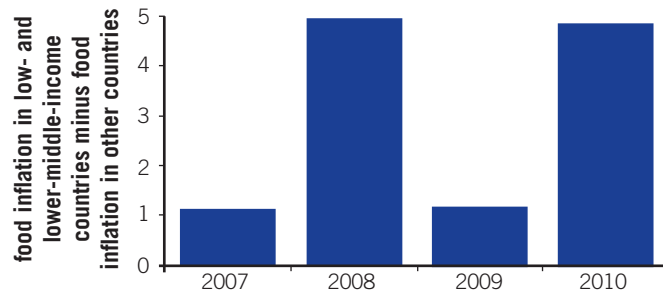
Source: Europe and Central Asia PREM. Plotted values are y-o-y numbers for the December of the corresponding year.

absorb large fluctuations in commodity prices, whereas larger retailers in wealthier countries have larger margins partly because food commodity prices constitute a small share of the price of processed foods. Another explanation is that governments in poorer countries

have a limited ability to cushion domestic consumers from price increases in international markets.

The continuing upward trend in global maize prices reflects a combination of factors. First, global stocks are low by historical standards, exacerbated by drought-

Figure 6: Food Price Inflation Higher in Low- and Lower-Middle-Income Countries



Note: The bars show the percentage point difference in average food price inflation between countries with per capita GDP above and below \$3,945 (the lower-middle-income cut-off). The sample of 46 countries consists of countries in East Asia, Europe and Central Asia, and Central America regions.

related production shortfalls in Argentina and the United States. Stocks in the United States, the world's number one exporter, are at their lowest levels in 30 years. Second, price pressures also remain due to uncertainties about the levels of Chinese imports in 2011 and the outlook for the new corn crop in the United States. Third, higher crude oil prices increase the demand for corn-based biofuel production, and higher sugar prices have increased the demand for corn-based sweeteners.

Local maize prices have risen sharply in several countries over the past three months. Between December 2010 and February 2011, white maize prices increased in Kenya (27%), Somalia (25%), Uganda (25%), the Democratic Republic of Congo (20%), and Benin (16%); poor rains contributed to these sharp increases (table 2). These sudden spikes followed a period of relative stability in maize prices during the second half of 2010 in much of Sub-Saharan Africa. In Mexico, Brazil and Argentina, the price of maize increased by 37%, 15%, and 14%, respectively, over the previous three months. In Mexico, industry groups are eager to increase the price of tortillas beyond the current price ceilings to reflect rising costs.

Domestic wheat price trends have varied significantly across countries. Over the past 12 months, the largest increases were in the Kyrgyz Republic (63%), Bangladesh (36%), and Colombia (34%). The last three months have seen greater stability in wheat-related products in some countries—such as Bangladesh, Afghanistan, and Indonesia—while countries such as Sudan (87%), Ethiopia (18%), India (11%), and Colombia (10%) are exhibiting an upward trend. Overall, high prices have induced farmers across key producing regions (the

European Union, Russia, and Ukraine) to increase acreage, and better yields are expected for 2011, barring adverse weather events similar to 2010.

Global rice prices appear to have stabilized, though local price trends vary. Global rice prices in February 2011 were unchanged relative to a year earlier, and on the whole, the benchmark price is roughly 32% below the peak attained during the 2008 crisis. Good harvests in key exporting countries like Thailand and Vietnam, and global stocks at the highest level since 2002/3, have generally put to rest anxieties about upward pressure on the export price of rice. Production uncertainties had contributed to an 18% price increase between June and December 2010 and had led to large importers increasing domestic stocks. As a result, domestic rice prices have moderated recently, though they have spiked in a few countries. For instance, while rice prices increased by 29% in Bangladesh and 25% in Mozambique in 2010, the last three months have seen slight declines in both countries. In Indonesia, rice prices declined by 5% in the first quarter of 2011, but the price level in March remained 17% higher than a year earlier. On the other hand, parts of Chad, Tanzania, Mozambique, and Haiti have experienced double-digit increases in rice prices over the past three months (table 2).

Prices of noncereal items, essential for dietary diversity, continue to be volatile. Fruit and vegetable prices rose by around 27% in Syria in the year leading up to January 2010. Meat constitutes an important part of the diet in Central Asian countries and rising prices partly reflect the higher costs of animal feed. In Mongolia, where, on average, 30% of dietary calories are derived from meat, the price of mutton has increased by 37% over the past year, with a 15% increase between December 2010 and February 2011. This is due to extreme winter conditions and an outbreak of foot and mouth disease. Similar increases in meat prices have also occurred in Azerbaijan (36% for mutton and 13% for beef) and the Kyrgyz Republic (15% for mutton) in the last quarter. There have been sharp increases in the price of palm oil and soybean oil, and they are currently at 104% and 42%, respectively, above their levels at this point last year. The price of cooking oil rose by 43% in Bangladesh, 36% in Mauritania, and 19% in Indonesia over the past year.

Conflict can contribute to higher food prices. Conflict can lead to supply and distribution channels being disrupted, contribute to localized shortages and

Table 2. Largest Movements in the Prices of Selected Commodities

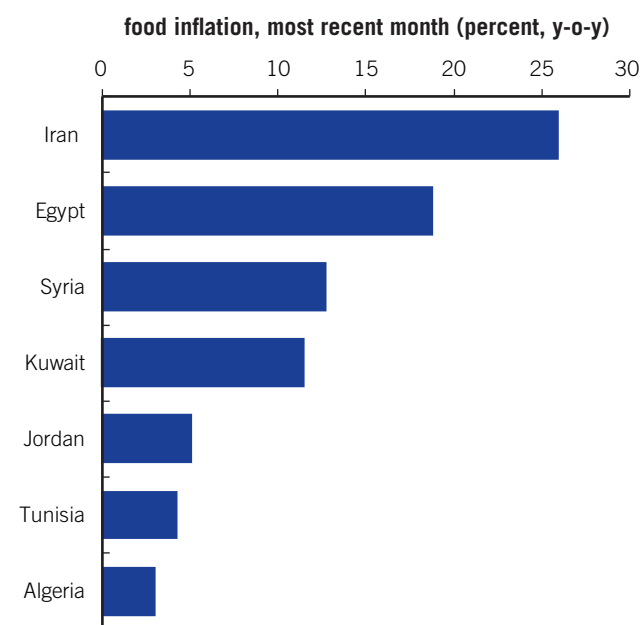
Price change over last 12 months Country (market, commodity)	Price change (%)	Price change over last 12 months Country (market, commodity)	Price change (%)
Maize		Wheat	
Uganda (Kampala, wholesale, \$)	114	Kyrgyzstan (Bishkek, retail)	63
Brazil (São Paulo, wholesale)	88	Mauritania (Noukachott, retail)	40
Argentina (Rosaria, wholesale)	71	Bangladesh (Dhaka, retail)	36
Somalia (Mogadishu, retail)	65	Colombia (Bogota, wholesale)	34
Rwanda (Kigali, wholesale, \$)	48	Afghanistan (Kabul, retail)	32
Nigeria (Kano, wholesale)	-23	Armenia (national average, retail)	22
Tanzania (Dar es Salaam, wholesale \$)	-30	China (national average, retail)	16
Benin (Djougou, retail)	-34	Costa Rica (national average, retail)	-15
Rice		Djibouti (Djibouti City, retail)	-17
Chad (N'Djamena, retail)	71	Azerbaijan (national average, retail)	-20
Lao PDR (Vientiane, retail)	40	Meat	
Mozambique (Maxixe, retail)	39	Kyrgyz Republic (Bishkek, mutton retail)	38
Bangladesh (Dhaka, retail)	29	Azerbaijan (national average, beef retail)	38
Malawi (Mzuzu, retail)	26	Mongolia (Ulaanbaatar, mutton retail)	37
Mexico (Mexico City, wholesale)	-15	Price change over last 3 months	
Haiti (Port-au-Prince, retail)	-17	Wheat	
Rwanda (Kigali, retail)	-22	Sudan (national average, wheat flour retail)	87
Price change over last 3 months		Ethiopia (Jijiga, retail)	18
Maize		Djibouti (Tadjourah, wheat flour retail)	15
Mexico (Mexico City, wholesale)	37	India (Delhi, retail)	11
Mozambique (Maxixe, retail)	29	Colombia (Bogota, wholesale)	10
Kenya (Nairobi, wholesale \$)	27	Kyrgyzstan (Bishkek, retail)	8
Somalia (Mogadishu, retail \$)	25	Afghanistan (Kabul, retail)	-10
Uganda (Kampala, wholesale \$)	25	Costa Rica (national average, retail)	-12
Brazil (São Paulo, wholesale)	17	Meat	
Benin (Djougou, retail)	16	Azerbaijan (national average, mutton retail)	36
Argentina (Rosaria, wholesale)	15	Kyrgyz Republic (Bishkek, mutton retail)	15
Rice		Mongolia (Ulaanbaatar, mutton retail)	15
Chad (N'Djamena, retail)	30	Azerbaijan (national average, beef retail)	13
Tanzania (Mbeya, retail)	16	Somalia (Disoor, local)	-53
Haiti (Port-au-Prince, retail)	10		
Guatemala (Guatemala City, wholesale)	-8		
Mozambique (Maputo, retail)	-11		

Source: The data used are based on Food and Agriculture Organization (FAO) Global Information and Early Warning System (GIEWS) domestic price data set as well U.S. Agency for International Development/FEWS NET (www.fews.net).

lower output, and feed into higher food prices. For example, the current situation in Côte d'Ivoire has disrupted supplies of processed foods such as dried milk, sugar, and vegetable oil for the landlocked countries of Burkina Faso, Mali, and Niger in West Africa, leading to a rise in these prices. Reversing the relationship, there is some evidence that historically higher food prices and the associated greater food insecurity have been contributing factors in social unrest.⁵

In the Middle East and North Africa, some countries are experiencing high levels of food price inflation while others are not (figure 7). In Egypt, where food inflation is at 19% (February 2010–February 2011), the price of cereals remained steady for the first half of 2010 and then increased by about 16% between June and December 2010. In Syria, food price inflation in January 2011 was almost twice (13%) that of January 2010 (7%). The prices of food groups such as dairy, fats and oils, and fruits went from declining by 9%, 3%, and 1%, respectively, in January 2010 to increasing by 27%, 28%, and 14% in January 2011. Similarly, in Iran, food price inflation is 26%, driven primarily by bread and cereals (46%) and fats and oils (64%). At the same time, food price inflation in other countries that have experienced recent social unrest, such as Bahrain,

Figure 7: Food Price Inflation in Middle East and North Africa Region



Source: Compiled using 2010/11 data from the Middle East and North Africa Region, World Bank. The most recent month for all countries except Egypt and Kuwait is January 2011. Egypt food inflation data were available up to February 2011 and Kuwait inflation data up to December 2010.

Tunisia and Jordan, was relatively modest at 0.5%, 4%, and 5%, respectively.

There is considerable scope for reducing food price volatility in the Middle East and North Africa. Evidence from Jordan and Tunisia shows that investing in reducing logistics costs related to the food import supply chain, and applying risk-management tools could help significantly reduce food prices as well as help ensure the timely supply of dietary essentials (see box 1).

The impact of higher food prices on poverty has multiple dimensions. First, the increase in food prices has led to a deepening of poverty for many of the 1.2 billion people who were already living below the extreme poverty line of \$1.25 a day, and who spend a large share of their incomes on food (figure 8). The increase in food prices since mid-June 2010 has led to an estimated 44 million net addition to the number of the global poor.⁶ In a scenario where the World Bank's Food Price Index increased a further 10% from the March 2011 levels, simulations show that an additional 10 million people would fall below the extreme poverty line; a 30% increase is estimated to lead to 34 million additional poor. At the regional level, there are context-specific measures of poverty changes. For example, using the \$2.50 poverty line, the poverty headcount in the worst-affected countries of Europe and Central Asia could potentially increase by 11% points in the Kyrgyz Republic and 8% points in Armenia and Georgia as a result of the increase in food prices. In Mexico, an index measuring the share of people who cannot afford the minimum consumption basket increased by about 5% between the second and fourth quarter of 2010.⁷ Second, the poor have a lower ability to cope with such shocks and resort to eating less and consuming poorer diets, which can have long-term nutritional consequences. Undernourishment impinges on adult productivity and retards cognitive development in children, undermining economic growth in the longer term. Third, there are significant differences in price movements within countries (table 3) and therefore vulnerability to localized food insecurity. These differences relate to conflict and supply disruptions, as well as the fact that poor infrastructure limits the smoothing of prices within a country. The price of rice in Benin, for instance, increased by 33% in Bohicon and decreased by 4% in Cotonou over the last month. A low average increase in food prices can therefore mask significant increases in poverty in specific parts of the country.

Box 1: Lowering the Costs of Food Imports in Arab Countries

With net cereal imports of approximately 66 million metric tons in 2010, Arab countries are consistently the largest net cereal importers in the world. Underlying this pattern are a number of structural factors, including rising population and income growth as well as binding production constraints in the form of scarce water and land resources. So when cereal prices—and in particular wheat prices—go up and become more volatile, it raises major budgetary and food security concerns for countries throughout the region. Managing global price volatility and improving the efficiency of the import supply chain are particularly important in Arab countries.

Preliminary evidence from 10 Arab countries suggests that the combined costs of logistics, including (1) port handling, (2) inland transport, (3) storage, (4) management, (5) product losses and (6) capital costs, are \$36 per ton for wheat. For comparison, in the Netherlands these combined costs are \$18 per ton. Regarding port handling's contribution to these combined logistics costs, which is about 40% on average for the 10 countries, due to a combination of low throughput capacity and outdated equipment, vessels carrying wheat routinely face wait times of up to 10 days before they can unload their cargos. There are, however, significant differences in performance of the supply chains in countries in the region. For example, Bahrain's supply chain is relatively efficient, with its silo and flour mills consolidated at the port, and combined logistics costs represent less than 0.01% of its GDP. Jordan's supply chain is not consolidated at the port due to geographic factors, and thus Jordan's inland transport comprises a substantial share of the costs of the wheat import supply chain; Jordan's combined logistics costs are 0.15% of its GDP. Assuming that Jordan's total logistics cost could be brought down 50% (the difference between the average for the 10 Arab countries and the Netherlands) through investments to modernize infrastructure and management, Jordan could save an amount equivalent to 59% of the change in Jordan's wheat import bill from 2009 to 2010. Such investments would also reduce the risk of product loss and help ensure timely delivery of supplies during emergencies.

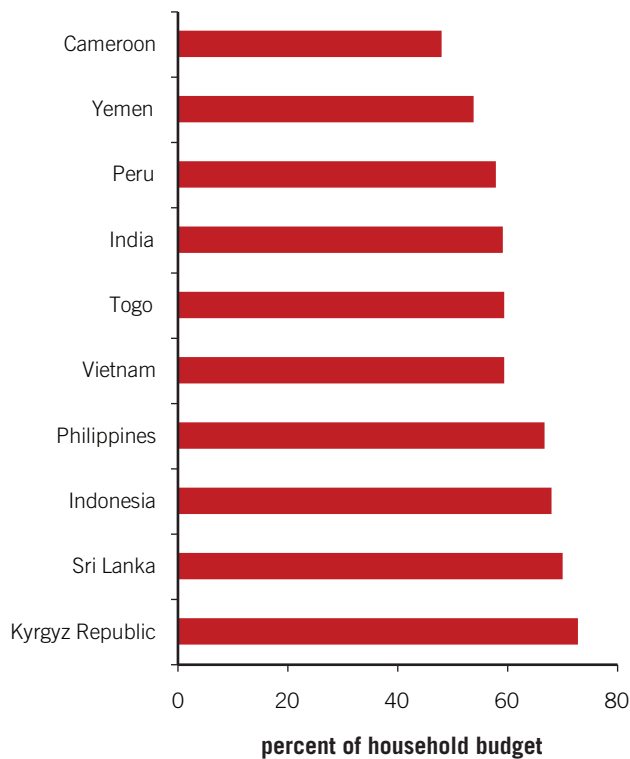
In addition to improving logistics efficiency, Arab countries could also use risk-management tools to reduce exposure to price volatility and shocks. Analysis of historical wheat tenders for Tunisia seems to suggest that the spread between what is paid for wheat and the international market price may increase during price shocks. For example, during the 2008 food commodity price spike, Tunisia paid for hard wheat (including freight) a premium of 91% above the spot price for wheat on international markets, whereas before and after the spike this figure was 47%. Physical hedging instruments, which integrate price protection within a physical supply contract, may help moderate the volatility of these spreads. This approach would not only offer countries the desired price protection, but would also address Arab countries' need for physical wheat imports. Financial instruments, such as options that create a price cap, could also be used to help governments protect themselves from sharp increases in the underlying reference price. Either type of hedging solution could help governments better predict their future fiscal liabilities.

Source: World Bank Middle East and North Africa, Sustainable Development Department.

There are a number of actions that can immediately reduce the impact of higher food prices on the poor. The immediate priority relates to targeting social assistance and nutritional programs to the poorest, even in countries which at first glance may appear not to be affected by higher food prices, for example, net-exporting countries or where average food prices may be stable. In light of the significant differences in food prices within countries, and the fact that even in net-exporting countries the urban poor are adversely affected, it is important for all countries to improve the targeting and

generosity of social assistance and nutritional programs. Macro-policy measures include assessing the extent to which commodity price increases are feeding into inflationary expectations and appropriate policy responses, as well as assessing the external financing needs of net commodity importers. Policy actions that will reduce the pressures on tight global food markets include relaxing biofuel mandates when food prices exceed a threshold level to reduce demand for food crops. Removing existing export restrictions on grains to increase global supply and developing a code of conduct

Figure 8: Food Share of Total Expenditure of the Poorest 10% of the Population



Source: DECDG. The data are from household surveys in the respective countries for various years.

to exempt humanitarian food aid from export bans are important priorities for the international community.

There are also a set of medium-run actions that could improve food security. First, capacity building is necessary to manage volatility and risks at the national and household levels through financial market instruments, weather forecasting, better data on output and stocks, and improved social protection systems. Second, to ensure adequate food supplies at the national and global levels, investments should be made to increase agricultural yields in an environmentally sustainable manner. Third, greater awareness and adoption of recent technological progress—for instance in rice fortification technology which could potentially transform the nutritional value of rice—needs to be facilitated. Fourth, establishing small regional humanitarian reserves in disaster-prone, infrastructure-poor areas such as the Horn of Africa would be important to meet emergency needs quickly. Fifth, the increase in extreme weather events suggests that efforts to address climate change are important to reduce food price volatility. Finally, reducing vulnerability to food price spikes requires policies and programs that raise the incomes of the poor, and hence the multisectoral interventions required to reduce poverty are an essential part of these solutions.

Table 3. Within Country Differences in Price Changes

Country	Product	Price changes over 1 month	
		Lowest (market)	Highest (market)
Benin	Rice	-4 (Cotonou)	33 (Bohicon)
Chad	Sorghum	0 (Abeche)	50 (Sarh)
Niger	Millet	-3 (Diffa)	29 (Tahoua)
Senegal	Millet	-1 (Kaolak)	20 (Tambacounda)
Burundi	Cassava flour	-7 (Gitega)	29 (Kirundo)
Somalia	Sorghum	-1 (Baidoa)	22 (Mogadishu)
Mozambique	White maize	-25 (Nampula)	7 (Maxixe)
Haiti	Maize flour	-12 (Port-au-Prince)	31 (Hinche)
Nicaragua	White maize	0 (Chontales)	14 (Rivas)
Afghanistan	Rice	-15 (Jalalabad)	2 (Kandahar)
Tajikistan	Wheat flour	6 (Khorog)	16 (Gharm)

Source: Author calculations based on USAID/FEWS NET (www.fews.net).

Endnotes

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