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Rising food prices: Cause for concern

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The current spike in food prices needs prompt reaction through various forms of social protection to avert poverty and hunger. Prices are soon likely to fall somewhat, but not to their previous levels. Higher prices mean problems for three groups: poor households struggling to cope with higher costs of food; governments of low income food-importing countries facing higher import bills and higher energy prices; and agencies such as the World Food Programme (WFP) that use food aid to combat food emergencies.

Policy conclusions

- Food prices have been rising since the early 2000s but spiked in early 2008. Even if they start to decline later this year, the next ten years will see food prices at levels above those seen in the early 2000s, thanks to higher energy costs, demand for biofuels, growing demands for staples as populations grow, and for higher value foods, such as livestock products, as incomes rise.
- Prompt assistance is needed for countries facing surging food and energy import bills and for low-income households
- Low stocks threaten the functioning of agencies such as the WFP and prompt calls for land to be switched back into food production, from biofuels throughout the OECD, and from “set-aside” in the EU.
- In the medium term, economic and agricultural growth can offset the damage, but this will require more determined efforts to boost food production.
- Beyond action, a better understanding is needed of the 2008 price spike, to ensure that such events are rare. Increased variability of weather from climate change makes future price spikes more likely. If more can be learned from the current shock, then dealing with future ones may be easier.



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Introduction

Since the 1950s, the real price of staple foods has been falling on world markets, interrupted briefly by price spikes in the early 1970s and mid 1990s. Low prices were attributable both to high levels of production in OECD countries as well as to the ‘green revolution’ in Asia.

But since the early 2000s, food prices have been rising on world markets, and since 2006 have climbed strongly. The price of a tonne of wheat, for example, that cost just US\$106 in January 2000, reached US\$196 in January 2007, and US\$440 in March 2008.¹ Some exceptionally poor harvests have been important, but forecasts for the next ten years are for higher food prices than seen in the recent past owing to structural changes in supply and demand.

On the supply side, the rising cost of oil raises the costs of nitrogen fertiliser, machinery operations, and transport of food to market. On the demand side, the growing incomes of consumers in the emerging economies,

translate into rising demand for meats that in large part are produced by feeding grain to livestock. In addition, high oil prices and concerns over energy security in the US, make biofuels competitive, so that grains, sugar and palm oil are diverted into producing ethanol and biodiesel.

Food price rises threaten to reverse recent gains in poverty reduction. Low income countries are faced by heavy increases in the cost of imported food, draining foreign exchange, importing inflation, and putting a brake on their growth and development.

How, then, can governments and donors respond to these changed circumstances? In the medium term, growth can raise incomes to compensate for the higher cost of food. The right policies can help farmers respond to the opportunity by growing more and pushing prices back down. More support for agricultural research from governments and donors will be needed.

Immediate action is required to alleviate the distress caused by the price spikes. Food subsidies on transfers to the poor may be necessary. Additional funds are needed for WFP, and compensatory funding from the IMF for higher import bills would help. Co-ordination among donors and the UN, and alignment with national efforts, become all the more important.

Why have food prices risen so much in recent years?

The prices of staple foods on world markets have fallen substantially in real terms over the last 50 years, with wheat in 1999 at less than a quarter of its 1950 price. Since the early 2000s, however, food prices have been rising. Within the 12 months up to early 2008, the FAO food price index rose by 57%.

The causes of these price rises are both short- and long-term. The former include, above all, low harvests in some exporting countries — notably Australia where drought has hit wheat production — against already low world cereal stocks. Speculation in commodity prices by investors looking for a better option than stocks and shares may also have contributed. Some countries, alarmed by mounting prices, have imposed taxes, minimum prices, quotas and outright bans on exports of staples that have exacerbated world price rises.

In the longer term, more fundamental factors on both supply and demand sides are pushing up prices.

On the supply side, oil prices have more than trebled in the last 8 years, driving up the cost of farming through the prices of fuel and fertiliser. Higher oil prices also raise food prices through increased cost of transport and shipping.

The oil price rise also feeds through to the demand side: once oil prices rise above US\$60 a barrel — it is currently well over \$100 — most forms of biofuel compete with oil and gas, so that foods may be diverted to energy production. This is reinforced by targets in both USA and the EU, and by subsidies to refiners in the USA.

An expansion of biofuels production under current plans is expected to increase some food prices significantly: price rises that could become damagingly high were biofuel plans to be raised — see Table 1.

Biofuels are not the only element on the demand side: of equal or greater importance is rising demand for food from rapidly-growing emerging economies, above all China and India. As incomes rise, diets change; with consumers increasing their intakes of higher value foods including fish, meat, dairy, fats, fruit and vegetables, and correspondingly reducing the share of grains and tubers in consumption. Overall, in the non-OECD countries, direct human

consumption of wheat and rice will rise by just 0.8% and 1% a year between 2007 and 2016², but an increase in consumption of feedgrains of 1.5%/yr, to meet burgeoning demand for livestock products, must be added to this.

What is the expected path for food prices?

Projections of cereals prices over the next ten years or so by OECD-FAO and USDA see prices drop, but not to their levels in the early 2000s — see Figure 1. The very high prices in cereals in early 2008 will almost certainly see farmers increasing their planted area and applying more inputs to boost yields. Compared to the average price during 2001/02 to 2005/06, the price of wheat is expected to rise by 20.5% in real terms between its 2001/2-2005/6 average and 2016/17, while maize will increase by 33% and rice by 37%, according to OECD/FAO projections.

These projections depend heavily on assumptions about oil prices, policy responses to them, and the development of biofuels technologies and so have to be treated as approximations.

What will be the impact on the poor?

Rising food prices will affect the poor both directly, as well as indirectly through effects on economies as a whole.

The bulk of the world’s poor live in rural areas and those for whom agriculture forms a high proportion of their income may benefit from higher prices. This assumes that higher international prices are transmitted to such rural areas, and that farmers can respond to the opportunities that may arise.

Transmission will depend on transport costs. For countries and areas remote from world markets which are deficit producers, the combination of high transport costs and increased prices is likely to stimulate a supply response and possibly higher incomes. But for those in potential surplus, the costs of getting exports into global or even regional markets may be prohibitively high, and so any income effect from higher world prices may be minimal.

Where prices are transmitted, will local farmers be able to respond? Experience suggests that in the short term they may face limitations in access to credit and inputs, but in the medium and long term almost certainly they can.

As far as poor consumers are concerned, where transport costs are high, an increase in retail prices will be proportionally less than any increase in global prices.

Overall just over half of household budgets may be spent on food in low income countries, and around one third in middle income countries; with the poor tending to spend larger fractions on food. Food price increases may reduce income available for other purposes, or reduce food consumption, or both. The income elasticity of consumption of bread and cereals at national levels lies in the range 0.50 to 0.60 for the poorest countries,³ so large price rises mean reduced consumption of these, and/or switching to cheaper but less preferred or less nutritious foods.

Table 2 makes some broad calculations of the effects of short and medium term rises in food prices on the real incomes and food consumption of the poor.

In the short term, the effects are alarming: disposable incomes cut by a quarter, and food consumption by almost one fifth, which help to explain the wave of protests against recent food price increases. The medium term perspective is less serious, but still substantial with incomes cut and food consumption curtailed by 11% and 8% respectively.

There will also be general effects on the economy, starting with inflationary pressure from higher food prices, and for countries that import significant amounts of food, rising import bills — potentially putting a brake on economic growth and development. FAO estimate that that the food import bill of developing countries rose by 10% in 2006 and by another 25% in 2007.⁴

Table 1: Changes in world prices of biofuel feedstock crops by 2020 under two scenarios compared with baseline levels (%)

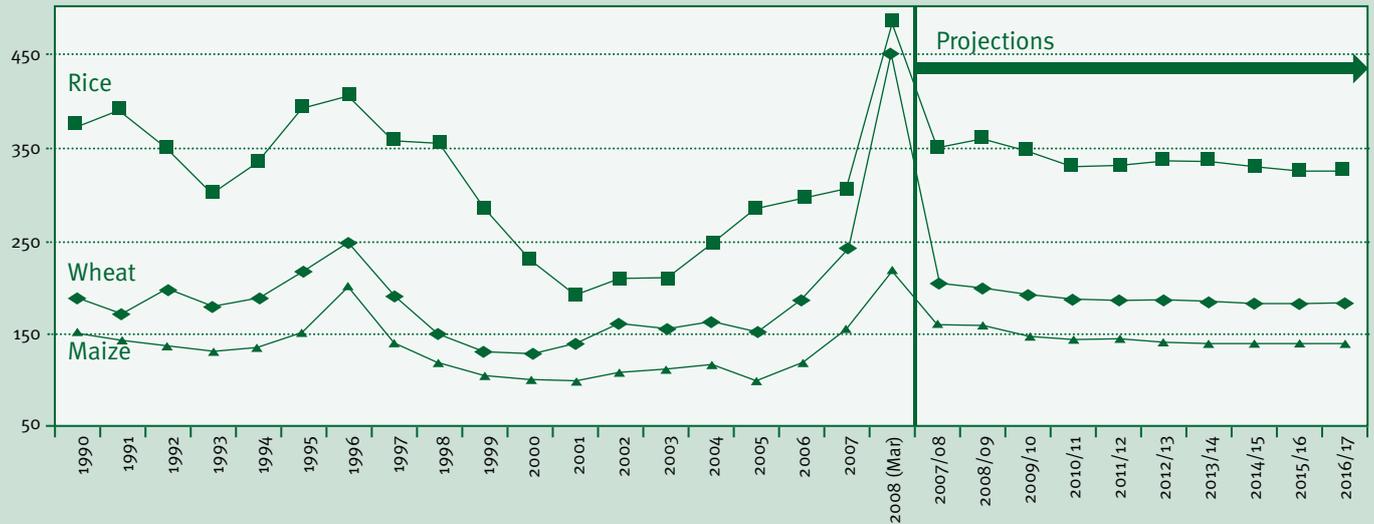
	Biofuel expansion (a)	Drastic biofuel expansion (b)
Cassava	11	27
Maize	26	72
Oilseeds	18	44
Sugar	11.5	27
Wheat	8.3	20

Source: IFPRI IMPACT projections (in constant prices) in von Braun 2007

a: Assumptions based on actual biofuel production plans and projections in relevant countries and regions.

b: Assumptions based on doubling current biofuel production plans and projections in relevant countries and regions.

Figure 1: Cereals prices 1990 to 2016–17, observed and projected



Source: IMF Commodity Prices to 2007, adjusted by the US GDP deflator, projections 2007/08 to 2016/17 from OECD-FAO 2007

Many countries facing higher food import bills are also recipients of food aid and the World Food Programme reckons that it needs another US\$755M to sustain its level of operations. The most likely outcome for these countries is that food availability will fall.⁵

On the other hand, higher food prices raise the incentive to produce locally and potentially could stimulate agriculture. Given the labour-intensive nature of farming in the developing world, this could cushion the effects on the poor. For example in the cities of coastal West Africa, there have been major shifts in diet in the recent past to bread, rice and pasta based almost entirely on imported grains; at the expense of yam, cocoyam, and cassava grown in the coastal belt and millet and sorghum from the savannah. Price rises could reverse this and give a fillip to domestic farmers.

Although broad patterns can be predicted, the detail will vary considerably by country, region, rural and urban areas; by occupation, and over time as lagged effects work their way through the economy. Studies are currently being commissioned to explore the detail, but it will be some time before this is clear.

But it is possible to use existing models to explore particular

cases, as show in Box 1 for Cambodia. In this case the effect on households varies, with farming households benefitting, and others losing out. Overall the economy is set back by the higher prices, and reduced consumer spending on other goods and services puts a brake on economic growth.

What can policy-makers do about this?

Responding to the price spike

Transfers can be made to the poor in the form of cash payments or vouchers, though direct food transfers may be preferred in times of rapid price increase.

To control food prices is difficult and may reduce incentives for farmers to produce more. Subsidising food prices avoids these problems, but is difficult to target. Further options include reducing tariffs on imported grains, and limiting or taxing exports of grains but export restrictions are likely to exacerbate the spike in world prices. There is a strong case for the IMF to release resources under the Compensatory Financing Facility to help to offset the higher costs of subsidies or transfers in the 30 or so low income countries that import both food and oil.

A priority for donors was to meet the additional US\$755M for WFP, a target that has been recently been met. There is also scope for more co-ordination across the UN agencies, as part of ‘One-UN’ proposals; it is good to see that high-level task force on the global food crisis has now been set up by the UN.

Coping with a medium term of raised food prices

Two to four years of economic growth might be enough to offset real income losses from medium term increases in food prices, and to expand food supply so as to mitigate price rises. Other priorities include public investments in roads, irrigation, and agricultural technology, and the promotion of small farmer access to finance, inputs and information.

But there are concerns over how far agricultural output can be raised given limited land and water in some countries, and anxieties over both conversion of forests to fields and agricultural pollution.

In the medium to long term, rising food prices also make population control policies more attractive: the difference between world population stabilisation at eight or at ten billion becomes crucially important.

Table 2: Potential impacts of food price rises

	Short term	Medium term
Price increase, world (1)	70%	30%
Price increase, local (2)	35%	15%
Share budget spent on food	75%	75%
Loss of disposable income	26%	11%
Income elasticity of food consumption	55%	55%
Reduced food consumption	19%	8%

Notes:

- (1) Rice price early 2008 compared to 2005, real terms. Medium term is an average of projected rises for three main grains.
- (2) Assume 50% transmission from international wholesale to domestic retail

Box 1: Overall effects of rising food prices on households in Cambodia

Rice prices are expected to increase by 26% above their 2005 levels by 2016/17. How would this affect country such as Cambodia where rice is the main staple?

A Computable General Equilibrium (CGE) model of the Cambodian economy has been used to simulate the impacts.

Not surprisingly, a higher rice price stimulates production of rice — by around 13% — and rice exports rise by more than 80%.

But while rice farmers redouble their efforts, the rest of economy suffers. Resources are shifted from other farm activities into the paddy fields, so livestock and fish production decline.

Throughout the economy, the higher prices ruling for rice reduce the amounts that households have to spend on other goods and services, so depressing the economy. GDP falls by around 0.2%.

Household incomes vary: farming households are better off, with the incomes of surplus producers rising by almost 4%; but other households see their incomes fall, by around 2%.

Models such as these may understate the degree to which the economy will adapt in the medium term — with, for example, technical advances in rice farming.

Source: Initial computations by authors using a CGE for Cambodia

For countries with adequate land and water it may be possible to offset higher oil prices through the production of biofuels if, as seems likely, oil prices remain above US\$60 a barrel.

Any shortfall in food aid will make the choices between meeting needs for emergency relief and servicing development efforts more pressing.

Perhaps the biggest challenge generated by the sudden rise in prices is to our perceptions of the global food system. Markets may produce efficient outcomes in normal times, but not when variables move outside their expected range. Contingency plans may be needed to deal with abnormal events, such as the run-down in food stocks in the USA, EU and China. The leading nations of the world may need to re-invest in stocks that can be used to offset sudden increases in cereals prices.

What can be done in vulnerable low-income countries to protect poor consumers?

How to respond to food shocks in countries which are neither cases for humanitarian assistance, nor have the funds or administrative capacity to implement social protection on the scale necessary? Can donors make a difference?

Conventional wisdom condemns export bans, but not all bans generate the same impact. Can studies of the present bans generate more nuanced approaches for the future?

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Reflecting on lessons from 2007/08

How did the price spike happen and why we were so many taken by surprise?

Similar to the last major price spike in 1973/74, several events interacted to create 'a perfect storm'. A drought in Australia, an increase in the distilling of maize for ethanol, or a rise in oil prices pushing up the cost of fertiliser, would individually have had little influence on prices, but the combination proved far more potent.

Were key players aware of what was going to develop, but felt powerless to act, or were they simply taken by surprise? Understanding the recent history will provide key information to answer the next question.

How do we prevent a repeat?

Climate change will bring more variable weather in the future, making major harvest failures more frequent. The differences between cereals production and use during the last few years have been very small — less than 50M tonnes a year — so that harvest failures could be more destabilising in future. Stocks of some 400M tonnes of grain were being held as the spike took hold, but little was released. Do we need larger stocks for the future, or simply better early warning and stock management?

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Endnotes

- 1 IMF data for US No 1 Hard Red Winter wheat, FOB Gulf ports
- 2 OECD FAO 2007
- 3 Seale et al. 2003
- 4 Reported in Shapouri & Rosen 2008
- 5 Shapouri & Rosen 2008 estimate that global food aid deliveries, that ran at 7.5M tonnes 2004-06, could fall to 5M tonnes if there are no increases in food aid budgets.



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