The Food Price Spikes of 2008/09 and 2010/11:

Country-Level Impacts and Policy Responses in Africa

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Abstract

We explore the heterogeneity of impacts on African countries during the two spikes in food prices in 2007/08 and 2010/11 and the differences in the policy responses. We first establish the linkages between changes in international food prices, the manifestations and impacts at country level, and the range of responses available to national policy makers. We then analyse the macro and micro-level impacts in more detail using a measure of food price vulnerability, market data for a number of food groups and countries, and data on consumer prices from African countries. We also discuss recent studies on the impact of rising prices on household level welfare. In the next section of the paper we present findings from a survey of policy response by African governments to food price increases and we characterize the differences in responses according to their macro, micro or structural focus, and the country-specific circumstances.

Key words: Food price increases, impacts, policies, welfare, Africa

JEL classification: O12, I30, Q02

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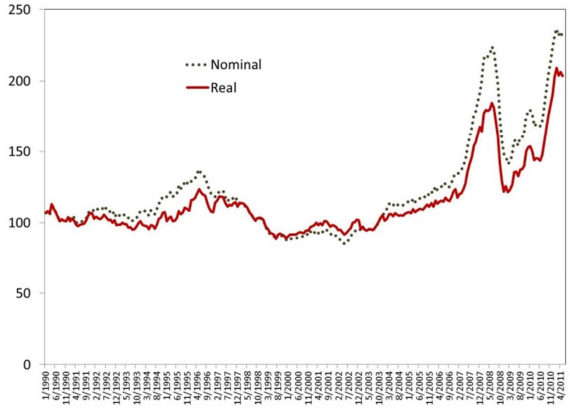
1. Introduction

International food prices have spiked dramatically on two occasions in the past few years. In the year to June 2008 prices surged 36 percent in real terms after two decades of relative stability (Figure 1). After receding, prices surged again in mid-2010. In the year to June 2011 the FAO global food price index increased by 43 percent in real terms. In the second half of 2011 the index stabilized but at a level about 10 percent higher than its previous high in 2008. Although the recent spikes in food prices have been significant they are not without precedent over a longer period (Figure 2). Increasing food prices are particularly challenging for sub-Saharan Africa: the continent is a net importer of food, has the highest share of poor and hungry people in the world, and agricultural productivity remains far below that of other regions.

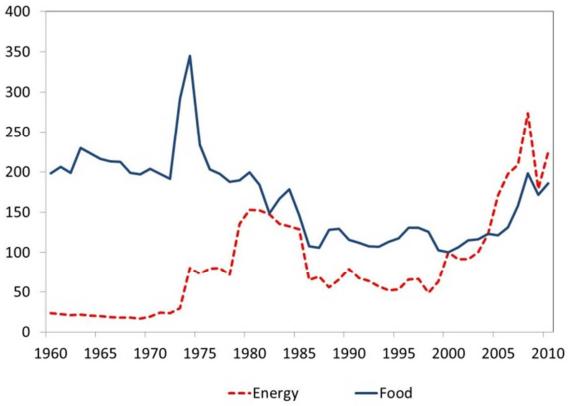
Numerous factors have been driving the recent price spikes. The increase in global food prices, and increased volatility in recent years, reflects the tightening of stocks in cereal markets after decades of demand growth outpacing gains in yields. According to Food and Agriculture Organisation (2011), cereal stocks have fallen by one-third since 2000 and are expected to fall even further in 2011. Sources of increased demand, which drive the long term trends, include population growth, shifting tastes in emerging and frontier markets and the rise of the bio-fuel industry (Heady and Fan, 2010; Benson et al, 2008). Slow productivity increases are rooted in under-investments in agricultural infrastructure, failure in market institutions, ineffective government policies and inadequate R&D. Thinner stocks contribute to price volatility given that adjustments to supply shocks have to be accommodated through changes in prices, as opposed to drawing down on stocks. When stocks are tight even small disruptions can generate large price swings. When multiple disruptions occur simultaneously the effects are exacerbated generating sudden and steep rises in prices.

Figure 1: Global food prices (2002-4=100)



Source: FAO database

Figure 2: Long-term trend in food and energy prices (2000=100)



Source: World Bank database Note: * In constant 2000 USD.

Food markets in 2010/11 have been affected by the confluence of many of the same factors that were at play in 2007/08: adverse weather and poor harvests affecting some of the main exporters, dollar depreciation, rising oil prices and short-sighted policy responses. The role of the 'financialization' of commodity markets and the culpability of speculators tends to be exaggerated in public debates when compared with the thin evidence on the influence of these factors (Heady and Fan, 2010; Minot, 2011). While there are many similarities between the two recent spikes in international food prices there are also key differences. These differences are particularly important in terms of understanding the impact in sub-Saharan Africa and for proposing appropriate policy responses.

The first notable difference is in the type and number of commodities that have been affected. The increases in global food prices in 2010/11 were led by maize, wheat, oil and sugar. Rice, which saw significant price rises in 2007/08, and on which many especially West African countries are import dependant, has been largely unaffected this time around due to good harvests in Asia – the main source of global supply. The second difference is that the pass-through of global prices on to local African markets, which was very strong in 2007/08, has been limited in 2010/11. In fact, for some commodities such as millet and cassava that are less exposed to global trade, local prices have fallen. But also tradables such as maize and wheat have experienced muted price responses in many localities. This is in large part due to a strong performance of agriculture sectors in many countries. Overall, cereal production in Africa was up by 11.5 percent between 2009 and 2010, according to FAO. Cereal production increased by 23 percent in East Africa and by 12 percent in West Africa, especially in Chad, Niger and Mauritania as these countries recovered from the 2009 drought. Over the period, among the 39 Low-Income Food Deficit Countries in Africa, cereal production increased by more than double the average for the 70 country-group as a whole (FAO 2010).

The third difference relates to policy responses, which have tended to be more subdued in 2009/10 than in 2007/08. The more restrained approach in the latter period was attributable to the more limited policy space as a result of interventions in the former period and the growing impact of the global financial crisis over both periods. Specifically, responses that had less negative implications on the budget (e.g., price controls) tended to be more used in 2009/10 than in 2007/08. Conversely, measures that would lead to immediate deterioration of the budget (e.g. increased infrastructure outlays, cuts in tariff imports) were used less. In several countries, monetary policy also adopted different priorities with regards to growth-inflation trade-offs. For example, while central banks reduced policy rates to stimulate growth in Kenya and Uganda in 2007/08, they have subsequently raised rates to bring down the double-digit inflation in 2009/10, with less concern of the negative impacts such measure can have on economic activity.

Between individual African countries, however, both impacts and responses have differed greatly. This reflects differences in a range of country-specific parameters such as net trade positions, the exchange rate and monetary regimes, substitution possibilities, and the response from markets and makers of policy. Within countries, varied impacts have also reflected differences in exposure, vulnerabilities and coping strategies.

In this paper we set out to explore the heterogeneity of impacts on countries in Sub-Saharan Africa (Africa, from here on) between the two spikes in food prices and the differences in the policy responses. The paper is organized as follows. The next section explores conceptually the link between changes in international food prices, the manifestations and impacts at country level, and the range of responses available to local policy makers. The following section examines the impacts in more detail using a measure of food price vulnerability extended to all African countries, market data for a range of food groups and countries, and country-level data on consumer prices. Here we also discuss recent studies on the impact of rising prices on household level welfare. In the penultimate section we discuss findings from a survey of policy responses by African governments to food price increases, with a focus on the differences in responses according to their macro, micro or structural focus, and the country-specific circumstances. In the final section, we summarise and conclude.

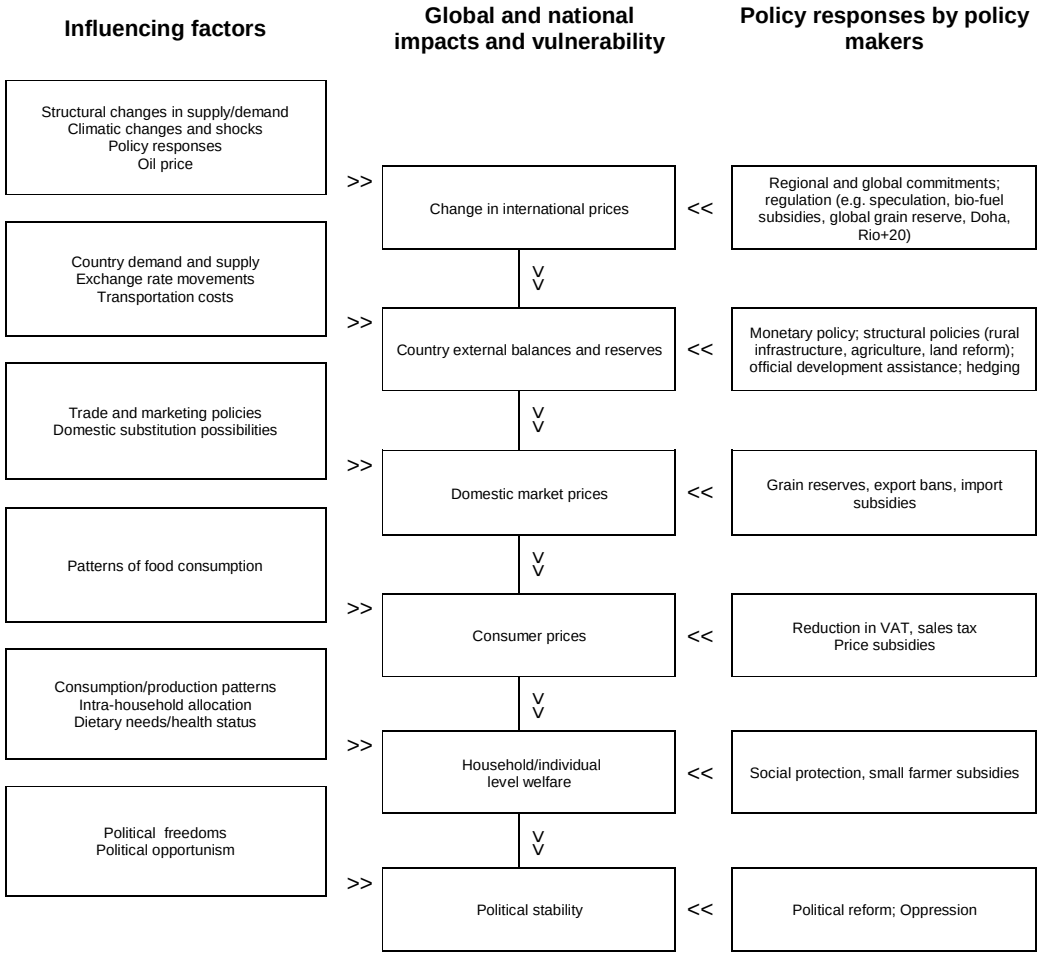
2. Conceptual framework

The relationship between international and domestic food prices and the wider social ramifications is distinctly country-specific. In Figure 3 we outline a conceptual framework that seeks to account for the multiple influencing factors, and the country-specific *manifestations* of the transmission of

global food prices. Five areas of domestic *impacts and vulnerability* of food price changes are identified along this causal chain.

Changes in global food prices directly affect a country's balance of payments position through the trade balance and subject to a host of influencing factors notably related to terms of trade (degree of openness, structure of the country's commodity trade and import dependence, and exchange rate regime and movements). These effects may be mitigated by a decision by the international community to provide official development assistance or other concessional forms of financing during times of food price crisis. Accordingly, in 2007/08 multilateral development banks expanded the range of instruments to support countries to cope with the pressures on their external and budget balances, and development partners made new pledges for supporting agricultural development.

Figure 3: Influencing factors, impacts and policy responses to rising food prices



Source: Authors' construction based on Heady and Fan (2010) and Benson et al (2008).

In turn, domestic market prices will be affected by a series of factors additional to the terms of trade effects, notably transportation costs to and from ports of entry, as well as trade and marketing policies (e.g. price subsidies or use of strategic grain reserves) and domestic substitution possibilities. The change in consumer prices or inflation will depend on the composition of private consumption, which varies between and within countries. The extent to which changes in global food prices manifest at the household level is influenced by a series of additional factors such as the household's

reliance on markets and own production to cover its food needs, intra-household allocations of resources, dietary needs and health status, as well as informal and formal safety nets and social protection mechanisms that are in place.

Research has established a positive long-term correlation between international food price and the incidence of anti-government protests, riots and civil conflict in low-income countries (Arezki and Bruckner, 2011). Indeed, numerous demonstrations and riots have taken place throughout Africa in response to higher food prices, with large-scale riots triggered by escalating food prices in recent years taking place in Burkina Faso, Cameroon, Guinea, Ivory Coast, Mozambique and Senegal. In April and May of 2011 unrest broke out in Uganda against a backdrop of rapidly increasing food prices and the aftermath of the national elections.

In the following we cover mainly the first four sets of country impacts: that is, the impact on external balances and reserves, domestic market prices, consumer prices and the welfare at household level. To focus the paper we do not discuss further issues related to political stability. We also focus exclusively on the policy responses by national policy makers and only indirectly on actions by the international community. Moreover, we do not discuss households' coping strategies. Information and data related to the four areas of impact and vulnerability come from a range of sources, including global databases (notably World Bank, IMF and FAO), as well as national statistical offices. We also use data from a survey of UNDP country-based Economics Advisors to gauge the national policy responses to mitigate at the various levels of impact and vulnerability.

3. Impacts and vulnerability

In the subsequent sections we examine the data for each of the domestic manifestations and discuss how they have been affected by local macro- and micro-economic and socio-political conditions. We use the range of national and international data sources and supplement the discussion with results from other studies of the recent food price accelerations.

3.1 Assessing vulnerability

Since poverty in Africa is still widespread, food constitutes a large share of the African households' expenditures. Due to factors mentioned above (e.g., changed tastes, climate change), vulnerability of the continent to rising and more volatile international food prices has increased. Such vulnerability can be assessed for example with the food price vulnerability index (FVI) developed by Nomura (2010) for selected emerging market economies. In this section, we apply it to all African countries:

$$FVI = 100 - \{0.25 * GDPpc - 0.25 * food / consumption + 0.5 * net\_trade\_balance / GDP\}$$

Where *GDPpc* is GDP per capita, *food/consumption* is the share of food in household expenditures and *net trade balance/GDP* is the net food exports as a share of GDP.[1] The index puts high weight on net food trade balance since on the macro level, high food prices impact in particular food importers. The higher value of the index indicates greater vulnerability to price rises.

Results in Table 1 show that five countries most vulnerable to food prices increases were Liberia, Comoros, Senegal, Sierra Leone, and Congo Dem. Rep. Their vulnerability stemmed from the high share of food in household consumption and high food import dependency. Often, these are also the countries with particularly limited policy space to counter shocks, leaving them at least partly

[1]These series (for 41 African countries) are normalized through subtracting mean and dividing by standard deviation.

dependent on foreign aid. Five least vulnerable countries are either oil exporters (e.g. Equatorial Guinea and Côte d'Ivoire) or middle income countries (MICs) in Southern Africa (e.g., Botswana, Mauritius and Southern Africa). The lower vulnerability of MICs, as measured by this index, stems from their relatively low share of food in household expenditures and high income. However, even upper-middle income countries who are net food exporters (e.g., South Africa) can face local food security challenges due to income inequalities and imperfections in food markets.

Table 1: Groupings of countries according to Food Price Vulnerability Index

High vulnerability – index		Medium vulnerability – index		Low vulnerability – index	
Liberia	101.3	Nigeria	100.2	Ghana	99.7
Comoros	101.1	Chad	100.2	Swaziland	99.6
Senegal	101.0	Guinea	100.2	Angola	99.7
Sierra Leone	101.0	Cape Verde	100.3	Kenya	99.6
Congo, DR	100.8	Burundi	100.1	Namibia	99.4
São Tomé & Príncipe	100.7	Mali	100.1	Zambia	99.3
Benin	100.7	Lesotho	100.0	Malawi	99.1
Mozambique	100.5	Rwanda	99.9	Gabon	99.2
Gambia	100.6	Ethiopia	99.9	Mauritius	99.2
Zimbabwe	100.5	Burkina Faso	99.9	Botswana	99.1
Tanzania	100.4	Togo	99.9	South Africa	99.1
Madagascar	100.3	Uganda	99.9	Equatorial Guinea	98.7
Central Afr. Rep.	100.3	Cameroon	99.8	Côte d'Ivoire	98.3
Niger	100.3	Congo, Rep.	99.8		

Source: Authors' calculations based on (2008-2010) data from the AfDB, FAO, and IMF databases.

3.2 Price pass-through from global to African markets

International food prices (in USD terms) have been volatile, but it is domestic prices that directly affect food consumption and production at the household level. If markets are efficient identical goods will have the same one price. A price difference between two markets will be closed through arbitrage. In reality however, even similar goods are not identical, and markets do not function perfectly. Evidence from empirical studies using time series analysis suggests that over the long term the pass-through of changes in international food prices to local markets in African countries is limited. Recent analyses use error correction models and take into account trending, or non-stationarity, in price data and the co-movements of time series. For example, Baffes and Gardner (2003) studied price transmissions in 8 developing countries from 1970 till the 1990s and found only three were integrated into world markets to a significant degree. They also found very limited pass through in the three African countries in the sample (Egypt, Ghana and Madagascar). A more recent study by Minot (2011) of 62 commodity markets in 9 African countries found a statistical significant relationship between international and local prices in only six sets of prices over a 5-10 year period.

Changes in international food prices may not pass through, or do so with delay, to local food markets in Africa for a number of reasons. Transportation costs are high especially among the many land-locked countries on the continent and among those with inadequate infrastructure. Policy barriers such as export bans or restricted access to foreign exchange also disrupt price transmissions. Concentration of market power and asymmetrical information among traders can further prevent arbitrage and the transmission of price changes.

While the transmission from global to local prices may be weak in general, there is evidence that the spike in global prices in 2007/08 was in fact more directly transmitted to African markets. Moreover, the two price spikes in 2007/08 and in 2010/11 display very different properties when it comes to pass through to local markets. In 2007/08 the domestic price in USD increased by more than the international price for Maize, Sorghum and Wheat, and there was a large degree of pass through for Rice as well. Prices for Cassava and Millet also rose but somewhat less. These commodities are less subject to international trade and their prices thus affected indirectly as consumers substitute from more expensive traded commodities. In 2010/11 the degree of pass-through to local markets was much more limited. Despite steep increases in the international prices for Maize and Wheat changes in domestic prices in USD terms were small (3 and 8 percent, respectively). Other commodities with rising prices in 2010/11 also saw limited pass-through to domestic market prices and domestic prices for Cassava, Millet and Sorghum actually fell during the period.

Table 2: Pass-through of food price increases in 2007/08 and 2010/11

	Cassava	Maize	Millet	Rice	Sorghum	Wheat
	Change in international price in USD*					
June 2007 - June 2008	86%	71%	86%	162%	65%	25%
June 2008 - February 2010	-33%	-42%	-33%	-34%	-39%	-23%
February 2010 - February 2011	49%	77%	49%	-4%	69%	75%
	Change in domestic price in USD					
June 2007 - June 2008	41%	104%	46%	56%	70%	52%
June 2008 - February 2010	-1%	-8%	-16%	-8%	-18%	-15%
February 2010 - February 2011	-3%	3%	-8%	6%	-4%	8%
	Change in domestic price in nominal LCU					
June 2007 - June 2008	34%	89%	27%	38%	49%	38%
June 2008 - February 2010	17%	8%	-5%	8%	-6%	-4%
February 2010 - February 2011	-2%	5%	-7%	8%	-3%	7%
	Change in domestic price in real LCU					
June 2007 - June 2008	22%	74%	18%	27%	36%	26%
June 2008 - February 2010	8%	-3%	-7%	3%	-9%	-10%
February 2010 - February 2011	-8%	-4%	-9%	2%	-6%	2%
	Change in domestic price in real LCU as a share of change in international price in real USD*					
June 2007 - June 2008	28%	116%	23%	17%	62%	144%
June 2008 - February 2010	-22%	7%	19%	-8%	21%	38%
February 2010 - February 2011	-21%	-6%	-23%	-14%	-10%	3%
Number of markets (N=119)	13	32	22	44	7	7
No countries (N=14)	6	9	4	11	4	4

Source: Own calculations based on price data from FAO and US Bureau of Labor Statistics. FAO data on international commodity prices: http://www.fao.org/es/esc/prices/PricesServlet.jsp?lang=en and on domestic market prices: http://www.fao.org/giews/pricetool2/. Note: *International prices for Cassava and Millet use averages for maize, rice and wheat. International prices are Wheat (US No2, Soft Red Winter Wheat, US Gulf), Maize (US No2, Yellow, US Gulf) and Rice (White Rice, Thai 100% B second grade).

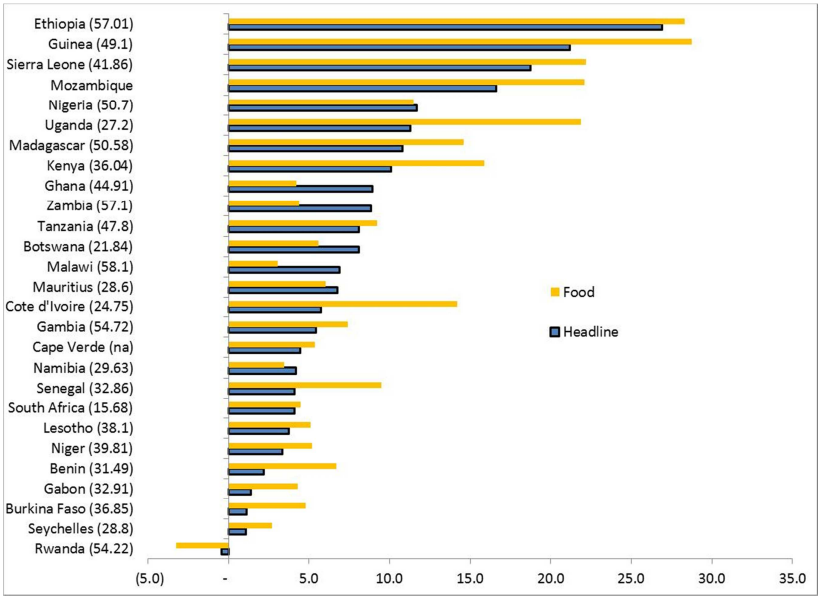
In Table 2 we extend and update the analysis by Minot (2011) to include more countries and markets, as well as data for 2010/11. We thus report changes in international prices and domestic prices in 119 African commodity markets covering 14 countries for which price information was available covering the two periods of price increases and for USD values and local currency units

(LCU) in both nominal and real terms. We also report results for the intermediate period June 2008 to February 2010. During the first price spike from June 2007 to June 2008 the largest international price increases were for Rice (162%), Beans (89%) and Maize (71%). The second spike in international food prices February 2010 to February 2011 was led by increases in Maize (77%) and Wheat (75%). Over that latter period Rice prices actually fell (-4%). In the intervening period between June 2008 and February 2010 prices corrected falling for all commodities except for Cassava (2%).

On the transmission channels, exchange rate movements will affect the degree to which a change in USD-denominated international prices is passed through to local markets. For all the commodities reported in Table 2, the LCU denominated changes were smaller than the change in USD denominated domestic prices, which suggests that currency adjustments buffer at least some of the effects from rising USD-denominated global prices. This is most visible during the 2007/08 price spike in the case of rice where the LCU denominated change in prices was only 32 percent even though the USD denominate price rose by 54 percent. This is mainly a result of the appreciation of the CFA against the USD among the rice importers in West Africa.

Minot (2011) offers several possible explanations for why the pass through in 2007/08 was particularly strong including: the extraordinary large size of the price shock, which was accompanied by sharply higher transportation costs due to oil price increases, and adverse policy responses, including export taxes or bans on grains, which exacerbated the impact on prices in neighboring countries. Aker et al (2011) take the limited success of West African governments to contain the pass-through of international rice prices in 2007/08 as evidence of these countries' growing dependence on Asia for meeting a rapidly growing domestic demand for rice. Nearly 40 percent of the rice consumed in Africa is imported, which represents about one third of all rice traded in world markets (Seck et al, 2010).

Figure 4: Average rates of headline and food price inflation (January-July 2011)



Source: Own calculations based on price data from national statistics offices.

Note: Figures in brackets are weights of the food component in the CPI.

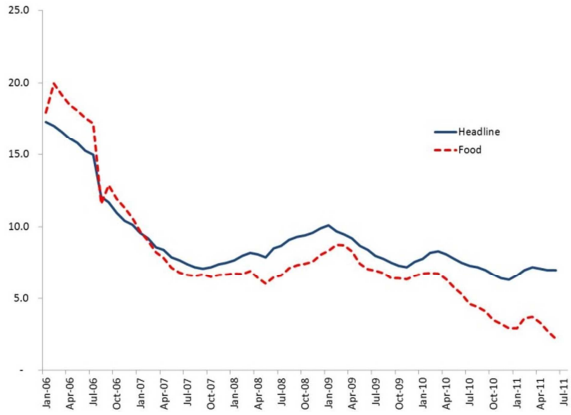
3.3 Impact on inflation in African countries and region-wide

Next we examine the extent to which rising food prices have translated into acceleration in consumer prices. Here we rely on data from national statistics offices in 19 of the 27 African countries for which we have recent price data, food price inflation has been rising faster than headline inflation in the first half of 2011 while food price inflation was actually tempering overall price changes in the remaining eight countries (Figure 4). In six countries is the food price increase more than twice as high as for the CPI as a whole. The food component of consumer price indices in African countries is by far the largest typically weighing 40 percent but can be as high as 58 percent (in Malawi). Hence food inflation is a critical determinant of overall consumer price inflation in most African countries.

Figure 5: Sierra Leone price changes (y-y in %)

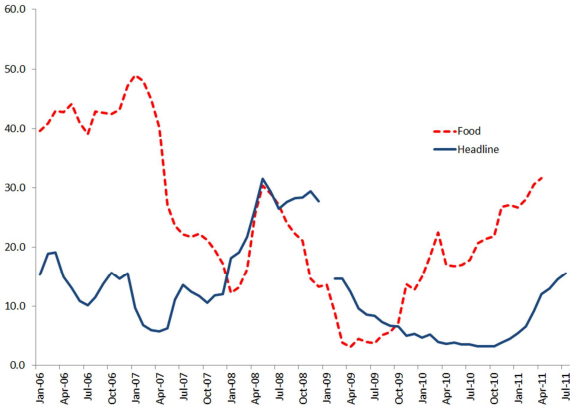
Source: Statistics Sierra Leone

Figure 6: Malawi price changes (y-y in %)



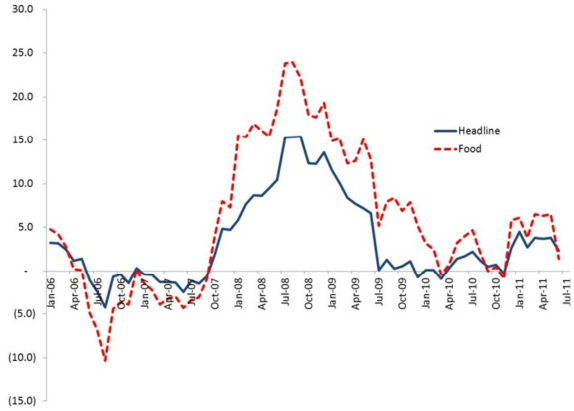
Source: National Statistics Office of Malawi

Figure 7: Kenya price changes (y-y in %)



Source: Kenya National Bureau of Statistics

Figure 8: Niger price changes (y-y in %)

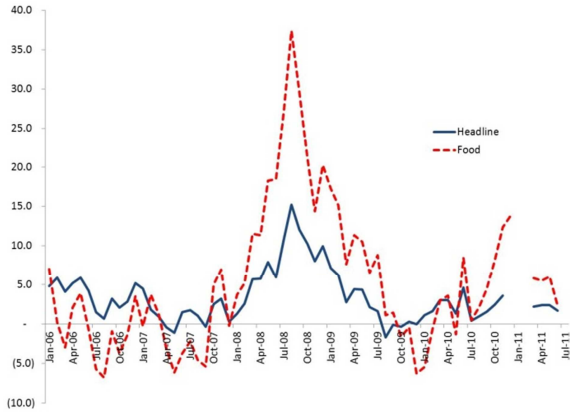


Source: Institut National de la Statistique du Niger

The drivers of food price inflation vary and go beyond the impact from international prices. In countries such as Sierra Leone (Figure 5) where the main staples are imported, global price effects are generally more direct than in countries such as Malawi where staples are supplied by local farmers (Figure 6). This does not mean that there are no volatility and price spikes in countries where local conditions are the most important determinants of prices. For example, the on-going severe drought in the Horn of Africa is leading to price increases for cereals of 30-80 percent in the most affected areas of Kenya (Figure 7). Recently, corn prices in Kenya are reported to have fallen by about 20 percent due to (import tariff-free) shipments from Zambia and Malawi and good harvests in the parts of the Rift Valley. At the same time, some of the harvests remain unutilized as the

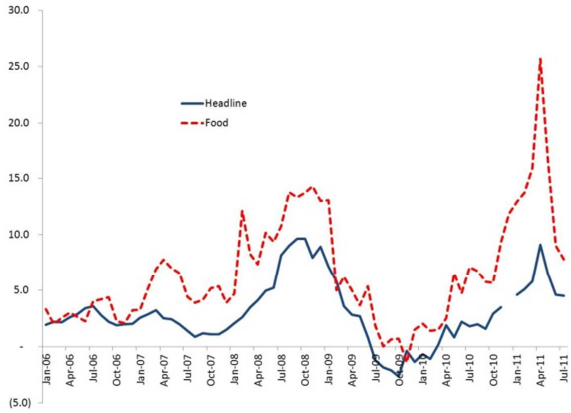
farmers lack access to storage facilities and markets.[2] In contrast, in southern Africa good maize harvests have kept food prices low and in many of these countries food price inflation is actually lower than overall inflation. Other country-specific factors have also played a role. In the Sahel region and notably in Niger (Figure 8), the timely and coordinated international food aid contributed to limit the pass through and keep inflation under control in 2010. Weather events have pushed up prices in some countries e.g. floods in Benin (Figure 9) and drought in Kenya, as noted, whereas political instability has played a role in others e.g. Cote d'Ivoire (Figure 10). Moreover, while most countries are affected by the higher costs of fertiliser due to increases in energy prices, landlocked countries—of which Africa has more than any other region—are typically more affected as they experience higher cost of transport to markets as well. Net-fuel and food importing countries (e.g. Lesotho and Seychelles) have been particularly vulnerable to rising global commodity prices, and face tightening balance of payments constraints.

Figure 9: Benin price changes (y-y in %)



Source: l'Institut National de Statatisque et de l'Analyse Economique du Benin

Figure 10: Cote d'Ivoire price changes (y-y in %)

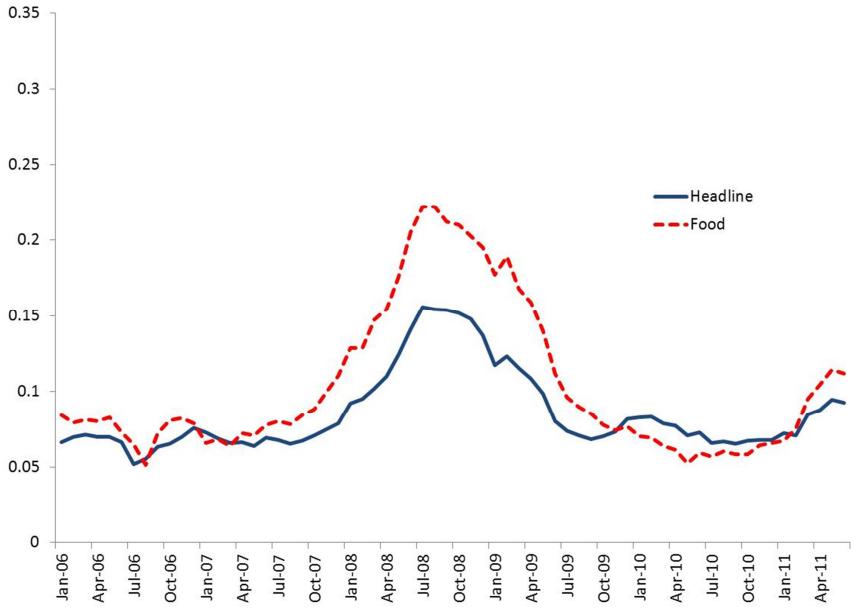


Source: Institut National de la Statistique du Côte d'Ivoire

We further compute the region-wide changes in inflation based by weighted the country data using real GDP in PPP and population size as weights. Over the four-and-a-half period under study, annual headline inflation peaked at 15.6 percent in July 2008 for Africa as a whole, with food price inflation reaching 22.2 percent that month (Figure 11). Food inflation has been increasing steadily from 5.8 percent in October 2010 to 11.2 percent in June 2011. The same pattern is prevalent for regional inflation rates computed using population weights instead of GDP although the levels, and the accelerations are higher during the two price spikes (Figure 12). This is an indication the impact on inflation was stronger in the relatively poorer and more populous countries. Irrespective of the weighting scheme the impact of the 2007/08 price spikes was clearly much stronger on Africa as whole than the most recent price spike in 2010/11.

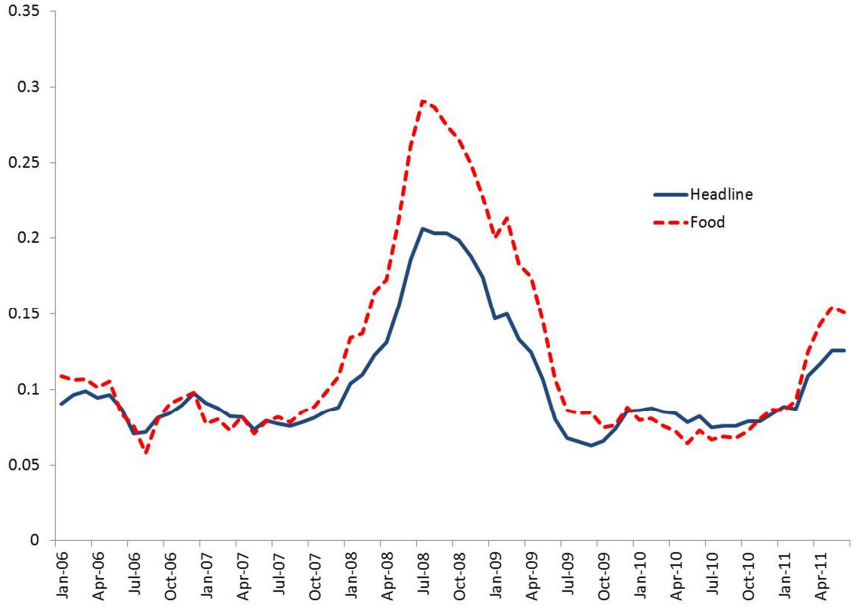
[2] http://www.irinnews.org/report.aspx?reportid=93432; http://www.bloomberg.com/news/2011-08-09/kenya-corn-prices-decline-20-on-increased-supply-business-daily-reports.html; http://www.businessdailyafrica.com/Price+of+maize+flour+falls+amid+increasing+supply/-/539552/1215626/-/item/1/-/12dmb5oz/-/index.html

Figure 11: Africa-wide price changes (y-y in %), GDP weighted



Source: National statistics offices for CPI data and World Development Indicators for GDP weights

Figure 12: Africa-wide price changes (y-y in %), population weighted



Source: National statistics offices for CPI data and World Development Indicators for population weights

In Table 3 we present annual averages for different country classifications. While overall inflation peaked at 13 percent in 2008 was markedly higher, 19.5 percent, in the Low-Income Countries (LIC), non-oil and non-fragile countries, whereas the non-oil Middle Income Countries (MIC) saw less inflationary pressures. The small number of fragile LICs (3) and more gaps in the data make the results for this group less straightforward to interpret. The gaps between the smaller wealthier MICs and the relatively larger and less wealthy LICs grow when using the population-weighted measures

of price increases. The levels of inflation in the Oil-rich group are mainly determined by the performance of Nigeria, which dominates the category. However, inflation and especially food price inflation has tended to decelerate in Africa's second largest economy even during the most recent spike in food prices. Food price inflation in Nigeria peaked at 20.9 percent in July 2008 and has since fallen steadily to 9.2 percent in June 2011, which is a full percentage point lower than the headline inflation rate.

Table 3: Headline and food price inflation for regions (y-y in %, annual averages)

	2006	2007	2008	2009	2010	2011
GDP weighted						
Headline						
Africa	6.6	6.9	13.0	9.0	7.2	7.7
Oil-rich	7.2	5.1	10.7	11.0	11.9	9.1
MICs, non-oil	3.8	6.3	10.3	7.2	4.4	3.9
LICs, non-oil, fragile	16.8	14.6	12.7	7.7	12.3	11.1
LICs, non-oil, non-fragile	9.4	9.0	19.5	9.6	5.9	11.1
Food						
Africa	7.6	8.0	18.4	12.0	6.2	8.9
Oil-rich	5.8	2.2	15.0	13.4	13.4	9.7
MICs, non-oil	6.3	10.2	15.8	10.1	1.5	4.3
LICs, non-oil, fragile	16.5	18.5	14.7	8.8	12.2	15.1
LICs, non-oil, non-fragile	10.5	9.4	25.8	13.6	4.7	13.6
Population weighted						
Headline						
Africa	8.8	8.2	16.5	9.7	8.1	10.4
Oil-rich	7.6	5.0	10.9	11.1	12.2	9.4
MICs, non-oil	3.7	6.3	10.2	7.2	4.3	3.8
LICs, non-oil, fragile	15.9	14.4	12.8	7.8	12.4	11.2
LICs, non-oil, non-fragile	9.6	9.5	20.9	9.5	6.1	11.9
Food						
Africa	9.2	8.3	22.3	12.6	7.4	12.3
Oil-rich	6.1	2.3	15.3	13.5	13.6	10.2
MICs, non-oil	6.2	10.2	15.8	10.0	1.5	4.3
LICs, non-oil, fragile	15.7	18.1	14.9	9.0	12.2	15.2
LICs, non-oil, non-fragile	10.8	10.2	27.8	13.0	4.6	14.3

Note: See Annex II for country classifications

3.4 Impact on household poverty

Assessing the impact of rising food prices on household welfare is complex for a number of reasons, including: the multiple factors that influence household production and consumption of food; effects and behavioral responses that are likely to occur in the medium to longer-term, as well as; the costs and complexities associated with monitoring food intake at household level.

Household level rapid food-security assessments conducted by the World Food Programme (WFP) have combined quantitative survey data collected at household and individual levels with qualitative information collected at community level to provide evidence of the 'real-time' impacts of the

unfolding food crisis (Sanogo, 2009). In 2008, 24 such assessments were done, including 10 in sub-Saharan Africa, reporting consistent evidence of reductions in the quality and quantity of food consumed as a result of increasing food prices, as well as some evidence of reductions in health care visits or health expenditures, increased school drop-outs, or sale of economic assets (Sanogo, 2009). Evidence from past recent financial crises confirms that the food-based coping strategies poor households adopt are consistent across countries as well as between urban and rural areas. These strategies follow a progressive pattern from minor food substitutions and modifications in diet quality to more extreme measures such as going for entire days without eating (Klotz et al, 2008).

The social groups most affected were the biologically vulnerable groups (i.e. children, pregnant and lactating women, chronically ill) and the economically vulnerable households (i.e. the urban poor, landless, pastoralists, and food-deficit small-farmers). For instance, in Addis Ababa in Ethiopia the proportion of households consuming an inadequate diet increased from 36 to 60 percent between 2007 and 2008 (Sanogo, 2009). In Greater Monrovia in Liberia the proportion of households designated as having an inadequate level of food consumption increased from 13 to 23 percent primarily as a result of increasing rice prices (Republic of Liberia 2010). The latest round of data collection from 2010 showed that the situation had improved with the recovery of rice prices and the share of food insecure households was estimated at 8 percent.

Rather than direct estimations, a number of studies have used economic models and historical household survey data to simulate the effects of the impact of the food price spikes. The effect on poverty is typically estimated by adjusting current level of household income by the price change taking into account that households can be simultaneously producers and consumers of different food items.[3] This income effect and the proximity of the household to the poverty line will under a series of simplifying assumptions determine whether the household falls into poverty or escapes poverty as a result of the price changes.[4]

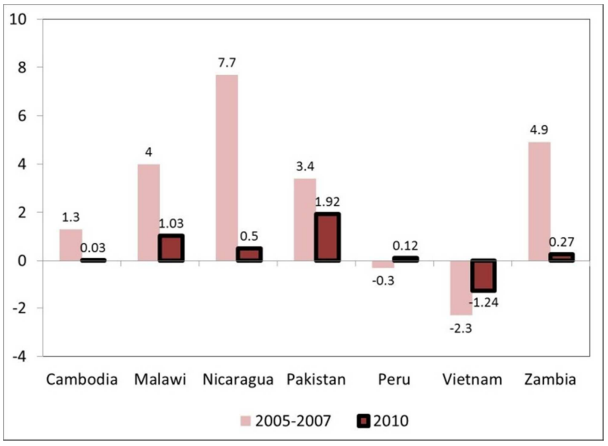
The poverty impact of rising prices falls heaviest on households that are net-buyers of food. These are traditionally viewed as the urban poor and rural landless, but the new research generated in the aftermath of the 2007/08 price spikes suggest that net-buyers of food include a broader range of rural households including many subsistence farmers (Wodon et al 2008; Zezza et al, 2008). The very severe impact on rural areas is a reflection that even the rural poor are often net-buyers of food and rely on non-farm economic used to supplement food production. Where rural infrastructure, storage facilities and financial services are under-developed farmers often have to sell for a low price at harvest time and buy at a high price during the lean season in order to smooth their consumption (Barret, 2005). This will tend to exacerbate their net-buyer status and their vulnerability to food price volatility. These households use a variety of mechanisms to cope with price shocks: substituting away from more expensive foods, reducing food intake, consuming less nutritious foods, distress sales of assets.

[3] Government policy responses to the food price increases are systematically assessed in the next section.
[3] This follows the approach by Deaton (1989).
[4] Among these assumptions are: price changes are common across countries even if it is clear that prices have changed very differently across countries; only effects from rising food prices are included, even if oil prices could have a larger effect on poverty; the effects are 'short run' in the sense that no behavioural effects either from producers/consumers or partial equilibrium effects on prices in other sectors; the analyses typically do not incorporate possible mitigating measures, such as food subsidies that might be established, or increased, to dampen the impact of the food price shock; the analyses also typically assume that the increase in the producer price is the same as the increase in the consumer price, i.e., sellers capture the full benefits of the price increase.

On the face of it, the poverty impacts of the 2010/11 price spikes appear more limited than in 2007/08. At that time the World Bank estimated that rising prices had led to a short-term surge of 105 million more extreme poor (living on less than $1.25 a day in purchasing power parities) in the developing world (Ivanic and Martin, 2008). The updated analysis released earlier this year suggested that the comparable rise in prices in the second half of 2010 led to 44 million more poor (Ivanic et al., 2010). In Malawi, for instance, poverty incidence went up by an estimated 4 percentage points in 2007/08 but only by 1 percentage point in 2010 (Figure 13). In Zambia, the other African country where short term poverty changes were estimated in the two World Bank studies, the impact in 2007/08 was an increase by almost 5 percentage points. In 2010 it was 0.27 percent, an increase which is probably not statistically significant.

These estimates of short term poverty impacts have been quoted frequently during the global debate on the impact of rising food prices and have framed the response by the international community. However, these types of estimates come with a number of important caveats. Firstly, they do not represent the actual number of people that have been pushed into poverty as a result of the food price changes. Rather they are a result of simulations on micro-economic models that use historical household data and a number of simplifying assumptions. As such, the estimates should be read more as an order of magnitude assessment of who is vulnerable and where they live, which, if understood as such, is undoubtedly useful information for planners and policy makers. Secondly, the estimates only consider the impact from changes in food prices, not other commodities such as oil, which tends to have large impacts in developing countries, and have been very important in both 2007/08 and 2010/11. Thirdly, there is some disagreement over the impact of second and third round effects of rising food prices; for instance whether wages for un-skilled labor increases with prices and the degree to which substitution to other commodities can shield the poor from the impacts of rising prices in some markets (Heady and Fan, 2010).

Figure 13: Change in poverty level (%-points)



Source: Own computations based on Ivanic and Martin (2008) and Ivanic et al (2011)

Another important factor not accounted for in the World Bank estimates relates to changes in the wider economic environment, especially the effects from economic growth. Given the strong growth experience in African countries in particular—the continent remains the second fastest growing region in the world after developing Asia (International Monetary Fund, 2011)—it is altogether possible that the positive impacts on poverty from economic growth would compensate the negative impacts from the food price increases. Using data from the World Gallup Poll on self-reported food security, Heady (2011) finds that despite rising food prices in from 2005 to 2008 food security is likely to have improved during the period given rapid economic growth and limited inflation especially in China and India.

For instance and purely by the way of example, according to the African Development Bank real GDP growth in Malawi and Zambia was around 6 percent in 2010. The most recent national poverty levels for the two countries, according to the UN Statistics Division, are 52 percent and 68 percent, respectively. Using a growth elasticity of poverty of -1.35, which is around the African average in the 2000s, and taking into account population growth, the change in poverty levels for the two countries as a result of economic growth in 2010 alone could be a reduction by 2-3 percentage points. This suggests that poverty may not have increased in these two countries, even if some vulnerable groups have suffered as a result of the increase in food prices.

4. Domestic Policy Responses

Policy responses to international food price surges depend on the economy's income level and structural characteristics, including the food trade balance, share of food in consumption, the level of external debt and the income distribution (Heady and Fan, 2010; Benson et al., 2008). Reflecting the diversity of their circumstances, African governments have adopted a wide range of measures to counter rising food prices, aimed at ensuring adequate supply of food at affordable prices for their people. In this section we first discuss some illustrative structural policy responses by African countries and then we present the results from a survey among country-based economists that provide a more systematic overview of the policy responses and the differences in the responses between 2007/08 and 2009/10.

4.1 Selected Structural Policy Response

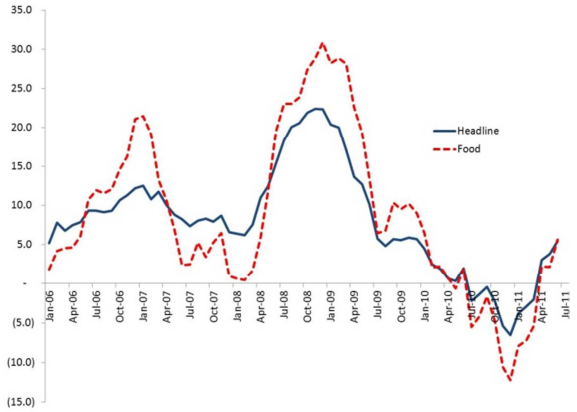
A range of different policy responses have also affected local markets, both in a positive and negative way. For instance, Rwanda has prioritized investments in agriculture in recent years and the provision of farm implements. This appears to have contributed to a boost in local production and a decline in the food CPI (and overall deflation) in the country for almost a year (Figure 14). In Zambia too the record-breaking maize harvests realised in 2010 and forecasted for 2011 have been achieved through a combination of input subsidies, output price incentives, and favourable weather conditions, which have kept food price inflation low (Figure 15). Conversely in Madagascar, (Figure 16), rice prices sky-rocketed in spite of relative stability in international prices. Reports from the country level point to a combination of factors, including political uncertainty, price controls (leading farmers to stockpile), and adverse weather conditions.

Several countries have resorted to price controls and/or food and fuel price subsidies. In Ethiopia the Government has sought to avoid the extreme increases in prices that occurred in 2008, when food price inflation peaked at over 90 percent. While the causes are still to be fully understood, prices increases at the time appear to have been affected by a combination of mainly domestic factors. After a 17 percent devaluation of the Ethiopian currency late in 2010, designed to boost the country's export sector, prices were fixed for 18 basic food and non-food items (later relaxed to include only 3 items). Moreover, the government has reintroduced a ban on maize exports. Still, inflation is accelerating possibly due to shortages and stockpiling in these markets (Figure 17).

In response to concerns over poor harvest conditions and increasing food price inflation in Tanzania (Figure 18) the government also reintroduced a 6-month ban on grain and maize exports in June 2011. While these bans may provide temporary relief of food shortages, the effects need to be weighed against the longer-term consequences of shutting off farmers from international markets and the ramifications on cross-border trade. Indeed, by October, the price of bag of maize received by farmers declined by one third, while overall local food prices – especially in urban areas – remain high due to infrastructure bottlenecks. As this example illustrates, in such situations efforts to provide short-term support to the most vulnerable while raising the longer-term productivity of the

agricultural sector are more suitable courses of action. On a positive note, the grain and maize ban was removed in October 2011 (although the ban on sugar exports remains in place).

Figure 14: Rwanda price changes (y-y in %)



Source: Rwanda National Institute of Statistics

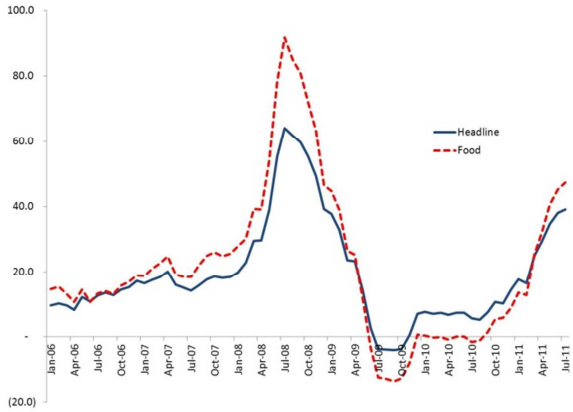
Figure 15: Zambia price changes (y-y in %)

Source: Zamstat

Figure 16: Madagascar price changes (y-y in %)

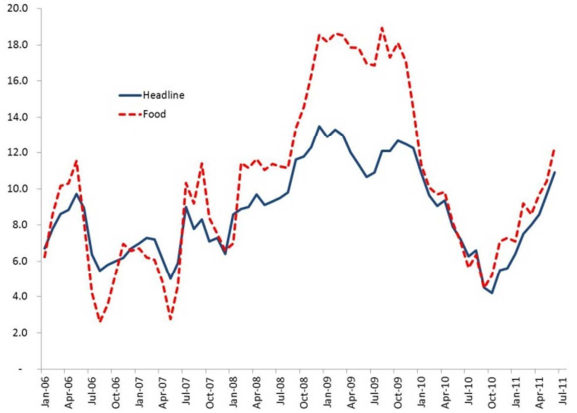
Source: Madagascar Institut National de la Statistique

Figure 17: Ethiopia price changes (y-y in %)



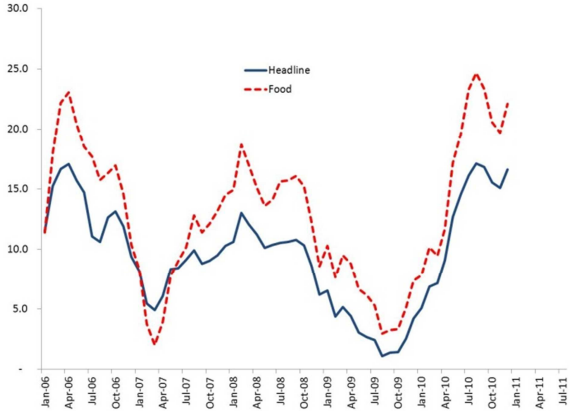
Source: Central Statistical Agency of Ethiopia

Figure 18: Tanzania price changes (y-y in %)



Source: Tanzania National Bureau of Statistics

Figure 19: Mozambique price changes (y-y in %)

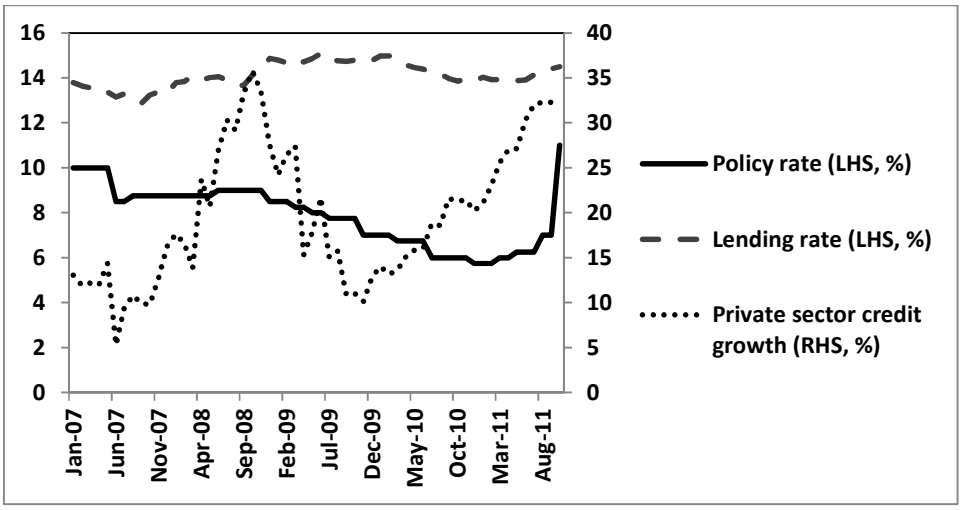


Source: IMF and Mozambique Instituto Nacional de Estatistica

But even targeted interventions need to be designed carefully to ensure effectiveness and efficiency. To avoid a repeat of the 2010 riots in which at least 14 people died, and to stem a steep acceleration in food prices (Figure 19), the Government of Mozambique proposed to issue vouchers for a basic food basket for low-income workers in the formal and informal sectors. But the proposal appears to have been put on hold due to concerns over affordability and possible leakage. Instead the government is considering scaling-up its direct cash transfer programme for households with elderly, children and other vulnerable persons. For individuals who are less constrained in their ability to work, cash-for-work-programmes and other productive safety net programmes are being considered. A limited role for subsidies is envisaged only for the most essential foods, for fuel for minibus taxis, and temporary job programmes.

As discussed earlier, in low income countries with the high share of food in the CPI basket, the surge in food prices has a negative impact on consumers, especially poor households. The negative impact is even more acute if rising food prices raise inflationary expectations and thus contribute to acceleration of the underlying inflation. Monetary policy can help in these circumstances, but in African countries its effectiveness is often undermined by weak transmission mechanisms and competing policy objectives (growth-inflation trade-off), besides the imperfect information and structural rigidities. Monetary policy thus often reacts with delay and uses only moderate measures. This point is illustrated by an example of Kenya, which is one of the East African countries most affected by food (and fuel) driven inflation.

Figure 20: Kenya: Policy rate, lending rates and private sector credit growth, Jan 2007 - Oct 2011

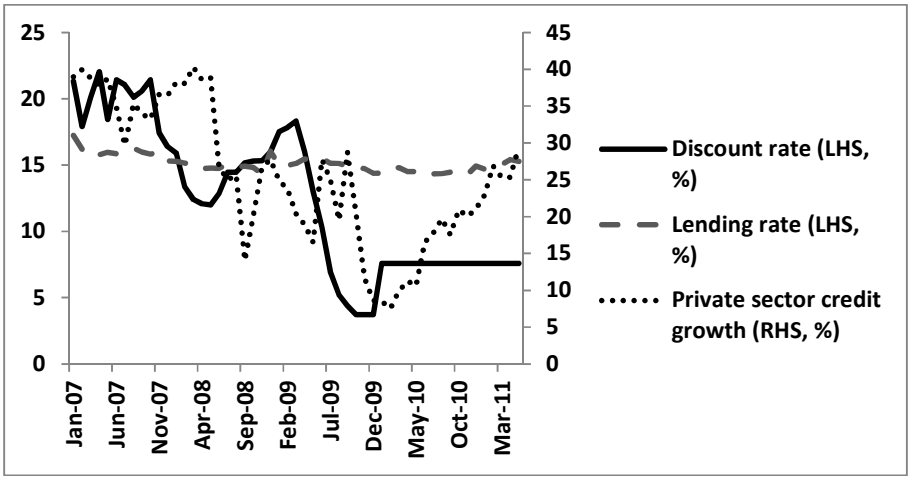


Source: The Central Bank of Kenya and IMF IFS database

In Kenya, even though inflation accelerated to double digits in 2008, the monetary policy rate increased only marginally, from 8.75 in early 2008 to 9 percent in mid-2008 (Figure 20). Since the end of 2008 the Central Bank started to lower its rate again (it reached 5.75 percent in January 2011) to stimulate growth during the global financial crisis.[5] However, in July 2011 annual inflation reached again almost 16 percent, driven in part by food inflation which amounted to 24 percent. With food (and fuel) price spikes, pressures stemming from expansionary fiscal stance, and depreciating exchange rate, the central bank has weighed trade-offs between (i) containing second-round effect of the food prices rises on inflation and (ii) stimulating growth. To reduce inflation and anchor the expectations, the central bank raised the rate to 6 percent in March and to 6.25 percent in May 2011

and again to 7 percent in August 2011. Subsequently, the Central Bank raised the policy rate markedly (by 400 bps) in October 2011 with a view to contain inflation and stabilize the exchange rate, bringing the rate to the highest level in the past 5 years.[6] At that point, the growth-inflation dilemma of the Central Bank was less acute since the high (imported) inflation–reaching 17.1 percent in September–and reduced confidence of the banking sector in the macro policy stance would hamper growth.[7]

Figure 21: Tanzania: Policy rate, lending rates and private sector credit growth, Jan 2007 - Oct 2011



Source: The Central Bank of Tanzania and IMF IFS.

In Tanzania, private sector credit has declined for most of 2009, even though the Bank of Tanzania markedly reduced its rate in 2009 (from 18.3 percent in February to 3.7 percent in December).[8] This is in part due to ineffective transmission mechanism of the monetary policy which manifests itself in stickiness of the commercial banks' lending rates, which have hardly moved throughout the crisis period.[9] With ample liquidity in the system and increased confidence of the private sector stemming from recovery, credit to the private sector has been reviving in 2010. With inflation reaching double digits in mid-2011, attention of policymakers shifted to prices. Unlike Kenya (and Uganda) who have tightened their monetary policies in the third quarter of 2011 to curb of inflationary pressures and strengthen currencies, the Bank of Tanzania has so far kept its rate unchanged (Figure 21).

In Kenya and Uganda the food inflation seemed to have been passed on to other goods (e.g., transport). Moreover, since the overall–and double digit–inflation was also impacted by looser fiscal stance and depreciating exchange rates– in fact both Tanzanian and Kenyan shilling reached all-time lows in October–the adopted monetary tightening seems like an appropriate policy response. Nevertheless, given generally subdued responses of banks to central bank's signals, its effectiveness

[6] In any case, commercial banks lowered their lending rates with substantial delay and only marginally in response to policy rate changes during the global financial crisis in 2009 - 2010. Besides containing inflation, the rate increase was viewed as necessary to reduce capital outflows.

[7] According to the Kenya Central Statistical Office, inflation was driven by food and transport price annual increases (24.4 percent and 24.8 percent, respectively).

[8] The reduction in policy rate followed an increase in second half of 2008/early 2009, when the rate was raised out of considerations for inflationary pressures. Again, similar course of action was taken in Kenya.

[9] The conservative lending strategies reflected banks' concerns about the ability of key sectors to repay in the wake of the crisis, in addition to long-standing structural bottlenecks such as non-interest barriers to access to credit such as high collateral requirements and the lack of competition in the banking sector (IMF, 2010).

is to be seen. Over the medium term, the structural bottlenecks hampering local food supply as well transmission of monetary policy need to be addressed.

4.2 A survey of policy responses by African governments

In order to systematically assess the range of policy responses applied by governments, and to discern whether changes were made in responses between 2007/08 and 2010/11, a survey was conducted among UNDP country offices and national governments. A total of 33 countries are included in the responses (see Annex I). Table 4 provides a framework where the policy responses adopted by African countries in 2007/08 and 2010/2011 are classified according to their overall type and objectives, channels through which they operate (e.g., supply or demand), and the likely timing of their impact.

Table 4: Classifying domestic policy responses and their operating channel

Type of response/Objective	Operating channel	Specific measures
Market interventions to contain the food price surge (macro, both short and medium-term, and impacting both demand and supply-side)	Trade	
	Directly impacting food price - imports	Cuts in import tariffs and custom fees
	Indirectly impacting food price - exports	Export taxes; ban on exports; other export restrictions
	Market management	
	Directly impacting food price- fiscal	Reduction of VAT or sales tax
	Directly impacting food price - admin.	Domestic price controls
	Directly impacting supply (and indirectly price) of food	Releases from strategic reserves
	Improving information and functioning of the commodity market	Establishing commodity exchange; introducing ICT
Market interventions to contain inflation (macro, demand-side, short term)	Market management -- Impacting overall price level in the economy	Increasing monetary policy rate, other contractionary monetary policy measures
Direct support to consumers and vulnerable groups (micro/safety net, mostly short term, impacting demand and supply-side)	Cash-based and cash-like transfers	Cash transfers
	Mitigating low income (and imperfections in non- food markets)	Transport vouchers
		Fuel price subsidy
	Food-supply based transfers	Food aid distribution
		Food for work; labor based programs
	Mitigating food market imperfections	Subsidized food baskets
Addressing supply-side bottlenecks (mostly medium to long term)	Structural reforms	Investment in rural agriculture
		Land lease arrangements
	Sector-specific fiscal measures	Raising budget allocations to agriculture

Source: Adapted by authors' to Africa context from Jones and Kwiecinski (2010)

Measures countering the food prices shocks (Table 4) can be divided into three main groups: (i) market (economy-wide) measures impacting prices at the macro level; (ii) social and economic policies directed at households; and (iii) structural reforms to remove long-term production/structural bottlenecks. To gain a better understanding of policies against the rise of food prices and changes in these policies between 2007/08 and 2010/11, the UNDP RBA has conducted a survey of 33 African countries. Sections below summarize the findings.[10]

[10] The survey is an ongoing exercise, and additional policy responses that may be adopted in the rest of 2011 will be reflected. Some of the country-specific answers are in Annex I.

Governments in 31 of 33 countries surveyed intervened to contain food price surges in both (2007/08 and 2010/11) episodes. Since some of the measures were mostly a more decisive implementation of existing practices rather than new ones, they were driven by established policy frameworks (e.g., national food policy). Some countries also viewed the food crisis as an opportunity to try innovative responses and/or progress with politically sensitive structural reforms that previously stalled such as the land reform.[11]

Regarding timing of their impact, cuts of import tariffs on food items and food aid distribution were most common among the short-term policy responses e.g., market economy-wide interventions and direct support to consumers and vulnerable groups) in 2007/08. Specifically, cuts in import tariffs were adopted in more than half of the countries surveyed. They were followed by price controls, which were used in almost half (45 percent) of the countries. In 2010/11, more than half of the countries surveyed relied on food aid distribution as a way to reach vulnerable groups, which became the most common short term policy response. Among the economy-wide market interventions, with the marked decline in use of tariff cuts to only 1/3 of countries, direct price controls became the most frequent policy tool (Figures 21 and 22)[12]

Figure 22: Macro Market Measures (% of countries)

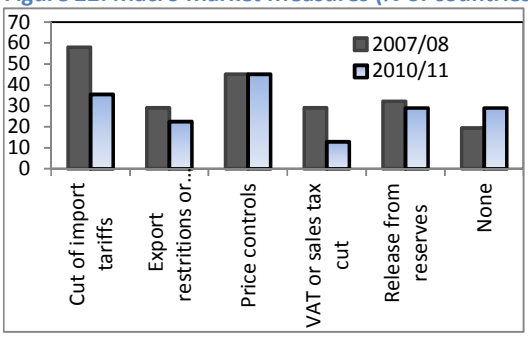
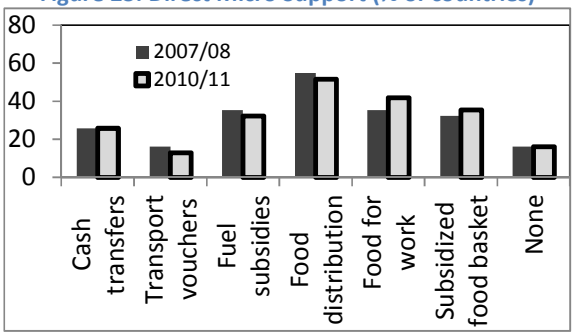


Figure 23: Direct Micro Support (% of countries)



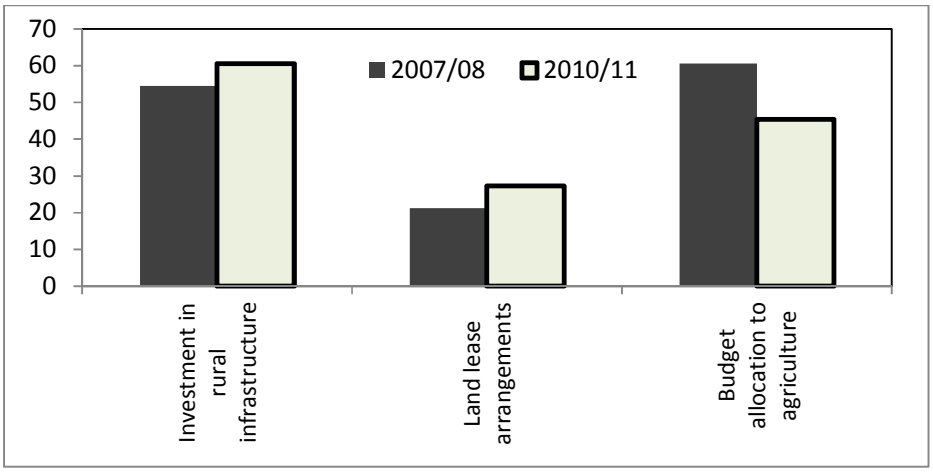
Among medium-term measures to boost agricultural production, the governments utilized increased budget allocations most during the first food price spike in 2007/08 (Figure 23). During both price increases, investment in infrastructure was widely utilized (by more than half of the countries surveyed). In 2010/11 it became the main medium term policy response.

The shift from budget allocation to rural infrastructure investment to boost agricultural production over the medium term can be partly explained by the changed fiscal situation in a number of African countries during this time. Due to past prudent macroeconomic policies most countries met the first food price increase with adequate fiscal space. By 2010/11, however, their fiscal positions deteriorated as a result of the triple crises (food, fuel and financial). Still, governments can tap into other sources for financing of infrastructure (e.g., PPPs). For example, Kenya exhibited innovativeness with issuing local currency bonds on domestic financial markets when terms for accessing international capital markets weakened.

[11] Governments need to try to ensure that the large-scale foreign land investments in Africa do not become 'land-grabs' but benefit domestic economies and people.

[12] If cuts in import tariffs and VAT/sales taxes were put into category of 'cuts in indirect taxes' then this policy response would be most common in 2007/08 (applied in 60 percent of the countries). As Wodon and Zaman (2010) pointed out, the focus on tax cuts as the main policy response in Africa contrasted with policies adopted in developing countries elsewhere, where price controls or consumer subsidies were most prevalent.

Figure 24: Structural and sectoral measures to address production bottlenecks (% of countries)



4.3 Macro/market-level policy responses

Among broader domestic interventions aimed at increasing food supply, releases from strategic grain reserves have remained a relatively widely used policy response. Specifically, about 1/3 of countries has applied them during at least one of the food price spikes (Figure 22). In the past, all African governments held such reserves, but more recently reserves were viewed as costly and unnecessary with globalization. Over time most African countries have reduced their grain reserve stocks. While the recent food price increases and volatility have highlighted importance of some strategic grain reserves in Africa, debate continues on the optimal size of the stock and whether these should be held at national or regional level.

Price controls were used in 2007/08 food price spike by almost half of the countries surveyed and became the most applied macro measure in 2010/11. While popular because of their administrative ease and limited immediate budgetary pressures, the price controls carry substantial costs over the medium term. These include distorted signals to food producers, reduced incentives for the private sector to engage in the agricultural sector, and subsidizing rich consumers alongside the low-income households. The production-related costs are particular high for most African countries where the (subsistence) agriculture accounts for a large share of output and employment.[13] Moreover, temporary price controls can encourage food stuff hoarding, especially among wealthier population with sufficient liquidity. This exacerbates food shortages for the more vulnerable segments of population.

The relatively wide-spread use of price controls is inconsistent with the "first best" policy mix, which combines allowing food prices to rise to provide accurate signals to producers, raising interest rates to mitigate inflationary pressures, and establishing well-targeted safety nets for the most vulnerable. However, in Africa's LICs changes in policy rates are often not transmitted to commercial bank lending rates, making such advice less relevant. More broadly, while the administrative measures (e.g., price controls, export restrictions) can help relief food shortages temporarily, they are not sustainable in the medium term. A key challenge for Africa is then to improve functioning of the agricultural markets, by removing barriers to competition and utilizing technology to share information, as, for example, in Niger with m-agriculture (AfDB, OECD and UNECA, 2009).

[13] In Africa, agriculture accounts for 65% of employment, 25-30% of GDP, and over half of export proceeds. Since the late 1970s, growth in Africa's agricultural sector has averaged 2 to 2.5% per year.

Given the challenges and side effects of domestic measures aimed at stabilizing food supply or containing food price increases, attention of policy makers has been shifting to trade as a stabilizing mechanism in food markets. In fact, cuts in import tariffs on food products were the most common policy response in 2007/08. However, to be effective at stabilizing food prices, the initial tariff level needs to be high and the reduction in tariff substantial.[14] Hence with the overall lower level of tariffs in 2010/11, use of this measure declined, as cuts in tariffs alone would not be effective in stabilizing food prices. Moreover, often tariffs are not the key barrier to trade in Africa where substantial non-tariff barriers to trade exist, as evidenced also by low intra-African trade. Longer term food security measures could thus include reducing trade costs by improving business environment, applying well-designed government interventions and facilitating regional integration.

4.4 Micro/direct support to consumers and vulnerable groups

Within the micro/direct support measures, food aid distribution, food-for-work programs and general fuel subsidies, subsidized food baskets and cash transfer programs were commonly used in SSA countries surveyed (Figure 23). Specifically, the applications ranged between one quarter of countries adopting cash transfer programs in both 2007/08 and 2010/11 spikes and more than half of them distributing food again in both 2007/08 and 2010/11. Most of the measures were targeted (e.g. food for work, food aid distribution) rather than general (e.g., fuel subsidy) and guided by households' characteristics (net food buyer' vs. 'net food seller'), their income levels, and functioning of local food markets. Since the absence of social protection programmes exposes fast delivery of targeted programs to leakages and inefficiencies (FAO 2008), SSA countries could develop permanent safety nets and scale them up in emergencies. The ongoing initiative in Niger provides a good example in this regard.

4.4 Structural and sectoral reforms to address supply-side bottlenecks

A key longer term challenge for food security and development of African countries has been the very low and stagnating (land) productivity of agriculture. Besides easing short term supply shortages, effective structural measures (e.g., rural infrastructure, land reform) can raise longer term productivity. It is encouraging that many African countries also embraced measures in this area, as part of their policy mix responding to food price increases.

Specifically, more than half of the countries increased investment in rural infrastructure during at least one of the episodes, while more than quarter altered land lease arrangements in 2010/11 (Figure 24). While budgetary allocations to agriculture increased in 60 percent of the countries in 2008/10, in most the levels remain well below those of Maputo agreement. With the weakened fiscal balances after the global financial crisis (GFC), a fewer countries could raise budget allocations to agriculture in 2010/2011.[15]

4.5 Differences in responses among Africa's subgroups and countries

The aggregate figures hide differences in policy responses among sub-groups and individual countries, which may reflect differences in ways that global food price increases impact countries at both the national and household level. Besides the level of development and the structure of the economy, other ('soft') factors such as political systems and cultural practices matter. To reflect the

[14] Tariff cuts were not used in Botswana, Namibia and Swaziland, who are members of the SACU and import most of their food items from South Africa.

[15] Given the longer term nature of structural measures, it is difficult to distinguish whether they were implemented to boost recovery after the GFC or to raise short-term production to mitigate price increases. For example, Nigeria has not reported any specific measures in 2010/2011 to address food price spikes, but the government raised credit to agriculture, as a part of recovery and diversification strategy.

diversity of countries surveyed, sections below group as: (i) oil-rich countries; non-oil middle income countries and (iii) non-oil LICs. Where relevant, references are made to non-oil fragile LICs (Annex I).

Distinct patterns behind the sub-groups' responses emerge. While oil *exporters* intervened heavily at macro level (Figure 25), their direct interventions at the household level were limited, reflecting in part absence of permanent safety nets and (Figure 26). Oil exporters also implemented structural reforms (increased rural infrastructure) to diversify their production and export bases (Figure 27). Moreover, while almost all oil exporters lowered import tariffs on food during the first food price hike, the response was much less common in 2010/2011 when their fiscal balances deteriorated due to the GFC. In fact, more than 40 percent of the oil exporters refrained from any type of market intervention in 2010/11, consistently with their lower vulnerability to macro shocks as indicated by the Food Vulnerability Index.

Non-oil middle income countries have also refrained from macro level interventions during both food price spikes, consistently with their relatively low macro/national vulnerability to price shocks. In contrast, their policy responses have focused on direct interventions for targeted groups, with a view to address local food market failures and reduce wide inequalities that characterize these economies. Food-for-work programs were particularly popular—implemented in 2/3 of the countries in 2007/08 and half in 2010/11—as a way to address food shortages, while also reducing (albeit temporarily) unemployment. Given the relatively well-developed infrastructure in these countries, measures targeting improvements in rural infrastructure were less prevalent than in other sub-groups.

Figure 25: Market (macro) interventions, by SSA sub-groups (% of countries)

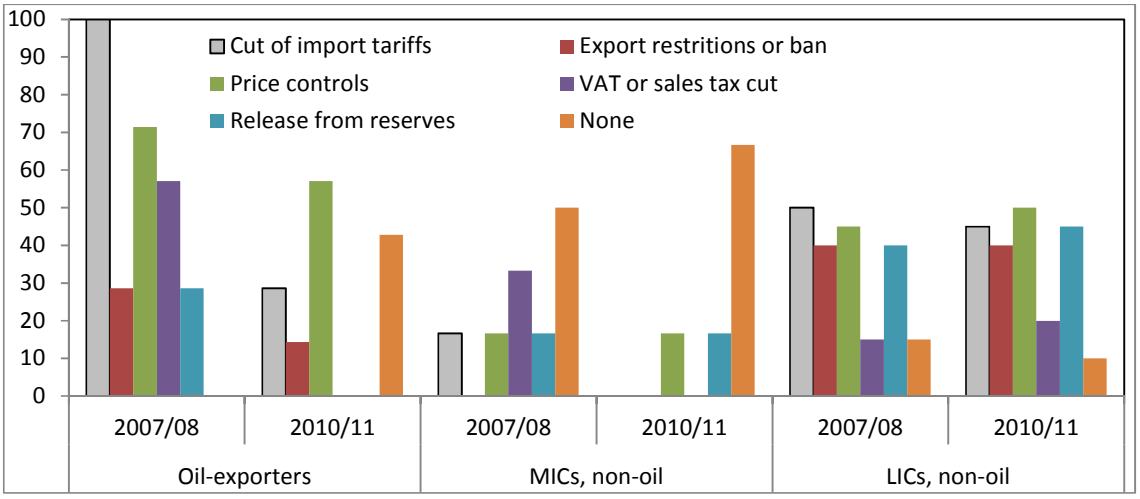


Figure 26: Direct (micro) interventions, by SSA sub-groups (% of countries)

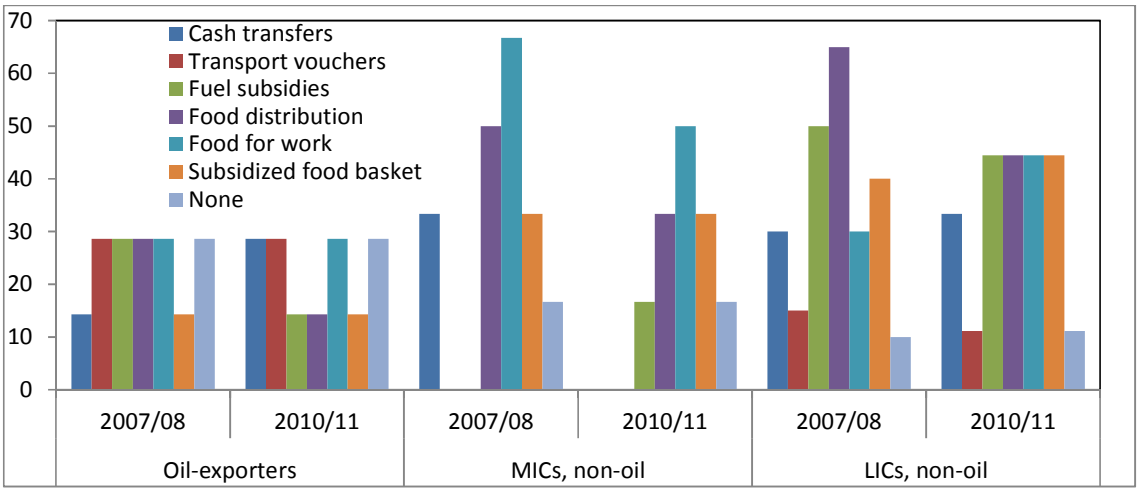
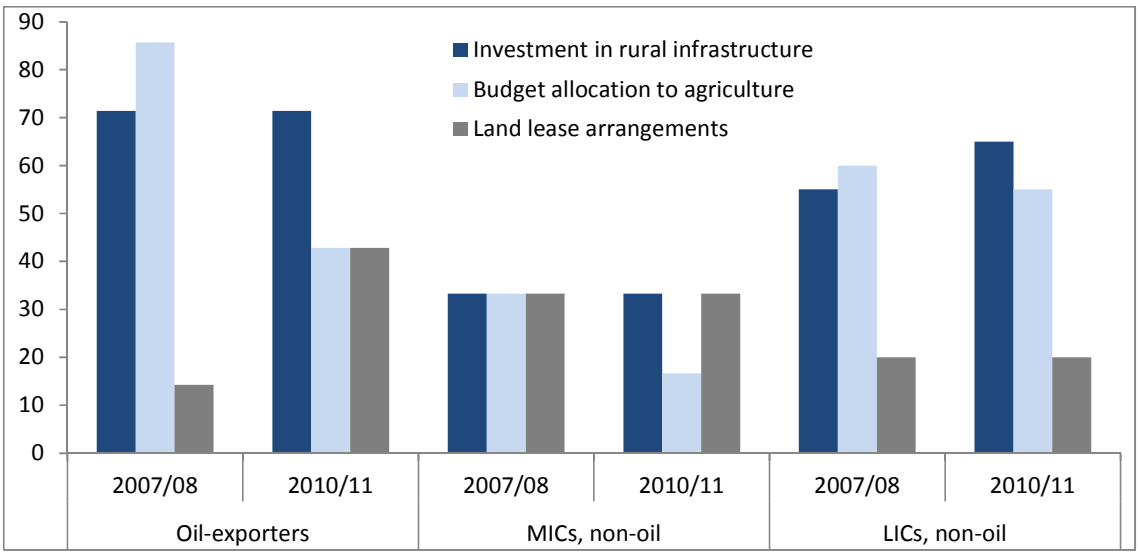


Figure 27: Structural and sectoral measures, by SSA sub-groups (% of countries)



Governments in non-oil low income countries continued to utilize all groups of interventions during both food price increases, reflecting their high macro vulnerability as well as imperfections in functioning of local food markets. In both years, this sub-group has tapped into strategic grain reserves more than the other two groups (about 40 percent of the non-oil LICs did so in each year, while none of the oil exporters has drawn on the reserves in 2010/11 so far).

Except for Eritrea and Liberia, no fragile LIC has distributed cash transfers in 2007/08 or 2010/11; instead most have implemented food aid distribution and food-for-work programs. Eritrea has expressed preference for 'cash-for-work' programs vs. 'food-for-work' program, indicating that low income rather than food shortages were perceived as key factor behind food insecurity. Experience with direct support to vulnerable groups in other countries indicates that cash-for-work programs have proven to be better targeted than food for work programs due to their 'self-selection' aspect -- since the cash award in these program tends to be very low, only poor and food insecure people are likely to participate. However, given the low income levels, wide-spread unemployment and working

poverty in the country, this policy response may not be reaching the most vulnerable segments of population.[16]

Aside of Liberia, no fragile low income country has distributed cash transfers in 2007/08 or 2010/11; instead most have implemented food aid distribution and food-for-work programs. About half of the fragile LICs have increased outlays on rural infrastructure; some resorted to measures such as rapidly increased access to credit or land. For example, the Central Bank of Liberia has set aside about $2 million for credit to farmers for production of rice. The Liberian government has also made available free land for agro-production by the private sector. In Sierra Leone, the government stimulated local agricultural production by providing inputs, technology and infrastructure for agricultural processing and storage. While such measures mitigate immediate food shortages, if local markets are not integrated with national ones – as often the case in fragile states -- increased production can stimulate large drops in food prices and thus income of agricultural producers and workers (FAO, 2008).

5. Conclusions

In this paper we have explored the heterogeneity of impacts on countries in Africa during the two spikes in food prices in 2007/08 and 2010/11 and the differences in the policy responses. We first established the linkages between changes in international food prices, the manifestations and impacts at country level, and the range of responses available to local policy makers. We identified macro and micro-level impacts specifically related to food vulnerability, changes in local market prices, and overall levels of food and consumer prices from African countries. We presented evidence that the impact on local markets and prices was more severe during the first round of price spikes. Pass-through of global price changes to local markets and inflation levels was more muted in 2010-11. We explained this by differences in commodities affected, supply responses from several African countries and policy responses. We also presented findings from a unique survey of policy response by African governments to food price increases. These responses were grouped and presented according to their macro, micro or structural focus, and the country-specific circumstances. Governments in all but two countries surveyed intervened to contain food price surges in both (2007/08 and 2010/11) episodes. At the same time, some countries viewed the food crisis as an opportunity to try innovative responses and/or progress with politically sensitive structural reforms that previously stalled such as the land reform. Cuts to import tariffs on food items, food aid distribution and and price controls were the most common among the short-term policy responses 2007/08. In 2010/11, more than half of the countries surveyed relied again on food aid distribution as a way to reach vulnerable groups, which became the most common short term policy response. Among the economy-wide market interventions, with the marked decline in use of tariff cuts to only 1/3 of countries, direct price controls became the most frequently applied policy.

We also discussed recent studies on the impact of rising prices on household level welfare and suggested that while the net effect of rising food prices may have increased vulnerability among net food buyers, when accounting for economic growth, the poverty situation is more likely to have improved over the period of the two price spikes.

Despite the countries' ability to safeguard their poverty reduction achievement, going forward focus needs to be on reducing the vulnerability of countries, communities and individuals to price shocks. This requires both longer-term efforts aimed at realising the agricultural potential of Africa, improving the functioning of credit and other markets, and strengthening national systems for social

[16] As in some other countries, domestic policy responses were complemented by actions of international and regional organizations. For example, the AfDB has provided support to the agricultural sector through the grant allocation (of UA 2 million) from the African Food Crisis Response, approved in 2009.

protection. Efforts to mitigate and adapt to the impacts of climate change will be crucial as the continent, largely because of its dependence on agriculture and natural resources, is highly vulnerable to changes in the global climate. Recent reports of large-scale leases of land in several African countries, by companies and governments from third countries, are symptomatic of the potential for agricultural in Africa. Land-lease arrangements are often attractive for their promises of revenues, jobs and technology transfers but without proper regulatory framework these benefits can be elusive.

There is some indication that African farmers have responded positively to the higher prices in terms of increasing their productive capacities and switching to better paying crops. This supply response should be reinforced through efforts to remove impediments to cross-border trade, improve agricultural infrastructure and increase investments in R&D. Export bans can be counter-productive if they become ends in themselves rather than part of a broader long-term strategy to address constraints in agricultural production as well as food distribution and marketing. As discussed, the experience from 2007/08 showed how export restrictions can transmit price volatility to neighbouring countries without providing much relief at home. Rather than stifle agricultural markets, governments should be encouraged to develop these. In the longer term increased regional trade and the opening of agricultural markets is more likely to stimulate growth and rural development.

One of the key messages from the paper is that African countries need to strive for the right policy mix, including timing of measures. Ideally prices would rise for producers but consumers would be protected during price spike. Measures need to be well coordinated too—cuts in taxes without identifying other sources revenue can erode tax base and eventually social expenditures. Also, excessively tight monetary policy could reduce farmers' access to credit, and offset other measures, including subsidized credit. Administrative solutions such as price caps and subsidies that are put in place without any 'exit strategy' often strain already weak bureaucratic systems, create opportunities for rent-seeking and hurt rather than help consumers, especially the poor. Targeted interventions such as cash transfers and labour-based programmes are more likely to reduce vulnerability to shocks and enable the poor to make small but crucial investments, accumulate some capital or expand their economic activity. This enhances resilience of the poor and their ability to bounce-back after a shock.

More broadly, it is important that the role of social protection is not confined to that of a safety net in times of crisis, but that a broader approach is adopted that places social protection centrally in the national development planning framework as an enabler of inclusive growth. Moreover, the design of social protection systems will necessarily be highly country specific. For instance, conditional cash transfers, which are popular in some middle-income countries in Latin America and Africa to spur uptake of public services, are unlikely to have the desired effects if the service is in under-supply, as is the case in many low-income countries on the continent. In these cases unconditional transfers that are targeted towards easily identifiable groups is a more viable option and can often be implemented without large budgetary effects.

Furthermore, research conducted for the 2011 African Human Development Report on food security shows the importance of domestic sources of price volatility, more than changes in international prices. In particular, seasonally induced volatility appears to have a strong effect on food security and human development indicators compared to long-term price increases and sudden spikes. In most of sub-Saharan Africa, small farmers sell a large part of their food production right after the harvest (when prices are low) to cover expenses and repay debts contracted during the lean season. After they have exhausted their food stocks, they start buying food 6-8 months later (when food prices are high) with cash obtained by selling small animals, doing casual work, migrating, borrowing, or getting enrolled in food aid programs. The result is an annual 'hunger season' of 3-4 months in the

build up to the harvest period. The importance of seasonality, as well as large regional variations in prices seen in many countries, further underscores the need to focus on factors that help smooth domestic prices and make markets work better such as rural infrastructure, storage facilities, credit facilities, crop insurance and extension services.

Concerted efforts aimed at improving accountability in international food markets are needed at the global level. The recent G20 meeting, which issued an action plan on food price volatility and agriculture, proposed new measures to bolster productivity, limit commodity speculation, and improve mechanisms for monitoring stock levels. Efforts to decouple the food and fuel markets would also help and can be facilitated by lowering, or—better yet—eliminating, ethanol subsidies in Europe and the US. International partners need to follow through on pledges to make available additional concessional support to develop agriculture in Africa, develop and strengthen value chains and implement global agricultural reforms such as those envisaged in the Doha-round of trade talks.

Ultimately, given the endowment of sub-Saharan Africa and its heavy dependence on agriculture, with the right business environment, infrastructure and government policies, increases in food prices should provide strong incentives for expanding and diversifying agricultural production. And if this were to happen, the impacts on Africa's economic growth, food security and human development could be remarkable.

Annex I – Country Classification

Oil-rich countries	MICs, non-oil	LICs, non-oil, fragile	LICs, non-oil, non-fragile
Cameroon*	Botswana*†	Central Afr R.*	Benin*†
Chad*	Mauritius*†	Comoros*	Burkina Faso*†
Congo*	Namibia*†	Eritrea*	Cape Verde†
Cote D Ivoire*†	Seychelles*†	Guinea*†	Ethiopia*†
Equatorial Guinea*	South Africa*†	Guinea Bissau*	Gambia†
Gabon*†	Swaziland*	Madagascar†	Ghana*†
Nigeria*†		Liberia*	Kenya*†
		Sierra Leone*†	Malawi*†
		Zimbabwe*	Mozambique*†
			Mauritania*
			Niger*†
			Rwanda*†
			Senegal*†
			Tanzania†
			Togo*
			Uganda†
			Zambia†

Source: AfDB.

Note: * = is included in the analysis of policy responses; † = the country is included in the price analysis.

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