

High and volatile food prices: Supporting farmers and consumers

The 2007/8 world food crisis saw food prices reach record levels - pushing the number of people going hungry to over one billion for the first time. Food prices have remained generally high and unstable, with a second spike in 2010/11.

The impact of price spikes has been widely felt. High food prices hurt consumers and most poor producers and labourers, but better-off farmers who are able to respond by increasing production can benefit. But food price volatility – large and difficult to predict movements in prices – hurts almost everyone. Many factors contribute to high prices - climate change, rising demand from the BRIC countries, high oil prices and increased demand for biofuels, - and to high

volatility - unpredictable harvests, exchange rate shifts, low levels of global food stocks and financial speculationⁱⁱ.

Food prices are critical for African populations and economies and at the top of the agenda for African policy makers. The CAADP Framework for African Food Securityⁱⁱⁱ promotes action to address food security challenges faced by stakeholders continent-wide - inadequate food supply, widespread and persistent hunger and malnutrition, and inadequate management of food crises. Addressing the problems of high and volatile food prices requires a multi-pronged approach, including actions both to prevent and mitigate crises.

This policy brief draws on latest research by Future Agricultures and asks:

- What are the main causes of high and volatile food prices?
- What is the impact of food price spikes on rural households and economies?
- What can policy-makers do to prevent and mitigate the effects of food prices rises?

What has happened to food prices and who has been affected?^{iv}

In 2007-08 world food prices reached record levels, rising 80 per cent in 18 months. Following

this peak, food prices fell but since 2009 the cost of food has been climbing steadily on global markets, reaching record highs again in 2011. Over the last five years, the FAO food price index has risen by 92 per cent, and many observers expect food prices to continue to rise, threatening the lives and livelihoods of millions of people^v.

Some initially assumed high prices are good for farmers – arguing that food deficits are relatively small for many farm households, and increased costs of food purchase can be outweighed by benefits from higher wages, as high prices increase production, incomes and local expenditure by surplus producers. But many poor farmers are net consumers and therefore damaged by high food prices. Impacts

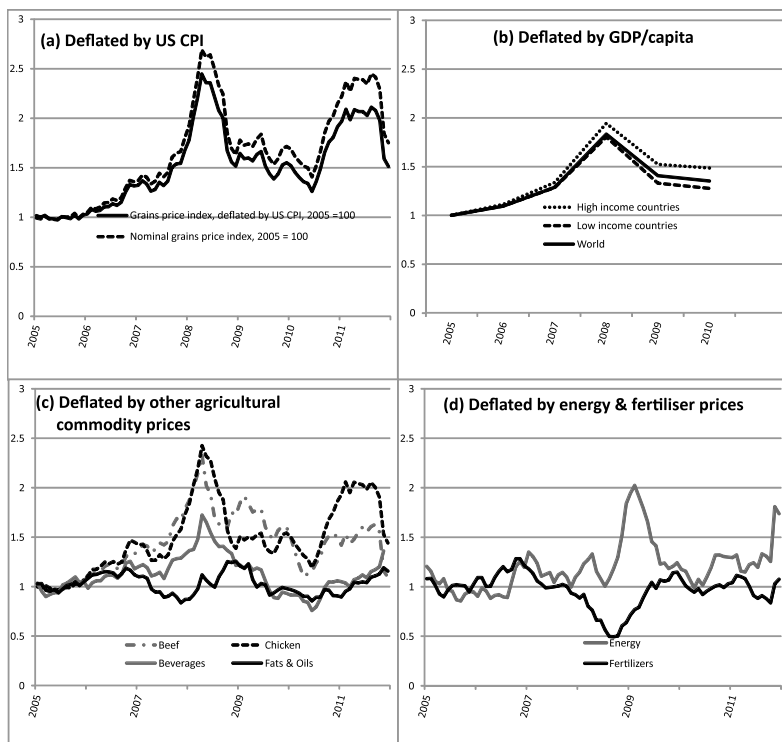


Figure 1: International grain price index using different price measures 2005 -11^{vi}

of price need to be based on consideration of fundamental roles of food prices and agricultural development in wider development and poverty reduction processes. What do we really mean by high food prices and what are the effects on consumers and sellers?

Food price changes for consumers and producers need to be looked at against the prices of other products they buy, incomes, the prices of other products farmers can produce, and the prices of farm inputs. International grain prices deflated by the US CPI (comparing grain prices against other goods and services) show increases from 2005 with spikes in 2008 and 2010/11 (Figure 1 (a)). Grain price deflated by GDP per capita shows only the 2008 spike (as GDP figures for 2011 are not yet available) (b). International grain prices deflated by the prices of other agricultural commodities farmers might produce show a much more mixed pattern (c). Grain prices deflated by oil prices shows two lagged spikes, but when deflated by fertiliser show a dramatic fall in 2008 due to the spike in fertiliser prices (d).

There are differences from country to country on how international food price rises are transmitted to domestic prices – depending on access to markets, staple food preferences, capacity to implement policies and the macroeconomy. This means that countries differ in their vulnerability to international food price rises and each country needs to design its own set of food security policies.

Drivers of food price changes

Three sets of explanations of recent food price changes can be identified^{vii}:

1. Inherent volatility of agricultural prices due to: demand factors – consumers in poor

countries having inelastic demand for food and bearing the brunt of price increases, and increased demand for biofuels fuelled by US and EU policies; trade policies - export bans imposed by producing countries to protect consumers; changing global and national stocks; and speculation in global food markets^{viii}.

2. Agricultural investment cycles – low levels of agricultural investment and public support, including aid, for agriculture and agricultural research from the 1980s reversed long-term improvements in agricultural productivity. Investment levels have started rising in the 2000s.

3. Structural problems stemming from environmental costs of industrial agriculture – pollution, depletion of aquifers and loss of diversity – and unpredictable and variable effects of climate change limit agricultural production. These are set against potentially unlimited demand on agricultural resources from increasing population and the energy sector.

What are the impacts of food price changes for rural people?^{ix}

Most poor farmers are both producers and purchasers of food. For consumers, higher food prices have direct negative effects on consumption and income and indirect depressing effects on the local economy. Where there are significant numbers of less poor farmers who are surplus producers and who can access capital for investment and/or employ more labour to increase productivity in response to higher food prices, then high food prices can raise incomes, and this should lead to wider improvements for rural people (e.g. through increased employment). This will not apply, however, in poor rural areas with large numbers



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For poor families when food prices hike their money buys less

of deficit producers with limited access to capital.

2. Positive or negative impacts are multiplied by strong linkages within the economy and strong price transmission from external markets.

Features of an economy likely to give positive or negative income and poverty impacts to external food price shocks are shown in Figure

Impacts of high food prices on real incomes and welfare thus vary across countries depend








Positive impacts of high food prices: increased real incomes & reduced poverty		Negative impacts of high food prices: reduced real incomes & increased poverty
more access to capital		less access to capital
more surplus producers		more deficit producers
more wealthy consumers		poorer consumers
more wealthy economy		less wealthy economy
falling input prices (eg fertiliser)		rising input prices (eg fertiliser)
low price volatility		high price volatility

Figure 2: Factors affecting impact of food price rises on incomes, poverty and welfare

on characteristics of producers and consumers and the structure of the economy. However, it is clear that:

- Volatile food prices reduce the benefits of high prices to surplus producers without providing any benefits to deficit producers or consumers.
- Improved producer access to seasonal credit should improve the benefits of high prices to producers and the rural economy.
- More equitable land and income distribution are likely to reduce the negative effects and promote the positive effects of high food prices.

What do food price spikes mean for poor people?

Poor people spend up to 80 percent of their household income on food. A study of eight communities across the South shows the differentiated impact of price spikes. Unlike 2008, food prices in 2011 have not risen everywhere. Zambia has seen maize prices decline in 2010, whilst in Kenya and elsewhere they are higher. Prices of other foods – meat, fish, lentils, vegetables and cooking oil – and non-food essentials – cooking fuel, transport, rent and fertiliser – have all risen.

'You go to a shop to buy something with the same amount as you paid the previous day, only to be told that the prices have risen. For example, you bought maize flour the day before at KSh68 (\$0.81) and you find it is now KSh72 (\$0.85).' Women in Lango Baya, Kenya

Losers – consumers already struggling in low paid, informal sector jobs – are increasingly worse off. Some groups – such as commodity producers and export sector workers – have benefited from the global recovery, but wages have not kept up with food prices. Small-scale farmers and small traders have not done well, despite the high price of food. High input costs and the squeeze on people's purchasing power mean that profits from growing and selling food remain low for those with least scope to diversify and spread risk.

'People don't have a choice when food prices rise. The only choice is to work hard and earn more money.' Man in Chikwanda, Zambia

Government safety nets have provided some support, but have generally failed to protect people from the effects of price rises. Some people are eating less and going hungry – many more are shifting to cheaper, less preferred and poorer quality foods and less diverse diets. Women are under pressure to provide good meals with less food, and are competing for work in a highly competitive informal sector. The overall result is an increased level of discontent - with governments held responsible for not effectively protecting people from price spikes.

Hossain and Green (2011)^{xiii}

Countries most vulnerable to global price spikes

If there is a price spike of cereals on international markets, which countries are most at risk of increased hunger? A vulnerability assessment by ODI used three critical criteria to predict this*:

- Hunger – the country has to have high current levels of hunger (15% or more of the population)^{xi}
- Cereals make up most of the staples consumed – countries where roots and tubers are important (40% or more of staples consumed) are excluded
- Dependence on imported cereals – countries that typically import 40% or more of cereals consumed are classified as ‘Highly Exposed’ to a price spike; ‘Exposed’ where 25-40% are imported.

Highly Exposed and Exposed countries are mainly fragile states, many recovering from conflict. Three clusters appear: the Horn and Eastern Africa; the western coast of West Africa; and south Central Asia.

What can policy makers do to address price volatility?^{xii}

Every country needs a comprehensive national food security strategy to build resilience to reduce, manage and cope with shocks and stresses, including price volatility. The CAADP Framework for African Food Security provides a guide for national strategies and their coordination.

Different policy instruments are available to stabilise prices and to reduce the impact of price volatility on prices and incomes (Table 1). Category A-instruments are intended to make markets work better, through both improved infrastructure (transport, communications and storage) and market institutions (grades and

Map: Countries most vulnerable to a global price spike



Red Highly exposed to world market prices
Orange Exposed to world prices

Purple Exposed if there are significant exports
Yellow Vulnerable to domestic market failure

standards, warehouse receipt systems or commodity exchanges).

B-instruments are also market-based, aiming to help producers and traders manage risk and reduce price instability (ex ante) (B1) and cope with price shocks and stabilise incomes (ex-post) (B2). Market-based risk management instruments include: financial instruments (weather insurance, forward contracts and options, and credit and savings associations) (B1); and investments in agriculture to both increase and stabilise food production through diversification and resilience of food systems (including emergency loans) (B2).

C-instruments are public interventions to reduce domestic price volatility - through foreign trade (import and export taxes, quotas), food reserves (buffer stocks or emergency reserves) and price band schemes (floor or ceiling prices). Buffer stocks – national or regional physical or virtual reserves – can be used to stabilise food prices, but are high cost and may not be effective if reserves leak out to neighbouring countries.

D1-instruments are government policies and programmes aimed at boosting food supply and smallholder productivity. Tools such as provision of subsidised inputs (fertilisers and seeds) can increase domestic production and reduce price volatility where there are a large proportion of small farmers who are net buyers of food. However, the effectiveness and fiscal sustainability of large-scale subsidy programmes are major issues. Other D1-instruments are rural employment promotion through decentralisation and programmes to support small and medium rural enterprises (SMEs). D2-instruments are social protection programmes - food and cash transfers to poor and vulnerable households, school

feeding and nutrition assistance programmes, productive safety nets, guaranteed employment schemes, food-for-work and food-for training. Social protection programmes aim to provide access to food for the poor through cash transfer or direct food distribution. Local procurement of food provides market opportunities for smallholders.

Management of and coping with volatility can involve a mix of government, civil society and international actions. Civil society organisations can play an important role in providing accountability in social protection programmes (e.g. minimum wage and right to food) (E1-instruments). Producer organisations can provide rotating funds, group insurance and local purchase for social programmes. Civil society can also manage social protection programmes linking food-for-work programmes with community-driven development programmes to increase resilience of local food production (such as small-scale irrigation, soil and water conservation) (E2-instruments).

How to manage price spikes depends on political economy factors. There are strongly contested views on how best to address current food price volatility and its socioeconomic consequences. Some governments have responded to recent price rises by limiting food exports and supporting food and input subsidies for poor people. By contrast, the World Bank believes the answer to price volatility is 'not to prosecute or block markets, but to use them better'. However, whilst some see letting prices fluctuate and dealing with the consequences as the most efficient solution, effective financial instruments to deal with price volatility are not well developed, and social protection programmes have not been able to protect all poor households.

Table 1: Options to stabilise prices, manage and cope with volatility

Policies and programmes	Stabilise prices	Manage price volatility (Ex-ante interventions)	Cope with price volatility (Ex-post)
Market, private sector interventions	<p>A. Make markets work better</p> <ul style="list-style-type: none"> • Information systems • Transport and communication infrastructure • Increase competition in domestic market and trade • Private sector storage – through improved financing • Grades and standards 	<p>B1. Financial products</p> <ul style="list-style-type: none"> • Crop/livestock insurance (index-based) • Credit and savings associations • B1. Investment in agriculture • Increase domestic food production • Diversification and resilience of local food systems • Growing local crops • Food storage systems 	<p>B2. Emergency loan programme</p> <ul style="list-style-type: none"> • Loans for importers • Loans to producers and consumers
Public interventions	<p>C. Intervene in markets</p> <ul style="list-style-type: none"> • Buffer stocks • Price bands • Price stabilisation 	<p>D1. Increase smallholder productivity</p> <ul style="list-style-type: none"> • Resilience of farming systems • Targeted input subsidies • Production for home consumption • D1. Off-farm employment • Decentralisation • Rural SME programmes 	<p>D2. Social protection for vulnerable households</p> <ul style="list-style-type: none"> • Cash and food transfers • School feeding programmes • Taking into account human life cycle

Civil society interventions		E1. Negotiated social protection <ul style="list-style-type: none"> • Minimum wage, right to food • E1. Producer organisations' services • Rotating credit schemes • Group insurance • Local purchases for food distribution (P4P) 	E2. Community-driven social protection <ul style="list-style-type: none"> • Workfare (coping) with community-driven development projects (management)
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Source: HLPE (2011)

A mix of policy instruments should therefore be used to achieve long-term and stable food security – combining domestic production, buffer stocks, trade and social protection and emergency contingency plans within a coherent policy framework.

Coherence is also needed at regional level. CAADP seeks to improve harmonisation of national agricultural and trade policies and develop regional food security strategies to deal with regional trade barriers.

Finally, individual country characteristics – the nature and source of domestic price volatility; the structure of the agricultural sector and its productivity; food sources; the vulnerability of the country and households to price shocks; and institutional capacity to implement different instruments – are important considerations in selecting instruments.

Key findings

- Food price spikes are driven by inelastic demand for food, rising demand for biofuels, trade policies, speculation, agricultural investment cycles and structural factors.
- High and volatile staple food prices have serious effects on poor net buyers of food - particularly in economies without broad-based growth without benefiting poor deficit producers.
- Stabilising prices and managing volatility requires a mix of policy instruments combining domestic production, buffer stocks, trade and social protection within a coherent food security framework.

End Notes

- ⁱ Leading emerging economies – Brazil, Russia, India, China and South Africa
- ⁱⁱ Spratt S (2012) – Overview: FAC Workshop on Food price volatility and financial markets, IDS Brighton <http://www.future-agricultures.org/comment-and-reflection>
- ⁱⁱⁱ CAADP (2009) Framework for African Food Security NEPAD
- ^{iv} Dorward, A (2012) Short term food price impacts Future Agricultures Policy Brief 52 <http://www.future-agricultures.org/publications>. <http://www.caadp.net/pdf/CAADP%20FAFS%20BROCHURE%20indd.pdf>
- ^v Baffes J (2011) 'The long-term implications of the 2007-8 commodity price boom' *Development in Practice* 21, 4-5:517-525
- ^{vi} Sources: Dorward (2012) Ibid; data from World Bank (2012) Monthly world prices of commodities and indices; and US Bureau of Labor Statistics (2012) Consumer price index. International grain prices are summarised using the World Bank Development Prospects Group cereals price index. This hides considerable diversity in shorter term price fluctuations between maize, wheat and rice, but shows well the broad patterns which are common to all the main grains.
- ^{vii} HLPE (2011) Price volatility and food security Report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome <http://www.fao.org/cfs/cfs-hlpe/report-1-price-volatility/en/>
- ^{viii} FAC Workshop on Food price volatility and financial markets <http://www.future-agricultures.org/component/content/article/1581-food-price-volatility/7651-workshop-programme>
- ^{ix} Dorward, A (2012) Ibid.
- ^x Wiggins, S., Keats, S., and Clay, E. (2010) Countries vulnerable to a price spike in 2011 London: ODI <http://www.odi.org.uk/resources/docs/6522.pdf>
- ^{xi} Uses IFPRI 2010 Global Hunger Index <http://www.ifpri.org/publication/2010-global-hunger-index>
- ^{xii} Based on HLPE (2011) *ibid.*; Clay, E; Keats, S and Lanser, P (2011) Incorporating global price spikes into the risk management agenda, ODI <http://www.odi.org.uk/resources/docs/7336.pdf>
- ^{xiii} Hossain, N and Green, D (2011) 'Living on a spike: How is the 2011 food price crisis affecting poor people?' Oxfam/IDS <http://www.oxfam.org/sites/www.oxfam.org/files/rr-living-on-a-spike-food-210611-summm-en.pdf>



Improving rural infrastructure helps grain markets work better

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