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# POLICY SYNTHESIS

for Cooperating USAID Offices and Country Missions  
(<http://www.aec.msu.edu/fs2/psynindx.htm>)

MICHIGAN STATE  
UNIVERSITY

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Number 90

October 2011

## ON MANAGING THE NEW FOOD PRICE ENVIRONMENT IN COUNTRIES WITH FOOD INSECURE POPULATIONS

by

**David Tschirley and Nango Dembelé\***

Food Security III Cooperative Agreement between the U.S. Agency for International Development,  
Bureau for Food Security, Office of Agriculture, Research and Transformation, and the  
Department of Agricultural, Food, and Resource Economics, Michigan State University

**INTRODUCTION:** The Feed the Future (FTF) initiative aims to “advance global stability and prosperity by improving the most basic of human conditions – the need that families and individuals have for a reliable source of quality food and sufficient resources to access and purchase it.” Events in world commodity markets since 2007 threaten to undermine this objective. During 2007 and 2008, the prices of a wide array of energy, food, raw material, and mineral and metal commodities surged to all-time highs. Average grain prices doubled, energy prices nearly tripled, and fertilizer prices more than tripled during this period compared to their preceding 10-year averages. After declining in 2009 and part of 2010 in response to the worldwide financial crisis<sup>1</sup>, prices surged again from mid-2010 through at least April 2011. Most opinion regarding the cause of these price movements has coalesced around a combination of long-term rises in demand in Asia<sup>2</sup>, the diversion of grains into the production of biofuel in the U.S.<sup>3</sup>, increased industrialization

of agriculture forging tighter links between prices of agricultural commodities and energy, poor grain harvests in key producing countries, historically low carryover stocks (in 2007/08 but not 2010/11), and commodity market speculation *panic* buying by some countries in response to export restrictions by large exporters (e.g., India for rice) may also have played a role.

These rising prices led to an upsurge in civil unrest in developing countries (Barrett and Bellemare 2011), closing of borders in many developing countries, Russia, and India, and a commitment by OECD heads of state to reverse the long-term decline in development assistance for agriculture. The events also spurred renewed interest in policy mechanisms to stabilize grain prices and ameliorate the effects of high prices. In doing so, decision-makers need to learn from the successes – and the failures – of the past, and adapt promising approaches to new realities.

This Policy Synthesis draws on existing literature and updated price data to characterize recent events in world and developing country staple food markets.

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<sup>1</sup> Agricultural output may also have increased in some developing countries as a result of support measures instituted after the 2007/08 crisis.

<sup>2</sup> OECD-FAO (2011) argues that growing demand could not have caused the price surge of 2007/08, but does highlight its importance in driving longer-term price rises.

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<sup>3</sup> Even conservative studies suggest that the biofuels program contributed more than one-third of the increase in U.S. maize prices from 2006 to 2009 (Babcock and Fabiosa 2011).

We first highlight the fact that increased volatility and higher price levels generate differing distributions of gains and losses across different types of households: rural versus urban and commercialized versus non-commercialized rural households. Next, we outline five key characteristics of these events that are relevant to designing policies and programs to protect the world's poor. A central assertion is that the world has likely entered a new era of permanently higher – though not necessarily more volatile – prices for food and other commodities. We close by proposing a list of actions that governments and donors should consider as FTF works to achieve its goal of ensuring broad access to quality food by the world's poorest inhabitants.

**THE DIFFERING IMPACTS OF PRICE VOLATILITY AND HIGHER PRICE LEVELS:** Volatility *per se* primarily hurts commercially oriented (market-oriented) smallholder farmers by increasing the riskiness of applying intensified production techniques. Given the structure of cereals marketing in SSA, this harm is concentrated among the best-off 5%-10% of smallholder farmers. In the longer run, however, volatility makes it harder for less well-off smallholders to adopt intensified production techniques. The fact remains, however, that a small minority of African farmers are directly (even in the longer run) hurt by price volatility.<sup>4</sup>

On the other hand, high price levels clearly help commercially oriented farmers, but hurt consumers. Some of the consumers hurt by high price levels are rural net buyers, who we know constitute 30% to 60% of households in most of east and southern Africa. Yet the quantities purchased by these households tend to be quite small, approximately 20kg on average per year, reducing the impact on them. The major impact of high and volatile prices is on the urban poor, who must buy nearly all the food staples that they consume.

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<sup>4</sup> Volatility may hurt poorer farmers indirectly through the labor market, though we know of no research specifically on this issue.

**KEY OBSERVATIONS REGARDING THE NEW FOOD PRICE ENVIRONMENT:** Here we highlight five key characteristics of food market performance since the worldwide price crisis of 2007-08.

***Short-term (2-3 month) Transmission of World Prices to Domestic Prices Has Been (a) Low on Average and (b) Highly Variable across Countries:*** Different studies on price transmission indicate that most developing countries exhibit incomplete pass-through of international price changes to domestic prices, characterized by a slow adjustment process with a limited response of national prices to world prices in the short run (Dawe 2008; FAO 2008; Daviron et al. 2008; Blein and Longo 2009; Diallo et al. 2009). In the most recent analysis, Minot (2011) shows that only 13 of 62 prices series across nine African countries have a statistically significant relationship with the corresponding international price<sup>5</sup>. Consistent with its status as the most imported food commodity (other than wheat) in Africa, rice demonstrates the highest transmission, with eight of the 17 series showing significant relationships. Maize, which is infrequently imported from world markets, shows the lowest, with only four significant relationships out of 40.

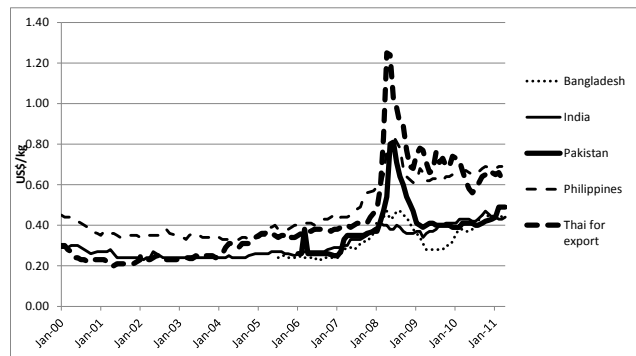
Figure 1 uses rice to give a visual sense of how variable the impact of world price movements has been on local prices. Pakistan (the green line) is a major rice exporter that kept its borders open and increased its exports during the crisis; as a result, prices in that country closely followed Thai export prices (our measure of world prices; light blue line). Another major exporter, India (the red line), closed its borders and avoided any sharp price increase. A major importer of rice, the Philippines (purple line), partially controlled imports and subsidized them for internal sale; while internal prices nearly doubled from January 2007 to early 2008, the rise was far less dramatic than in world markets. Finally, Bangladesh (dark blue line) is nearly self-sufficient, and insulated its market

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<sup>5</sup> The 62 time series are monthly data over a period ranging from 5 years to 14 years.

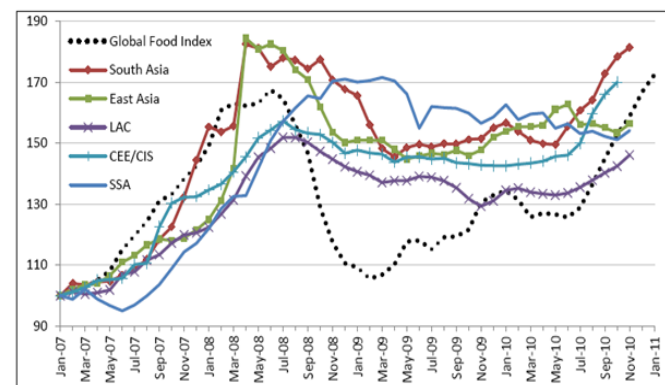
from the sharp world price rise by controlling exports and subsidizing imports.

**Figure 1. World and Selected Domestic Prices of Rice, January 2000 to April 2011**



**Nominal Price Levels Have Shifted up but Are not Necessarily More Volatile:** The one feature that all four local price series in the previous graph share with the Thai export series is that they have remained substantially above their pre-crisis levels for 2.5 years since world prices came back to earth in late 2008. Prices of a broad basket of food followed a very similar pattern (Figure 2), rising sharply from early 2007 through early 2008, and then stabilizing around a higher level. Note that the food price index tracking world markets has been far more volatile – declining sharply after the initial rise, then rising sharply again – than the regional indices, which track domestic markets.

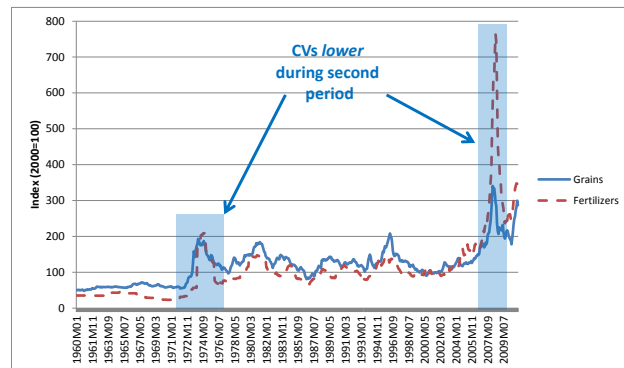
**Figure 2. UNICEF Food Price Indices, Jan 2007 - Jan 2011**



Source: Figure extracted from Ortiz and al., (2011) in Escalating Food Prices, UNICEF, Page 8. FAO (2010) and authors' calculations. Note: Sample includes 5 countries from South Asia, 5 from East Asia, 16 from LAC, 7 from CEE/CIS and 24 from SSA

OECD-FAO (2011) forecasts price increases of 20% for cereals and 30% for meats over the 2011/20 period compared to the previous decade, but does not specifically predict that prices will be more volatile over that period. In this regard, it is worth reviewing patterns of volatility the last time that world prices skyrocketed in 1973/74. This crisis ushered in a prolonged period, which ended only with the price crisis of 2007/08, of higher prices of grains and fertilizer fluctuating around an entirely flat nominal price trend (Figure 3).

**Figure 3. Long-term Patterns of Grain and Fertilizer Prices**



The first full boom and bust cycle (from initial rise to first trough) of that period was from June 1972 to June 1977. The coefficients of variation (CV) of grain and fertilizer price indices during that cycle were slightly *higher* than the CVs of the first boom/bust cycle of the current period (November 2006 to December 2008).

While this finding is no guarantee that prices over the next decade or two will not be more volatile than during the previous period, it highlights a tendency for markets to stabilize somewhat following an initial shock.

**Price Volatility Has Been Driven More by Internal Factors than by External Factors:** Several internal factors drive price volatility. Widespread dependence on rainfed agriculture drives large fluctuations in yearly production and market prices. High marketing costs (transport, storage, finance), especially but not only in land-locked countries, make trade more

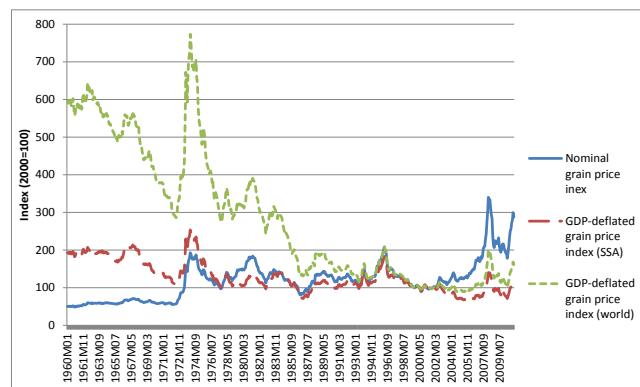
costly and increase the range within which local prices can fluctuate without triggering trade, even if such trade were fully liberalized. Policy – especially public stock management and erratic control of trade – also plays a major role in price fluctuations. Poor management of public stocks has frequently accentuated price instability rather than reducing it (NEPAD 2004), while unpredictable public control of trade does the same. These last two dynamics are dramatically illustrated by Malawi and Zambia during the previous decade, as documented by Tschirley and Jayne (2010).

**Prices Relative to Average Purchasing Power Have Fallen Dramatically:** Figure 4 presents monthly values of the nominal world grain price index since 1960, along with that same index deflated by (a) average world per capita GDP and (b) average SSA per capita GDP. Three points stand out. First, world prices at their peak in 2007/08 were no higher, in terms of average worldwide purchasing power (the top, green line), than during their previous peak in 1996. Second, relative to average purchasing power in SSA (the lower, red line), peak prices in 2007/08 were nearly 25% lower than during the 1996 peak. Third, the average world and SSA GDP-deflated indices fell by 77% and 49%, respectively, from their 1960-62 average to the most recent three-year average.

These patterns highlight the fact that economic growth has made food far more affordable for vast numbers of consumers across the world over the past 50 years, including in Africa. Yet unequal distribution of that growth across consumers means that many households have been left behind. Available evidence suggests that the share of national GDP held by the bottom 20% of the population in SSA has fluctuated between 5% and 6% since the mid-1980s, while the top 20% has typically held more than half of all income. Thus, while this pattern suggests that the cost of food has fallen even for this bottom 20%, in absolute terms their benefits from growth have been only about

one-tenth the size of the benefits accruing to the top 20%. And because the expenditures of the poor are more heavily weighted towards food, food price increases affect their real incomes more than those of the non-poor do.

**Figure 4. Nominal and GDP-deflated Cereals Prices, SSA and World, 1960-2011**



**Food Policy is Inescapably Political:** Timmer suggests, “Citizens would willingly go to the market to buy food price stability, but such a market does not exist ... Understandably, then, citizens turn to the political market instead.” The income inequality noted above sharpens the political problems that can come from food price rises, as poor consumers, especially in urban areas, see that the conditions of others have improved while theirs have not, and many have real difficulty maintaining consumption even at minimally adequate levels. Rising expectations linked to improved communications – many poor urban households see modern advertising, TV, and movies, and have at least periodic access to the internet – further sharpens the potential political reaction.

**PRIORITY ACTIONS FOR DEVELOPING COUNTRY GOVERNMENTS AND DONORS:**

The challenge facing policy makers and donors is to reconcile urgent short-term needs – driven by acute suffering and the political dynamics discussed above – with long-term imperatives: to reconcile good politics with good economics. We suggest six long-term and three short-term actions that hold some promise of achieving this balance.

### *Long-run Actions:*

- First, **exploit the opportunities embodied in the new high price environment by investing in productivity-enhancing public goods at farm level.** The new environment means that the payoff to varietal research, water control, extension, and sustainable access to modern inputs has risen dramatically. Now is the time to increase these investments.
- Second, **drive costs down in the marketing system** by reducing uncertainty with more rules-based government policies, by promoting efficient regional trade, by improving marketing information and promoting competitive private trading systems, and by improving roads and financial systems. Such investments will simultaneously reduce consumer price levels and minimize sharp seasonal volatility.
- Third, **pursue an active regional dialogue** on these issues, with a main objective of gradually achieving greater harmonization of agricultural support policies, which will make it easier to move towards open borders. Such convergence will not happen quickly, but the mechanisms exist for a vigorous dialogue in the form of numerous regional trade organizations. These mechanisms need to be used more intensively during crises, not less intensively (as was the case in the recent crisis).
- Fourth, **engage civil society** in an evidence-based dialogue on these issues; while food policy will always be political, solid information presented on a regular basis will, over time, lead to policy improvement.
- Fifth, governments and donors must **build capacity for locally driven policy analysis and outreach.** There is no substitute for informed Africans taking the lead in generating relevant empirical information and injecting it into policy debate.
- Finally, **review the legal framework for land acquisition to ensure strong tenure rights for smallholder farmers.** The new high price environment, along with Africa's strong economic growth and growing internal markets, is driving great interest in foreign

investment in African agriculture. Governments must assure that such investment serves the countries' broader interests and does not marginalize smallholder farmers.

### *Short-run Actions:*

- First, governments need clearly to **distinguish between emergency reserves and buffer stocks** and consider all likely costs in choosing which to use. The former are smaller and meant to cover food gaps until imports can arrive. The latter are explicitly meant to stabilize prices and so need to be much larger. Buffer stocks have a very poor record in Africa, with high costs of operation and frequently opaque management that leads to market disruption. For example, Zambia in 2010/11 lost US\$300m on its maize operations, equal to nearly \$30 for every man, woman, and child in the country (Nkonde et al. 2011), while Malawi's management of its stock in 2001 exacerbated its price crisis that year (Tschirley and Jayne 2010).
- Second, **governments should use layered safety nets** to protect those with low purchasing power and to protect the most vulnerable consumers during worldwide price rises. No one safety net approach will serve all needy consumers well under all circumstances. Thus, a range of safety nets needs to be used, including school feeding, on-going conditional cash transfers, cash and voucher distributions during emergencies when market conditions merit it, and food aid distributions to selected populations unable to access affordable markets.
- Finally, developed country governments committed to helping reduce food insecurity in the developing world should **review their biofuels policies** in light of their likely effects on the prices of corn and other commodities.

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## ACKNOWLEDGMENTS

This policy synthesis is published with funding provided by the American people, via the Food Security III Cooperative Agreement (GDGA-00-000021-00) between Michigan State University and the United States Agency for International Development, through the Bureau for Food Security, Office of Agriculture, Research, and Technology. The authors are grateful for comments from Philip Steffen, Activity Manager, USAID/BFS/ART, and John Staatz, Duncan Boughton, T.S. Jayne and Eric Crawford for useful comments on earlier drafts of this paper.

\*David Tschirley is professor, International Development, and Nango Dembelé is assistant professor, International Development, in the Department of Agricultural, Food, and Resource Economics, Michigan State University, East Lansing, MI.