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WHAT DID WE LEARN  
FROM THE BOUT OF  
HIGH AND VOLATILE  
FOOD COMMODITY PRICES  
(2007-2013)?

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# **What did we learn from the bout of high and volatile food commodity prices (2007-2013)?**

**by**

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## ACRONYMS

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AMIS	Agricultural Market Information System
APF	African Partnership Forum
CFA	Chartered Financial Analyst
CFS	World Food Security
DAC	Development Assistance Committee
DCD	Development Co-operation Directorate
DDA	Doha Development Agenda
ECOVAS	Economic Community of West African states
ESF	Exogenous Shocks Facility
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	FAO Statistical Databases (United Nations)
FCM	Financial Coordination Mechanism
G8	Group of Eight is an International Forum for the governments and Central Bank governors from 8 major economies
G20	Group of Twenty is an International Forum for the governments and Central Bank governors from 20 major economies
GDP	Gross Domestic Product
GAFFSP	Global Agriculture and Food Security Program
GSRP	Global Food Crisis Response Program
HLC	High-Level Conference
HLTF	High-Level Task Force on the Global Food Security
ESF	Exogenous Shocks Facility
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
LIDCs	Low-income developing countries
NGO	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
PoU	Prevalence of Undernourishment
RTA	Regional Trade Agreement
SOCO	State of Agricultural Commodity Markets
SOFI	State of Food Insecurity in the World
SWAC	Sahel and West Africa Club
TFA	Trade Facilitation Agreement
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
US	United States of America
USD	United States Dollar
WFP	World Food Programme
WTO	World Trade Organization





## ABSTRACT

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This research paper looks at the crises in international agricultural markets during the last decade and draws out some lessons. Although crop prices continue to be volatile, the bout of high prices/high volatility ended by 2015. The initial rapid rise of prices was not predicted, and surprised both market players and the international community more broadly. Considerable policy attention was focused on the crisis, by the UN broadly, by FAO and its members, by G20 heads, agricultural groups, and national governments. Attention by investors was also significant, as rates of return rose. The links of higher prices to growing population, incomes, energy/biofuels, dietary mix, combined with concerns for future sustainability and climate change, drew substantial concern. The main causes of higher and more volatile prices are now reasonably well understood, particularly the critical role played by adverse domestic policy reaction. However, the impact of higher prices is less well understood. Indicators of food insecurity now appear to show less impact than originally estimated, and supply response bringing prices down appears to have been higher than anticipated. International governance institutions have learned that timely cooperation of data and sharing of policy actions are crucial in times of market shocks. The paper draws from recent data and interviews with various analysts to draw out lessons for understanding markets, the need for timely data and indicators, and the roles for governance institutions.



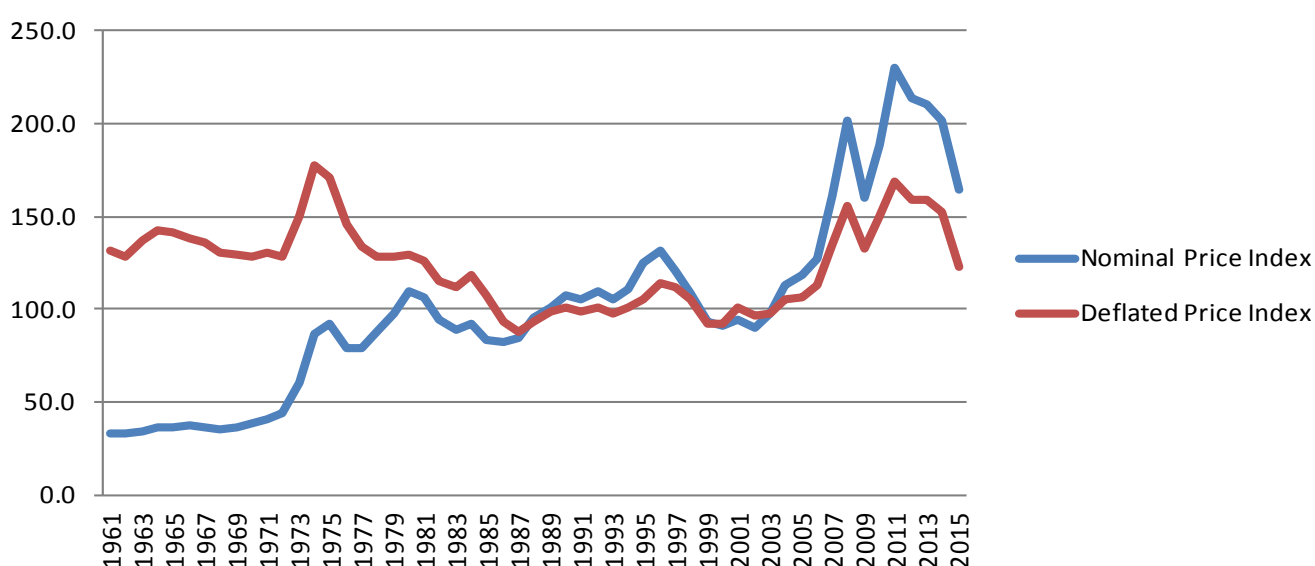
## 1. DESCRIPTION

International agricultural commodity prices rose dramatically from the summer of 2006 rising to peak levels by mid-2008, after remaining at relatively low and stable levels for nearly seven years. Agricultural commodity prices reached extraordinarily high levels at their peak. It marked a change from the trend of the previous four decades of slow but steady declines in real agricultural commodity prices (see Figure 1), even with the price spikes of the early 70s. This was particularly true for some key food staple commodities such as rice, wheat and maize. The FAO Food Price Index rose by 7 percent in 2006 and 27 percent in 2007, and that increase persisted and accelerated in the first half of 2008. For 2008, the FAO food price index averaged 24 percent above 2007 and 57 percent above 2006, (SOCO, 2009). The price of maize had already doubled relative to its average value in 2002 by January 2008 and tripled to a peak in June of 2008. The price of rice had increased somewhat earlier, had doubled relative to its low 2002 value in January 2008 and had increased by over a factor of five at its peak in May 2008, (Abbot, 2009). The index fell in 2009 in wake of global recession, but rose to higher levels in 2010, 2011 and 2012. In real terms, commodity prices fell below 2006 levels for the first time in late 2015, as the bout of high and volatile prices appeared to subside. The period from 2006 to 2015 marks the longest period in which real food commodities remained above their long-term trend for at least the last 50 years.

The initial food price crisis from 2006 to mid-2008 attracted much attention from international institutions and policymakers, analysts and news media around the world. Falling real food prices during the period 1974-2000 caused what some called “complacency” and neglect of agriculture by most governments. Increases in the prices of many major consumption commodities came as a shock to consumers and governments. As street demonstrations and riots provided opportunities to protest about social injustice in an increasing number of countries, governments went into panic mode. Some protests were serious enough to threaten to destabilize their governments. This price surge panic generated appeals for food aid from several countries.

Higher commodity prices on international markets were transmitted to varying degrees to domestic markets depending on a variety of factors including export/import trade positions, but also trade policies in effect. Regarding price transmission the assessment of the State of Food Insecurity (2011) which focussed analysis on the crisis noted:

Figure 1: FAO Food Price Index, nominal and deflated (real)



Source: FAO Food Price Index <http://www.fao.org/worldfoodsituation/FoodPricesIndex/en/>

*“The world witnessed large increases in the prices of rice, wheat and maize on international markets during the food crisis of 2006-2008. In most cases, the surges in prices on international markets led to substantial increases in domestic prices, although domestic prices did not increase in some countries. By July 2008, domestic rice, wheat and maize prices were each, on average across countries, about 40 percent higher (after adjusting for inflation) than they were in January 2007. Other studies have also reached the conclusion that there was substantial transmission of prices from world markets to domestic markets during the crisis. While transmission is often weak in normal times, transmission was stronger during the world food crisis.”*

Following the rapid rise of prices to mid-2008, an equally remarkable and rapid decline of those prices ensued, accompanied by extreme volatility. Prices fell faster than they rose until December 2008, but remained higher than historic norms. The consensus outlook was for world agricultural prices to remain high and volatile. Deteriorating global macroeconomic conditions, in what is now known as the “Great Recession”, added considerable uncertainty to that prediction. Domestic prices began to decline in most countries and by the second half of 2010, domestic prices had largely returned to January 2007 levels for wheat and maize. Domestic rice prices remained at somewhat higher levels, however, with prices on average 20 percent higher than in January 2007. The pattern of changes in domestic prices across cereals was similar to that on world markets, as world rice prices increased the most between January 2007 and the second quarter of 2010, (SOFI, 2011). At the end of 2010 and beginning of 2011, global food prices rose sharply again. Prices commenced their rapid ascent in the second half of 2010 and by February 2011, a new all-time high was recorded, with prices rising by more than 30 percent year-on-year in the first two months of 2011, due to large increases in the prices of cereals, edible oils and meat. World prices for maize and wheat doubled. World prices once again reached the levels that created a fear of a repeat of the earlier 2007-2008 crisis was underway. However, in 2010-2011 harvests in many food-importing countries in Africa were above average and stocks were higher at the outset which also helped to mitigate the price rises. Additionally, the price increases were distributed differently among commodities. Meats, sugar and dairy products were all affected and these are commodities that are less important in the food bills of the most vulnerable countries. Contrary to the 2007-2008 situation, the price rise did not affect rice which remained more stable during this period. As rice is the staple food of many millions of the world’s most vulnerable consumers, this meant that the incidence of price increases on poor consumers and producers was different, (Inter-Agency Report, 2011).

Agricultural markets are intrinsically subject to greater price variation than other markets. However, agricultural commodity prices have long been highly variable, but around a long-run downward trend. Some authors suggested that there were new factors at work that meant food prices would not return to their historical trend. That we were seeing the beginnings of a potential world food crisis, signalling a fundamental change in agricultural commodity market behaviour. Certainly, it was up for debate and still should be debated. As the available evidence was not conclusive, some market fundamentals suggested the end of so-called “cheap food”, (SOCO, 2009):

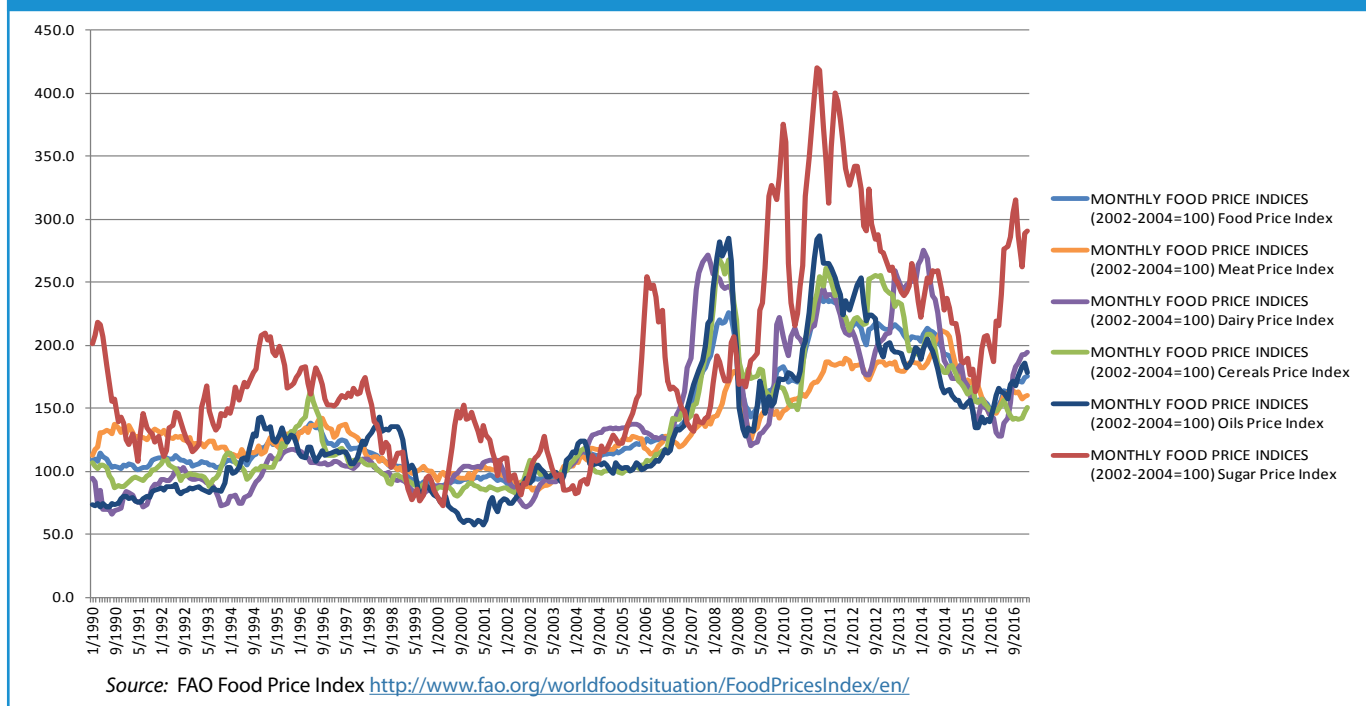
*“The 2007-2008 food crisis, the price spikes of 2010-2011 and the projections of tight food markets and the likelihood of recurring spikes for years to come are indications of a fundamental shift in the world food markets.” (Sharma, 2011)*

Volatility was higher during the 2000s than during the previous two decades. Periods of high and volatile prices are often followed by long periods of relatively low and stable prices, (Inter-Agency Report, 2011). The one aspect that seems to be different about the 2007-2008 food price increases is that spike was in sharp contrast to the secular downward trend. Also, the hike in world prices of not just a few but of nearly all major food and feed commodities and the possibility that the prices would remain high after the effects of short-term shocks dissipated was different. This highlighted a greater uncertainty in markets. In the first four months of 2008, volatility in wheat and rice prices approached record highs and it was not confined to cereals as vegetable oils, livestock products and sugar all witnessed much larger price swings (see Figure 2), (SOCO, 2009).

The sharpness of the price increases and their persistence, which left many developing countries struggling to cope with the consequences, made this episode different from past events of food price increases. Irrespective of any conclusion that might be drawn concerning the long-term trends, there is no doubt that there was

extraordinary volatility. A severe drought in the United States of America in crop year 2012-2013 pushed prices to their peak in the fall of 2012. The following year saw record crop production in response and prices fell substantially. Substantial decreases in the price of oil and other primary commodities, in conjunction with reduced macroeconomic prospects and lower prices of inputs such as fertilizer, fuel and transportation costs contributed to abundant global supplies of food in 2014 and in 2015, driving a further sharp decline in international food prices. By the end of 2015, agricultural commodity prices had back to their average levels in 2006 and back onto their very long-term levels in real terms.

Figure 2: Components of the FAO Food Price Index





## 2. CAUSES

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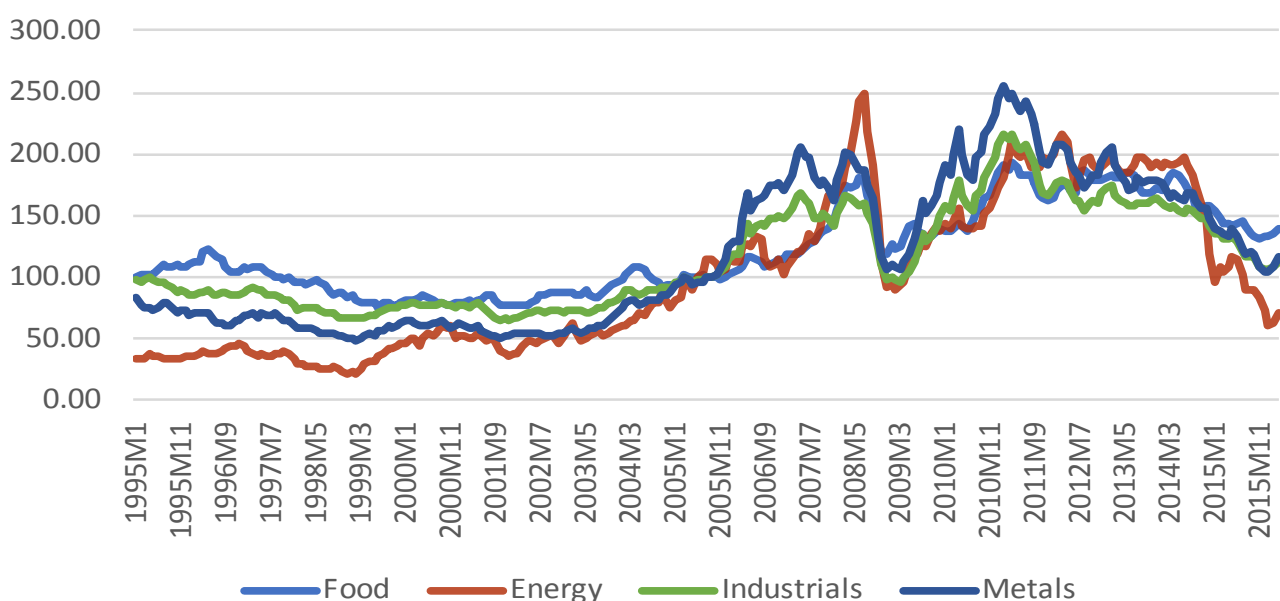
The surge in world food prices from 2007-2008 and of 2010-2013 can be seen as the outcome of many factors operating over the medium, short and very short-term. Literature review conveys the message that there is no one single cause, more so that the causes of high commodity prices are the result of a complex set of interrelated factors involving both the longer-term evolution of markets and short-term shocks leading to the price spikes that started in 2006, and then more strongly in the fall of 2007 and precipitously in the spring of 2008. The combination of these causes can be seen as an unusual event or a perfect storm, in which it is difficult to judge the weight of any single cause. However, debate has been ongoing about the relative contribution of several causes. Longer-term factors like population and economic growth in developing countries, bringing increased feed demand, declining investment in agriculture, coupled with low prices, led to slowing production growth and worldwide stocks to be drawn down to very low levels. There are various shorter-term causes identified throughout recent years. Those include the escalating price of crude oil, biofuels demand, dollar devaluation influencing the prices of commodities as denominated in dollars, adverse weather giving rise to supply shocks, policy responses like export restrictions that destabilized international markets, macroeconomic factors stemming from the global economic crisis of 2008-2009, speculation in futures markets for maize and wheat, among others. It was the combination of them that was crucial. They were the immediate triggers of increasing food prices but were set against the background of the longer-term problems facing developing country agriculture, (SOCO, 2009). Overall, literature suggests an array of causal factors of rises in food prices:

- a) Continuous strong rises in the price of energy/oil and energy affected agricultural inputs (mechanical cultivation, fertilisers and pesticides), thereby raising costs of production on farms as well as transportation/freight of commodities. Oil prices rose over 400percent from 2004 to 2011. Moreover, as oil prices rise, the economic attraction of using cereals and sugars to distil ethanol and vegetable oils to diesel increased rapidly.
- b) Droughts that affected harvests in several key producing countries (Australia, Turkey, Ukraine and parts of North America) in the mid-2000s.
- c) Decline in stocks over the previous decade that weakened the ability of the world food system to cope with shocks, alongside the slowdown in growth of production of cereals in the face of rising demand.
- d) Increased demand due to use of food crops in biofuel production as a result of biofuel subsidies and mandates in Western countries. Additional land used to produce maize tended to displace wheat and soybean production, thereby reducing their supply. The overall effect was to push up prices of maize, wheat and soybeans.
- e) Increased demand in China due to economic growth and policy changes which fostered increased imports of commodities, especially soybeans.
- f) Policy choices such as reactive export bans and restrictions in some developing countries.
- g) Speculation in international commodities markets, as big institutional investors moved billions of dollars into commodities markets like oil, metals and foods in response to the stock-market decline and the slide in real-estate values.
- h) Depreciation of the US dollar against other major currencies meant that some importers, particularly in Asia, found they could afford to bid more for cereals in dollar prices and hence tended to push up prices.
- i) Some analysts place the above causes into the context of a broader "super cycle" of higher and more volatile primary commodity prices, which have been evident throughout history for a number of reasons (see Figure 3).

There are many common characteristics and some differences between the crises of the 1970s and 2007-2013. The crises of the mid-1970s and 2007-2013 both followed a period of relatively stable agricultural markets. In one case by a strong increase of world production and in the other by a trend of decreasing prices. There was a high energy price which impacted strongly on costs of production and transport. Both occurred at a time when food stocks were very low, which contributed to a greater volatility of prices. Plus, some food exporting countries put restriction on their exports so as to protect their consumers at home and thus created a panic on international markets, (FAO, 2011). The difference in 2007-2013 was that the crisis followed a period where agriculture had been neglected and a link between agricultural and energy markets was strongly established due to the emergence of biofuels and policies to encourage/require them. Additionally, the dollar was weak, interest rates low and together with the boom in financial markets this added to the pressure on food markets, although there is no consensus on real impact of financial speculation, (FAO, 2011). The crisis of mid-2010 and the beginning of 2011 shows one difference with the 2007-2008 crisis: The price spike was seen mostly on sugar, wheat and maize markets, and not on the rice market which had been most hit in 2008. The spike in wheat in 2010 also was attributed to a ban by the Russian Federation that had a hard year with droughts and wildfires.

The global supply and demand for food commodities was affected by both long-term and short-term factors that slowed production growth and strengthened demand, causing agricultural prices to increase. On the supply side, energy and related inputs are significant in agricultural production, and hence rises in costs of these inputs reduce production levels, causing higher product prices. The decline in production growth accompanied a drop in global stocks of grain. The decline in the production of cereals in major exporting countries beginning in 2005 and continuing in 2006 was considered an initial trigger for the subsequent price hikes in 2007-2008, production levels did not keep up with demand. The resulting decline in stock levels is considered by some experts to be among the fundamental factors triggering the initial spur of speculative demand, further fuelling the price hikes, (Mittal, 2009). The reasoning is that expectations of low stocks in 2007 and 2008 both contributed to the higher prices and led to more inelastic markets in which any shock would have a larger effect than in earlier years (Abbott, 2009). Stocks play a key role in equilibrating markets and smoothing price variations and since the previous high-price event in 1995, global stock levels, on average declined, by 3.4 percent per year (SOCO, 2009). If stocks are low relative to use, markets are less able to cope with supply and demand shocks and supply shortfalls or demand increases will lead to bigger price increases. This stocks debate is part of a

Figure 3: Co-movement of primary commodity prices



Source: FAO Food Price Index <http://www.fao.org/worldfoodsituation/FoodPricesIndex/en/>



bigger discussion related to trade. Trade liberalization advocates see stocks as distorting trade, as a tool for price manipulation and speculative behaviour. Other authors believe the changes in the policy environment since the Uruguay Round Agreements were instrumental in reducing stock levels, thus making developing countries be in a position of increased risk. Spending on farming as a share of total public spending in developing countries fell by half between 1980 and 2004, (Mittal, 2009). The thinking is that countries whose local agricultural base was impacted by cheap grains, experienced shortages because international markets did not work as well as they should have. For other authors, there are some causes that should be highlighted:

*“Nevertheless, low stocks-to-use expectations due to long-run trends, the persistent new demand for biofuels and subsequent tighter link between agricultural and energy commodity prices and macroeconomic factors expressed through exchange rate movements stand out as important causes behind these extraordinary events.” (Abbott and Battisti, 2011)*

Analysts, experts and commentators emphasized different factors for the leap in food prices. Interactions between these factors matter to the resulting outcomes, so specific contributions are difficult to be assigned. Moreover, debate persists on the exogenous mechanisms driving these changes, which are often interrelated-worldwide economic boom and then global recession, high oil prices and speculation in commodities. It would seem probable that mass consumption in India and China, which experienced strong economic growth in 2007 and which together account for nearly one-third of world's population, could create a food crisis. The role of increasing feed demand in developing countries and notably of population and income growth in China and India, was probably exaggerated. This story was quickly accepted by many as plausible, in part because it was surely behind the trends in energy demand as well as for some non-agricultural commodities. Both China and India had emerged at the time of this crisis as net exporters, so trade data simply does not support the notion that import or demand growth in those countries contributed significantly to price increases of 2007 and 2008, (Abbott, 2009). Emerging economies, particularly China and India, are certainly playing an important role in global agricultural commodity demand and supply. However, the high commodity prices of 2007 and 2008 do not seem to have originated in these emerging markets. Changes on the demand side are in general neither rapid nor unexpected. This is because, aside from the emerging biofuel factor, the main drivers of demand in food markets are population and income growth. Neither food nor feed demand exhibited any sudden or unexpected increase that would have merited the kind of price rises witnessed by markets, (SOCO, 2009).

A proportion of these price increases could be attributed to the depreciation of the US dollar, in which international prices tend to be denominated. For countries whose local currencies are pegged to or are weaker than the US dollar, depreciation in the US dollar increases the cost of procuring food. More than 30 developing countries peg their currency to the US dollar, (SOCO, 2009). The peak in food prices in mid-2008 corresponds with the moment when the US dollar was at its weakest, and the rapid decline of commodity prices was accompanied by substantial appreciation of the US dollar. This exchange rate factor matters in different ways to different developing countries, depending in part on how they manage their currencies, (Abbott, 2009).

The influx of hedge funds, index funds and sovereign wealth funds in agricultural commodity markets was suggested as one of the key forces behind the hyperinflation of basic food staples in the short run. It is also one of the factors that differentiates the 2007-2013 crisis from the previous ones as the nature of the speculating actors has changed significantly. With the burst of the US housing bubble and global grain stocks growing low, financial speculators saw opportunities in the food commodities markets to diversify their financial portfolios and improve returns for their investors. The artificial demand created by investors' speculation in commodities futures put upward price pressure on food and energy commodities, (Mittal, 2009). Some refer to this surge and its attendant impacts as the “financialization” of commodity futures markets. In view of the scale of this investment, it is not surprising that a debate ensued about the role of index funds in commodity futures markets, (Irwin and Sanders, 2010). There was concern that speculation contributed to increasing food prices in a major way. The possible effects of speculators and institutional investors buying into agricultural commodities on futures markets could in fact be explained by the downturn in the global properties and securities markets. However, the majority of analysts concluded it was not clear whether speculation on agricultural commodities was driving prices higher or was attracted by prices that were increasing anyway. Speculation and inflows of investment funds likely followed the increasing prices rather than causing them, (SOCO, 2009).

The most popular factor explaining the period of high and volatile agricultural prices 2007-2015 was increased demand for certain agricultural products as feedstocks for biofuel production, including maize for ethanol, particularly in the United States of America and some other developed countries, sugar/sugarcane for ethanol in Brazil, and vegetable oil for diesel fuel, particularly in the European Union. It was perhaps the most prominent difference between the 2007-2013 food price crisis and earlier ones. Record oil prices and environmental concerns strengthened interest in alternative energy sources and policy measures in the United States of America, the European Union and Brazil encouraged the expansion of biofuel production. High oil prices, together with concerns over energy security and climate change, promoted the production and use of biofuels as a supplement to transportation fuels. Policy support, with subsidies and tariffs on imports and ambitious mandates provided a further boost. The European Union, the largest biodiesel producer, began to increase biodiesel production in 2005, while US ethanol production rose more rapidly after 2002, (Clapp and Cohen, 2009). Since the United States of America was the world's largest maize exporter, higher prices resulting from increased US demand for biofuel production spilled over onto world markets:

*“Out of the increase of nearly 40 million tonnes in total world maize use in 2007, almost 30 million tonnes were absorbed by ethanol plants alone. Most of this expansion occurred in the United States of America, the world’s largest producer and exporter of maize. In the United States of America, maize utilized to produce ethanol represented around 30 percent of its total domestic use. This contributed to the steep rise in international maize prices observed since the beginning of 2007.” (SOCO, 2009).*

The majority of worldwide demand growth for maize and the surge in demand from earlier trends can be attributed to this industrial use of maize. Authors quickly associated the effects of increased maize demand spillovers onto other commodities as land was taken out of other crops. Some stated that the incentives to build ethanol capacity, which created the link between maize and crude oil, depended on the biofuels policy environment in OECD countries. Biofuels linked energy prices and food prices directly, changing the dynamics of food production and trade:

*“The value of all agricultural trade increased sharply as a result, mostly because of higher prices, not from increased trade volumes. Biofuels directly increased the price of crops.” (de Gorter, 2013)*

Undoubtedly, demand for certain agricultural commodities as feedstocks for biofuels meant fewer productive resources used in the production of food crops. Biofuel production reduced the availability of food commodities on the market because “effective” demand for grains, sugar or oils and other basic food staples as feedstock for fuel production could outbid that for food where the prices of oil and feedstocks favoured biofuel production. This new source of demand played an important role in influencing prices. The higher that oil prices were, the more economically viable biofuel production became and the more agricultural products were demanded as feedstocks. When oil prices reached a level where biofuels became competitive, demand by the energy market for agricultural products as feedstocks increased and this new demand pushed up agricultural prices. Thus, agricultural and energy markets became linked in a new way (SOCO, 2009). Oil prices also affected prices by increasing the cost of farm inputs such as inorganic fertilizer, fuel for tractors or pumps and transport costs, which affect the prices of all traded commodities. However, some authors state that there is little empirical support for the hypothesis that oil price changes transmit strongly to maize prices on global markets, but instead, they seem to share common drivers, (Dillon and Barrett, 2015).

Production shortfalls and policy measures such as restrictive export policies by major traders are the main causes of price hikes on the supply side. Only the rapid expansion in demand for biofuel feedstocks marks a major departure from past experience. However, biofuel demand alone cannot explain the extent of the price increases in 2007-2013. Analysts who associate the bout of high and volatile agricultural commodity prices to the broader context of a primary commodity super-cycle look to macro and geopolitical causes. As can be seen in Figure 3, the movement in agricultural prices appears to be considerably less significant than for the other components such as energy or metals. Frankel (2006) suggests that the run up and fluctuations in commodity prices is linked to monetary policies in effect, noting an empirical relationship between high real commodity prices and low real interest rates.

### 3. IMPACT

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That international market prices for agricultural commodities rose precipitously in 2007-2008 and even further in 2010-2013, has been well documented, as have the various causes of this period of high and volatile prices. A key question is how various market participants were affected. Higher prices for buyers are also higher prices for sellers, net exporters clearly gain from higher international prices, as do net surplus food households, while the contrary is true of net importers and net deficit households. While international prices rose, the transmission of price movements to national markets varied considerably<sup>1</sup>, due to varying trade linkages as a result of transaction costs and/or government policies. Numerous studies conducted during the 2007-2013 food crisis analysed the impact of high food prices. The main point that emerged was that there was a severe increase in the size of the undernourished population<sup>2</sup>. World food price increases brought significant hardship to many developing countries, in particular, for the poor who spend a large share of their budgets on basic foods. Many developing and least-developed countries food importers saw their annual food import bills more than double from 2000. Also, countries dependent on imported oil, which was also at record prices, saw their situation become especially precarious. But results varied substantially across countries. The nature of the effects also depended on the extent to which countries were integrated into international markets or were able to isolate their domestic markets from international market shocks. Several estimates were made at the time by international organizations that between 70 and 100 million people went into extreme poverty as a result of this food crisis. By early 2009, FAO estimated the number of chronically hungry people in the world had climbed to over 1 billion, (Clapp and Cohen, 2009). The World Bank estimated price spikes for foodstuffs had pushed an additional 44 million people into extreme poverty, (Barrett and Bellemare, 2011).

Impacts like quality and diversity loss of food consumed are difficult to quantify with the information currently available in most countries. The State of Food Insecurity in the World of 2012 estimated that almost 870 million people chronically undernourished in 2010-2012, stating that improved undernourishment estimates, from 1990, suggested that progress in reducing hunger had been more pronounced than previously believed. Still, the publication called for better data to capture the effects of food price and other economic shocks, despite significant improvements that year to the FAO methodology for estimating undernourishment. The publication claimed that the undernourishment estimates did not fully reflect the effects on hunger of the 2007-2008 price spikes or the economic slowdown experienced by some countries since 2009:

*“The new estimates suggest that the increase in hunger during 2007-2010, the period characterized by food price and economic crises, was less severe than previously estimated. There are several reasons for this. First, the methodology estimates chronic undernourishment based on habitual consumption of dietary energy and does not fully capture the effects of price spikes, which are typically short-term. As a result, the prevalence of undernourishment (PoU) indicator should not be used to draw definitive conclusions about the effects of price spikes or other short-term shocks. Second, and most importantly, the transmission of economic shocks to many developing countries was less pronounced than initially thought. More recent GDP estimates suggest that the “great recession” of 2008-2009 resulted in only a mild slowdown in GDP growth in many developing countries and increases in domestic staple food prices were very small in China, India and Indonesia (the three largest developing countries).”*  
(SOFI, 2012)

When the world faces a food price crisis, there is a possibility of panic driven behaviour. And with the urgent need of numbers combined with the lack of good reliable data, overestimation can happen. This was again addressed in the SOFI of 2013:

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<sup>1</sup> See Rapsomanikis, G., (2011), “Price Transmission and Volatility Spillovers in Food Markets”, in A. Prakash (ed.), “Safeguarding Food Security in Volatile Global”, (pp. 149-168), Rome: FAO.

<sup>2</sup> It is important to note that this paper does not have a counterfactual, in that, in this assessment of what the literature said about impact, we do not control other factors such as the Great Recession or fast economic growth in some countries.

*“In the early months of 2008, the FAO Food Price Index had reached a new and pronounced high. This food price crisis, coupled with what appeared to be a worldwide economic crisis, led to concerns that the number of food-insecure people in the world would increase substantially. FAO was put under considerable pressure to provide early estimates of what the likely impacts on undernourishment might be, before the actual data needed to inform the PoU estimate were available. In response to such pressure, new ad-hoc methods to gauge the likely increase in the number of undernourished people were devised.” (SOFI, 2013)*

The SOFI of 2013 mentions that in 2008 FAO predicted an increase of 75 million undernourished people and in 2009, a further increase of about 11 percent of the number of undernourished was foreseen. The macroeconomic outlook, shared by all major international organizations, predicted reduced export growth and capital inflows in developing countries, assuming that the financial crisis would lower the availability of foreign direct investment, remittances and, possibly, official development assistance. The 20 percent increase over the 848 million undernourished people estimated for 2003-2005 meant that the number of hungry people in 2009 could have exceeded the 1 billion mark. As data for 2007-2009 became available, it was clear that the bleak prediction did not materialized and the price transmission from international to domestic markets was not as clear cut as authors could have foreseen:

*“It also started to become evident that both the food price spike of 2007-2008 and the ensuing economic crisis had not been as dire as previously assumed, at least in much of the developing world. Moreover, the pass-through of international prices for primary food products to final consumer prices was much more muted than previously feared. Analysis of food price transmission from the international market to domestic markets shows that many, though not all, developing countries managed to shelter their consumers from the international food price hikes. And finally, many developing countries recovered quickly from the impacts of the global recession or were not much affected by the financial crisis that had engulfed many developed countries.” (SOFI, 2013)*

Although the estimates of the prevalence of undernourishment were lower than previous calculations, the period 2007-2010 showed a slowdown in progress towards lower hunger rates. Progress in the fight against hunger continues and in 2015, SOFI estimated that about 795 million people in the world, just over one out of nine, were undernourished in 2014-2016, (SOFI, 2015).

Figure 4: World prevalence of undernourishment

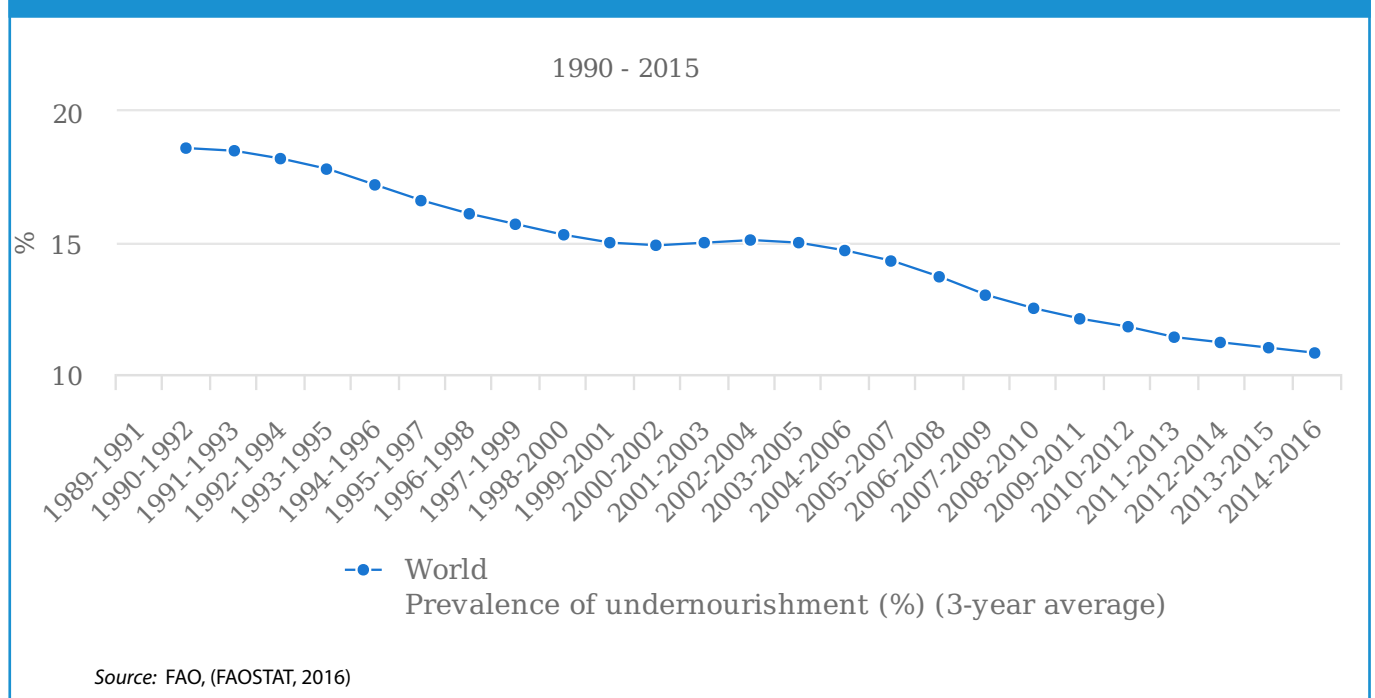


Figure 5: Undernourishment in the world: two very different trends after the crises

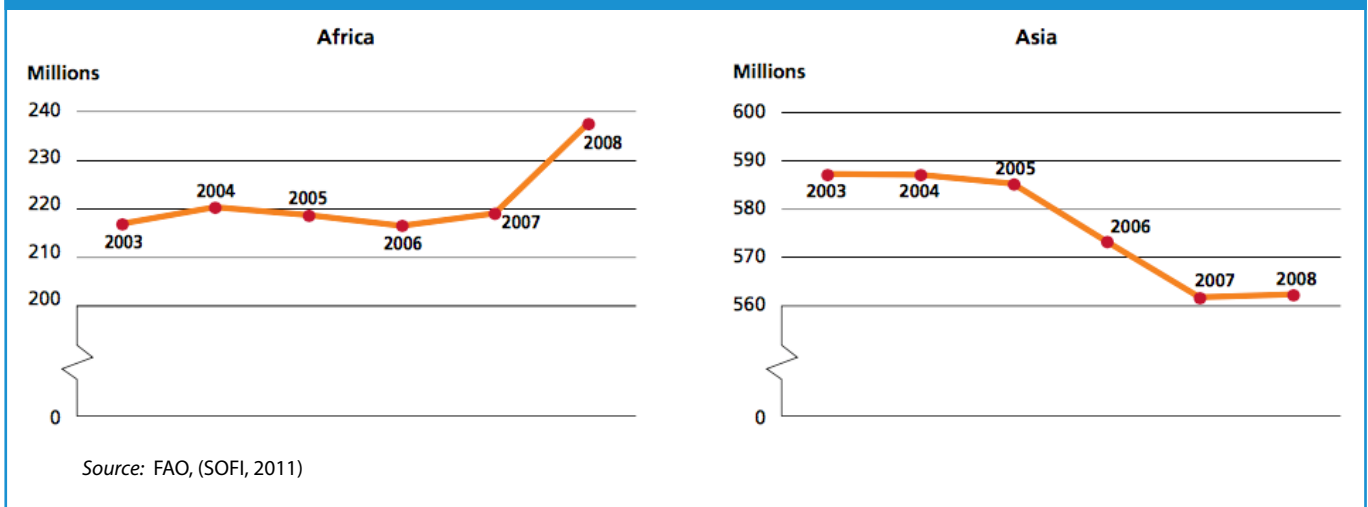
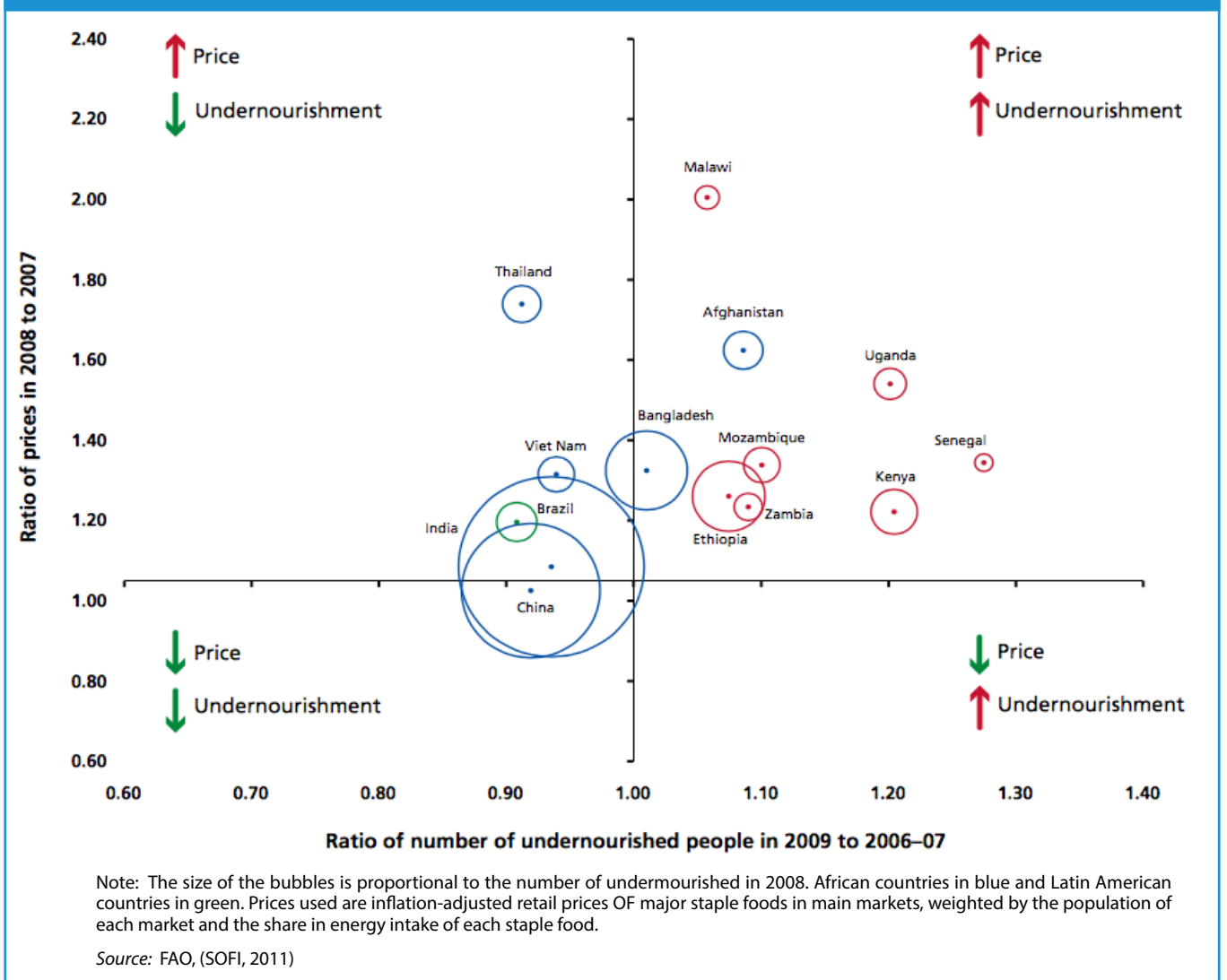


Figure 6: Differences in resilience to food price shocks across countries





It should be noted, as well, the different trends across regions and countries. There are regional divergences in dealing with price shocks and recessions. Many African countries were fully exposed to the price hikes with limited access to the means and measures necessary to mitigate hardships for their populations while in Asia, some countries managed to mitigate international price pressure through border measures. The estimated impact of the price crisis of 2007-2008 on the number of undernourished varied markedly across regions and individual countries. They varied according to different net trade positions and different policy responses to the price and income shocks. The SOFI of 2011 showed that the countries most exposed to price swings on international markets were typically poor and food importers, given the few reserves and inadequate budgetary means to procure food at high prices they had. Plus, they also lacked the option of restricting exports so domestic staple food prices rose substantially in these countries. The SOFI of 2011 had data showing the divergent trends in undernourishment in Africa and Asia. Between 2007 and 2008, the number of undernourished was essentially constant in Asia, while it increased in Africa.

The hardships from rising world food prices created discontent in developing countries and the political unrest in the Middle East and in North Africa coincided with rising food prices. Additionally, the impact of high food prices on consumers is unequivocally negative. Rising prices hurt consumers by reducing their purchasing power but benefit producers by increasing their profits. The thought was that higher food prices would enable producers to invest in raising productivity and production. However, high price volatility does hurt producers, who make all their investments in seeds, fertilizers and equipment at the start of the growing season, before the post-harvest price is known, (SOCO, 2009). High prices should have been good news for farmers around the world as they improve the incentives for those producing the particular products concerned. In principle, higher food prices increase the funds available to producers for investment, leading to increased agricultural growth and poverty reduction. However, this was perhaps an opportunity not seized:

*“In spite of enormous increases in prices, developing countries increased their cereal production by less than 1 percent in 2008 and production actually decreased in the vast majority of them. The hoped-for supply response simply failed to materialize. Understanding the reasons for this and, hence, what needs to be done to promote supply response are crucial strategic and policy issues.” (SOCO, 2009)*

The high world food prices elicited a huge global production response. Record worldwide harvests were realized for grains and oilseeds, (Abbott, 2009). High prices encouraged an expansion in global production of cereals. However, this supply response was concentrated mostly in Brazil, China and India. With the exception of these three, cereal production actually fell between 2007 and 2008 in developing countries. Most of the authors believe high food prices were not an opportunity seized by the majority of poor farmers in developing countries. Policies like export restrictions or taxes at the border affect the extent to which world price changes pass through to national markets, as they hinder the transmission of price signals. Additionally, high transport costs and marketing margins hinder the transmission of price signals as they may prohibit arbitrage, (SOCO, 2009). The lack of integration into markets of many small producers prevented them from responding. Years of low agricultural prices understandably gave farmers little incentive to invest in means of production. Lack of rural infrastructure, limited access to modern inputs and irrigation, poor roads and storage facilities, rudimentary technology, limited knowledge of modern farming techniques and limited access to credit all led to low productivity, limited participation in markets and lack of investment.

## 4. RESPONSE FROM NATIONAL GOVERNMENTS

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The role of policy response by both importers and exporters countries was highlighted by numerous authors who analysed what happened at the policy level. Several countries made policy changes or introduced new policy measures when they faced rapidly increasing high food prices posing a series of interrelated policy challenges. Inherently, there was the short-run emergency of ensuring affordable food supplies for poor consumers. As governments tried to slow the tide of dissatisfaction caused by higher food prices, the international consequences of their policy measures were ignored. Many policymakers responded in an ad-hoc and self-serving way, enacting policies that protected their own national interests, but that ultimately contributed to more extreme international food commodity price volatility. These policies had dramatic consequences on world prices and exacerbated the problem for importing countries. For instance, in order to control domestic rice prices, some traditional rice exporters, such as India, introduced export restrictions that contributed to a spike of international rice. A major soybean and maize exporter, Argentina, attempted to expand export taxes and thereby reduced production incentives and international supplies, while the United States of America expanded subsidies for maize production for biofuel, a policy that contributed to food price increases in the first place.

A variety of other policy measures with international consequences were introduced around the world. Governments around the world pushed a limited range of fast acting and cheap measures, mainly trade policy measures, to secure food supplies for domestic markets and to moderate the cost to consumers. This included reductions of import tariffs and domestic taxes on food, export taxes and bans, and consumer subsidies of various types. Policy responses of national governments in the developing world contrasted sharply with initiatives recommended by the international community. International organisations, development banks and donors emphasised emergency relief and longer-term agricultural development, whereas national governments heavily utilised stabilising market interventions through trade and domestic policy, (Abbott and Battisti, 2011).

The FAO review of policy responses by developing countries showed that both exporters and importers took actions to isolate domestic markets from world price increases, including reducing import tariffs, banning or taxing exports and even subsidizing consumption. It listed trade measures that include reduction or elimination of tariffs and customs fees, by 43 countries and export restrictions or bans, enacted by 25 countries, (Abbott, 2009). The export restrictions' goal was to limit the increase in domestic prices and isolate domestic markets from world price changes. Thus, in the face of high world prices, import demand did not fall, but export supply did, creating more unstable international markets and surely contributing to the price increases and especially the spikes of 2008, (Abbott, 2009).

Confidence on international markets as a trustable source of food in the event of a food shortage was undermined. These measures induced a shift in net food importers' food security strategies from relying on international markets toward higher self-sufficiency and larger food reserves and lower the propensity to invest in agriculture in exporting countries, where a competitive advantage in production exists, (Anania, 2013). This short-term view was understandable in view of the emergency situation, but very counterproductive and it meant that the medium and longer-term needs to raise production were neglected. While these short-term measures introduced by governments to address the immediate food security needs of poor consumers mitigated somewhat the dramatic changes of commodity prices, they exacerbated instability in international markets and muted incentives to their own domestic producers to respond to the crisis with greater production.

The emphasis in developing country responses reflected a response to short-term pressures more so than getting incentives right for longer-term adjustments. High prices should have provided an incentive and an opportunity to producers in developing countries but this was not the case, as there were many supply side constraints to overcome. Policy responses and lack of market integration limited pass-through of incentives to farmers, so supply responses to these high food prices was greater for exporters rather than by importing developing countries. There was a need for targeted, positive towards agricultural investment and non-distortionary policy measures, (SOCO, 2009).

*“Additionally, high food prices also have macroeconomic impacts. For food importers, these include balance of payments problems resulting from higher food import bills and increased inflationary pressure because food is such a large element in the consumer’s basket of goods. Food exporters enjoying higher earnings from higher food prices on world markets may need to consider how best to manage increased export earnings in order to ensure that they are channelled into productive investments to stimulate long-run growth.” (SOCO, 2009)*

Export restrictions in producer countries were heavily criticised. They were seen as the primary cause of panic buying by major importers, pushing up world prices and fuelling food insecurity that they were supposed to mitigate. Moreover, export restrictions could disrupt price signals and dampen the supply response by local producers. These policies were under criticism by several authors:

*“Policies aimed at curbing food price volatility, such as export bans, price stabilization schemes and subsidies for farmers are misguided if policymakers aim to increase the welfare of the poor, or avert political unrest in developing countries.” (Barrett and Bellemare, 2011)*

These policy regimes reverted to pre trade liberalization modes of operation and ignored much of the advice of the last two decades on open markets. Countries were hesitant to rely on international markets to maintain an adequate degree of stability and their consequent policy actions contributed to greater international price instability. Policy responses by developing countries exhibited a mistrust of international markets and the functioning of international markets also came under criticism:

*“The notion that open markets and free trade could lead to greater international market stability was not in evidence in this experience, as countries reverted to past isolationist policies and many now are advocating for greater self-sufficiency.” (Abbott, 2009)*

Policies such as targeted safety nets were suggested as better measures for governments to implement, (Abbott, 2009). These safety nets would support the purchasing power of the poor without distorting domestic incentives to produce more food and without reducing the incomes of poor food sellers. They would mitigate the temporary impact of food price increases on the poor, without disrupting price signals for farmers. Developed countries relied mainly on already existing safety net mechanisms while developing countries took new measures or adjusted the parameters of existing instruments.

A large number of developing countries implemented measures to provide relief or partial relief from high prices to consumers like cash transfers, direct food assistance or increases in disposable income, or some combination of these measures, (Inter Agency Report, 2011). Producers were supported as they tried to offset rapidly rising input costs, like feed and fertilizer. Information was also a useful tool. Governments’ decision to publicize information on food availability and their willingness to release stocks helped mitigate the sharp hike in rice prices.

High food price crisis highlighted that the domestic policy problem also has an international dimension. Thus, an international discussion of policy choices to promote coordination and avoid the negative side-effects of domestic policies was and will be needed. Obviously, the issues of high food prices and the impacts of policy are not only the preserve of developing countries and developed-country policy choices are also relevant to the discussion. Lack of good governance is often the binding constraint and solutions to slow agricultural development require effective national governments. The international community struggled to find binding collective agreements with national governments and policy reactions by developing countries exhibited a mistrust of international markets. As illustrated by all that happened in 2007-2008 and 2010-2013, food systems around the world are increasingly integrated into a global system, a system that requires international governance. There is an undeniable need to better understand consequences of policy measures at both national and international levels, given the contrast of responses between national governments and the international community.



## 5. INTERNATIONAL RESPONSE

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The food prices crises of 2007-2008 and 2010-2013 were of global dimension, a matter for international debate and international action. Efforts were made to restore agriculture to the centre of the development agenda as the world faced an acute food price spike. In order to assist countries in making efficient policy choices, greater policy coordination was requested. The idea was to maximize synergies in responding to high food prices and to avoid spill-over effect from one country market intervention to another. In May 2008, FAO developed a "Guide for immediate country level actions" through its USD 1.7 billion Initiative on Soaring Food Prices. The World Food Programme (WFP) realized early on its international relief efforts would be compromised due to the crisis. WFP's appeal for an additional USD 755 million was oversubscribed and yielded nearly USD 1 billion by the end of 2008. The International Fund for Agricultural Development (IFAD) and the Asian, African and Inter-American Development Banks all reallocated their portfolios to address this crisis. Mid-2008, the World Bank launched a USD 1.2 billion Global Food Crisis Response Program (GSRP). The Global Agriculture and Food Security Program (GAFSP), a multilateral mechanism to assist in the implementation of pledges made by the G20 raised USD 880 million in initial pledges in 2010. The GAFSP is managed by the World Bank Group with public and private sector windows and mobilizes investment for agricultural development and food security targeted toward LIDCs. The IMF revamped its Exogenous Shocks Facility (ESF) and temporarily scaled up loan amounts to poor countries. Conditionality on the fiscal deficit was temporarily loosened to allow public spending for food. FAO's High-Level Conference (HLC) on World Food Security was held in Rome in June 2008, which brought together governments, international organizations, donors, non-governmental organizations, the private sector and civil society with the purpose of discussing what should be done regarding the soaring food prices and the consequent food crisis. Representatives of 181 countries, including 43 Heads of State and more than 100 Ministers and high-level representatives of international organizations, NGOs and civil-society organizations participated in the HLC.

The declaration adopted unanimously by the HLC agreed on the need for international action to assist developing countries suffering the adverse consequences of high food prices, on the need to increase production in the developing countries and boost investment in the agriculture sector. Donors and international financial institutions were urged to provide balance of payments and budgetary support to the Low-income food-importing countries and to assure the international agencies of sufficient resources to expand and enhance their food assistance and support safety net programmes. Although the HLC was not intended to be a pledging event, a number of donor countries and international financial organizations used the opportunity to announce significant additional financial support totalling more than USD 12 billion. It seemed that the outcome of the HLC indicated a new recognition of the importance of agriculture, putting it back centre-stage on the development agenda and a commitment to reverse the downward trend in agriculture-focused development aid, (SOCO, 2009). The G8 Summit in Japan in July 2008 agreed on the urgent need to strengthen the governance of world food security, calling for an improved system to prevent international food crises and help develop and implement the required policies at national, regional and international levels, (Barrett and Bellemare, 2011).

Major international meetings sponsored by the UN, the World Bank or the G8 were held nearly every month from April through October 2008 and Spain convened a High Level Meeting on Food Security in January 2009. The Development Assistance Committee (DAC) from the OECD hosted a policy dialogue on high food prices in February 2009. These discussions reflected interest in reversing the trend of declining assistance to agriculture and to funding new initiatives. Much of that debate focuses on how to more effectively use aid for agriculture with more coordination across donors being discussed in the context of the CFA, the Global Partnership on Agriculture and Food Security proposed by the G8 and the Financial Coordination Mechanism (FCM) that emanated from an advisory group to the Madrid meeting, (Abbott, 2009).

In November 2010, G20 leaders at their Seoul summit meeting, and under the Food Security pillar of the Seoul Multi-year Action Plan on Development, requested FAO, IFAD, IMF, OECD, UNCTAD, WFP, the World Bank and the WTO to work with key stakeholders to develop options for G20 consideration on how to better mitigate and manage the risks associated with the price volatility of food and other agriculture commodities, without distorting market behaviour, ultimately to protect the most vulnerable. In response, the institutions joined

forces to produce a policy report entitled *Price Volatility in Food and Agricultural Markets: Policy Responses* that was submitted for consideration by the G20 Agriculture Ministers. This was done with those international organizations, plus IFPRI and the UN High Level Task Force, overall coordination by the FAO and the OECD, (Inter-Agency Report, 2011). The inter-agency report was considered by the G20 Agriculture Ministers in a meeting held in Paris, June 2011. The report had a set of proposals and it is extremely important to remember the recommendations approved by the Ministers, (Inter-Agency Report, 2012):

- a) G20 governments committed to strengthen the longer-term productivity, sustainability and resilience of the food and agriculture system worldwide. They agreed to support agricultural research and innovation and create the enabling environment to encourage public and private investment in agriculture.
- b) G20 governments decided to launch the Agricultural Market Information System (AMIS) to increase collaboration between International Organizations, major food exporting and importing countries and the private sector. AMIS based on existing information mechanisms and housed in FAO. G20 governments also called for the establishment of a Rapid Response Forum within AMIS which, when the market situation indicates high food security risk, will discuss appropriate policy responses, strengthening synergies with the Committee on World Food Security (CFS) to promote greater international policy convergence.
- c) G20 Agriculture Ministers strongly encouraged G20 Finance Ministers to take the appropriate decisions for a better regulation and supervision of agricultural futures and derivative markets.
- d) G20 governments reiterated their commitment to bring the Doha Development Round to a successful conclusion and agree to remove export restrictions or taxes on food purchased for non-commercial humanitarian purposes.
- e) G20 governments supported the development by the WFP of a pilot project for an ECOWAS regional emergency humanitarian food reserves system, consistent with WTO rules, in partnership with the countries concerned. Such a humanitarian reserve complements and integrates national and regional food security mechanisms, operating with the active participation of countries and region concerned and building national and regional capacity to manage food stocks and to design and deploy effective safety net systems.
- f) G20 governments recognized the importance of safety nets to protect the vulnerable (including producers). They encouraged International Organizations and Multilateral and Regional Development Banks to further explore counter-cyclical mechanisms to assist low income food deficit countries during food price surges.
- g) G20 governments supported the efforts to provide vulnerable households, communities and governments with effective market-based risk management instruments.

Overall, The G20 Agriculture Ministers' Meeting culminated in the Action Plan on Food Price Volatility and Agriculture, which was presented to the G20 Summit held in Cannes on 3-4 November 2011. The G20 Leaders welcomed the Action Plan and decided to act on its five objectives: improving agricultural production and productivity; increasing market information and transparency; reducing the effects of price volatility for the most vulnerable; strengthening international policy coordination; and improving the functioning of agricultural commodity derivatives' markets, (SOFI, 2011). The recommendations for which an agreement could not be reached were to strengthen and enforce consultation and notification processes currently in place at the WTO on export restrictions and to remove provisions of current national policies that subsidize or mandate biofuels, (Inter-Agency Report, 2012).

## 6. ROLE OF FAO, OECD, WTO, G20

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The volatility highlighted by the high food crisis demands a closer look at the international food and agriculture governance architecture. International organizations can provide policy advice and support to countries to better control and mitigate the impact of high food prices. It is imperative not to forget that macroeconomic factors influence all areas, including food security. The FAO can disseminate experiences and best practices to help countries prepare their policy frameworks and strategies. This implies a need for better coordination of policy internationally, which the international organizations might facilitate. FAO is a significant player in norm setting, data collection, technical assistance and emergency aid. Thus, FAO has the tools to provide an effective international response to a food crisis. In light of the problematic global governance structures, such matters as competition policy, food safety, public health and poverty reduction can be discussed through the FAO platform.

An organization that has a key role to play in facilitating dialogue between donors and recipients, not only in agriculture as it broadly relates to development strategy, but also in the specific African context, is the OECD. The OECD provides agricultural policy recommendations to member countries and international markets, supports trade negotiations, international integration and measures the extent and impact of distortions in agricultural markets. With analytically based and data supported policy advice, the OECD has made and continues to make contributions both to the high food price debate and to broader agricultural policy debates. Various OECD bodies contributed with policy advice and expertise, in particular on trade policy of developing countries and how that interacts with a broader agricultural development strategy. The Development Advisory Committee (DAC), the Development Co-operation Directorate (DCD), the Sahel and West Africa Club (SWAC), the African Partnership Forum (APF) and the Development Center all have potential contributions to make as they incorporate the mandate of designing a development strategy for the OECD countries, (Abbott, 2009).

Drawing on its past experience, the fruitful synergy between FAO and OECD demonstrates the important role this international partnership has in future debates on policy responses to high food prices. Benefiting from the commodity, policy and country expertise of organisations, the OECD-FAO report analyses world commodity market trends and medium-term prospects for the main agricultural products. It shows how these markets are influenced by economic developments and government policies and highlights some of the risks and uncertainties that may influence market outcomes. In addition to OECD countries, the market projections in the report cover a large number of other countries and regions including India, China, Brazil and Russia as well as Argentina, South Africa and other developing countries. Given the problems exhibited in international markets during the food crisis and the lack of commitment to the spirit of WTO outcomes, FAO and OECD should have a clear interest in improving policy debate, (Abbott, 2009).

International trade policies fall under the jurisdiction of the WTO, whose rules provide the context for trade policy responses to high food prices. The debate within the trade field has been long and will continue to be arduous. The WTO Doha Development Agenda (DDA) was launched in 2001 with a goal of establishing new trade rules, notably in the areas of agriculture (i.e. export competition, market access and domestic support pillars). However, it is widely considered a stalemate negotiation process. Developing and developed countries have not given too much thought on assessing the impact of policy measures in a coordinated way. For instance, a considerable part of the diversion of food commodities to biofuel production was considered to be policy driven, notably by subsidies, so, reductions in subsidies or usage targets would correct for any market distortions, (SOCO, 2009). Power within the WTO has arguably shifted from Northern dominance to a contentious stalemate between North and South. Following more than a decade of impasse, WTO members reached agreement on a small part of this agenda at the 9th Ministerial Conference in Bali in December 2001, with the most substantive outcome being the Trade Facilitation Agreement (TFA). In recent times, it seems efforts have focused on reaching agreement on a small package of concessions. Irrespective of whether this is achieved or not, a key issue will be how Ministers define the future agenda for multilateral negotiations. Given how little progress has been registered in multilateral negotiations, many countries have been pursuing Regional Trade Agreements (RTAs) in parallel to increase trade, investment and economic growth. Some RTAs go beyond

commitments made in the WTO and remain open to additional participation by countries prepared to meet their standards, regional arrangements could, in theory, support a healthy multilateral system. A considerable degree of similarity has recently evolved across such “WTO-plus” measures in RTAs notified to the WTO. The “mega regional” initiatives under negotiation today represent an entirely new scale of ambition and scope than earlier RTAs, aiming to go beyond providing preferential access to member countries’ markets and addressing “behind the border” measures.

The G20 is seen by many as the ultimate decision making meeting, where the agenda is set for international economic governance. During the crises period, there was optimism that political leaders might seriously address poorly regulated commodity futures markets and reduce distortionary agricultural subsidies and biofuel targets. But that did not last long. During the Mexican Presidency in 2012, the food security debate narrowed sharply, and as the Russian Federation and then Australian Presidency demoted it to a non-priority, it looked like it would disappear off the G20 agenda entirely. But the 2014 G20 review made food security role be endorsed by G20 leaders in the Brisbane Communiqué after it was identified that it has strong links with economic growth, employment and investment. The Turkish Presidency promised to place development at the centre of their agenda and G7 leaders also committed to lift 500 million people out of hunger by 2030. As noted as part of the international response, probably one of the most significant accomplishments of the G20 on food security was the creation of the AMIS. It represents a G20 outcome directly addressing the need to establish a comprehensive and reliable international market information system to provide a stronger basis for more efficient policy choices. G20 governments recognized the need to improve information and transparency in futures markets and encourage appropriate rules to enhance their economic impact. The resurgence of high food prices in 2010 helped place global food security in the Multi-Year Action Plan for Development recognized by the G20 Seoul Summit in November 2010. Food security was among the nine original priorities identified by the G20 in the Seoul Development Consensus, and under the French Presidency in 2011, it was even promoted to a summit priority as the ongoing food crisis urged leaders to focus on the damaging impact of price volatility. AMIS is managed by a joint Secretariat located in FAO but supported by nine international organizations (FAO, IFAD, OECD, UNCTAD, WFP, the World Bank, the WTO, IFPRI and the UN HLTF), responsible for collecting and assessing the quality of data provided and for the provision and dissemination of high quality food market outlook information products in a timely manner. AMIS and the participating International Organizations combine political will with strong technical expertise to facilitate the intensified discussion and enhanced policy coordination needed among countries and among those international agencies. Building on and strengthening existing institutions and networks, improving coordination and timeliness in order to improve readiness and promoting policy coherence and coordination in times of crisis is what AMIS represents to the world of global economic governance.

## 7. LESSONS LEARNED

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Lessons which may be drawn from experiences during the period of high and volatile prices, may be categorized into lessons for markets, for data and for international governance<sup>3</sup>. Starting with **market lessons**, we now have a better understanding of what happened in the markets:

- a) The 2007-2013 price crisis was not anticipated and governments were shocked, some going in to panic mode.
- b) Biofuels diversion coupled with high price of oil contributed to the hike, on the demand side. Biofuels mandates and its link with oil economy have a political component, which should be assessed. It could be viewed as another way of giving subsidies.
- c) Export restrictions and other counterproductive measures did contribute however, in exacerbating the high food price crisis. While the period was marked by high and volatile prices, the price crisis of 2007-2008 was triggered by uncoordinated government action/policies which banned exports.
- d) There were strong links between financial markets and agricultural markets, something we had not seen before.

Understanding the root causes of the 2007-2008 and 2010-2013 high food price crises is part of the lesson. Production shortfalls, low stock levels, oil prices, biofuel demand, growing incomes in emerging economies, depreciation of the US dollar and speculation were identified as causes. Up until 2006, the real cost of global food had fallen by almost one-half in the previous 30 years, so the 2007-2008 and 2010-2013 food price crises came a bit as a shock. It appears that consumers throughout the world had become accustomed to the notion of so-called "cheap food". Production costs were reduced due to technological progress. The supply-driven agricultural paradigm sent real prices downward on a trend lasting for decades, albeit with considerable volatility that has always been characteristic of agricultural markets. Global supplies were stretched and the ensuing market tightness produced higher prices and higher volatility. The expansion in biofuel production left major exporters with little opportunity to replenish stocks. Extreme price volatility for several commodities prompted fears of a wide-scale crisis.

By interviewing several experts, one can assess their views and thinking nowadays and on why prices are not high and volatile anymore. Experts say prices have gone down because ethanol has become saturated and oil price is down. The US tripled production, started using more land and more fertilizer. Also, Brazil took the floor and Russian grain gained relevance, thus market structure is different now. The 2007 panic happened because the price hike was unusually fast, significant and irreversible. In short, supply eventually responded. Experience now shows strong supply response, as global crop production increased over the years. Experts agree the food price crisis was indeed a perfect storm of short-term and long-term factors and part of a macroeconomic crisis beyond agriculture. There was a rush towards commodities, including agriculture commodities. It is important to have this in mind while highlighting some factors. Some experts identify the main causes of the crisis are on the supply side. Supply shocks are a necessary but not sufficient factor for a price hike. But, if there are supply shocks and countries have low stocks, then there will be a price hike (currently, we are witnessing low prices due to the containment effect of re-accumulation of stocks). On the China and India demand effect, the consensus is that it was not a cause of the acute price surge.

**Data** lessons relate the need to have better (more accurate) and more timely shared data. The numbers measuring the impact of the crisis were exaggerated. There was an urgent need to deliver accurate information to policy makers. While international food price variation can have implication for food import bills and household food costs, the problem of undernourishment is more complex. The period of high and volatile prices now

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<sup>3</sup> These lessons have been drawn from the literature, but also threw interviews with various experts who have either studied markets during this period, or who oversaw key outputs/programmes in FAO and OECD.



appears to have had small impacts on overall measured undernourishment. The crises revealed weaknesses in the capacity of nations and international organizations to produce consistent, accurate and timely agricultural market data and analysis, especially in response to weather shocks such as floods or droughts. Information on commodity stocks is an essential component of a global food market information system and without it, the crisis exposed weaknesses in the coordination of policy responses. Some price volatility is an inherent characteristic of agricultural commodity markets. The crises offered an opportunity to generate knowledge on responses to price volatility in particular and on the political economy of agricultural policy-making more generally. More predictability from government policies would have helped when dealing with price volatility. Reliable data is valuable. AMIS provided a mechanism for sharing the most accurate and timely data in a forum in which enhanced discussion. The OECD-FAO Outlook provided a longer-term perspective on the causes and interactions of markets drivers of high and volatile prices. These two mechanisms provided consensus building on what was happening and why. Better data makes it less likely to have ill-advised policies; but consultation and discussions are critical to assure coherent action.

**Improved international governance** is required to solve the political economy of responding to large market shocks. The delicate question, after a careful and deep analysis of the market economic behaviour, that arises is how to tell Americans to use less ethanol or the Europeans to use less biodiesel and to tell Indians or the Vietnamese not to ban rice exports? Who has the international binding power to do that? It is generally agreed that policy responses during the period were mainly ad-hoc in nature, taken hastily and somewhat inconsistent and largely uncoordinated at the international level. International markets failed in large part because disciplines under WTO did not restrict countries from taking the protectionist and isolating actions:

*“Strengthening WTO disciplines on export controls and their extension to export taxes would reinforce the capacity of exporters to keep markets open in the face of pressure from domestic consumers. Plus, better collection and sharing of information on global grain stocks and production prospects could improve the international response to regional or global shortages as they develop and help prevent the onset of market panic.” (de Gorter, 2013)*

Inappropriate policy responses will happen again unless the international community is coordinated and cooperative. The G20 has to address export restrictions. There are possible scenarios for a WTO agreement, (Anania, 2013). Having in place a multilaterally agreed regulatory framework to reduce the negative effects of export restrictions on food security would certainly be useful. Due to the multi-polar world economy and its international political economy negotiations, this hasn't been addressed at the WTO.

Some experts have declared that lessons learned are easily forgotten. After the 1974 food crisis, everyone forgot about the lessons of that crisis and the world got “spoiled” by a long period of cheap food. Politicians have a tendency of not having a long-term view due to election cycles. International Organizations' priorities change with different people in charge. New Director Generals, Secretary Generals and Directors come in with different agendas that contribute to shortening institutional memory. Nonetheless, there has been a continuous international narrative on the pressures that the global food system will experience over the coming decades. Growing population and income in emerging and developing countries will add significantly to the demand for food in the coming decades. By 2050 the world's population is expected to have reached about 9 billion people. This alone is sufficient to exert pressure on commodity prices. From global population growth to a higher demand for a more varied, high-quality diet requiring additional resources and the upcoming climate change effects that will become increasingly apparent. Globalization will continue to expose the food system to novel economic and political pressures.

Growth in population is increasing pressure on finite resources such as land and water. Experts agree that climate change will provoke some adjustment of production patterns around the world, as well as increased risks of local or regional supply problems that could add to future volatility. Stronger demand for food crops and animal products in conjunction with slow growth in agricultural productivity and low stocks results in upward pressure on prices. However, the majority of experts interviewed believe that by looking at the long-term view, what happened was a small increase in volatility compared to 1970's and that governments and its people were spoiled by low volatility in the 1990's. Whether one believes that there was an exaggeration of the crisis and

its impacts or not, there is now a system that can access markets in a much more reliable way and therefore avoid unnecessary panic. The international economic context must be taken into account if the proposed policy measures are to be successful in avoiding future crises. A substantial movement toward a global economic framework.

The international response to the food crisis from FAO, G20, OECD, WTO and the improvement of global economic governance and its outcomes (e.g. AMIS) are the potential implementers of the international government lesson. As international civil servants, one of their main duties is to improve multi-lateralism even in times where all political and economic challenges seem to be set in place. As global crises continue to manifest and economic power continues to shift, new and re-emerging actors are increasingly shaping the international landscape and the global policy agenda. Among these actors are regional governance configurations, globally-connected cities, private foundations and multi-national corporations, global civil society movements. Therein lays the paradox: The authority and ability for tackling global problems still resides with states, but the potential solutions are increasingly situated at the international coordinated global level. Important geo-political trends are impacting the multi-lateral system. There is a growing multi-polarity driven by global economic shifts, with a number of states becoming key players at the regional or global level and multilateral institutions are increasingly being asked to incorporate a growing regionalism. This is making multilateral institutions struggle to address global public goods issues, creating an increasing strain on the multilateral system and erosion of trust of large institutions.

The link between food security, growth and jobs has been clearly demonstrated. A number of key structural economic issues undermining food security, such as commodity market regulations and agricultural subsidies, are within the power of the G20 to change and suit its strength as a global policy coordinator. A successfully international approach would demonstrate to leaders that development could be achieved through mutually beneficial and growth promoting policies in areas such as investment, trade and energy sustainability. Integration must improve the focus on addressing the more difficult and politically contentious reforms, rather than act as an excuse to avoid them. The success will depend on the commitment of G20 members. There is a real chance that food security could pave the way for a more active role for the G20 in the development space. Looking at the WTO negotiations have been in a stalemate, we see that geo-economics is a given nowadays and it seems that the place to create a global binding path is the G20.

AMIS is an essential part of the international governance lesson from the food price crisis. It is a unique example of international governance demanded by a globalized world. It has powerful backing, as it was established by G20 leaders. Countries leave the flag outside the meeting room and talk openly and bluntly. The G20 countries plus eight important producing and consuming countries make up more than 90 percent of those commodities' markets. In its process and workings, AMIS has created valuable coordination mechanisms and networks. Policy makers come together and coordinate action and they are accountable for it. There is a level of ownership of countries that inherently has to give it more credibility. Credibility is something that is hard to build and could be easily lost. Plus, AMIS and the FAO could and should provide the policy dialogue platform for countries to better understand policy impact and ultimately to improve the international policy-making arena. For this to be done, countries need to show the highest of commitments, starting who comes to AMIS meetings to represent the countries. The highest level of representation from G20 should be present. AMIS has the potential of being the place for genuine inter-governmental policy discussion. The majority of experts agree that having AMIS is much better than not having AMIS. Whether it is about access to reliable data and forecasts, or coordinated policy response at the highest level by the world's leading economies, AMIS can offer a safety net when and if the next crisis comes along. However, it is crucial not to forget that AMIS is not a policy binding mechanism. It is true that it has a unique leverage to reach high-level decision makers and to make them accountable. But, in an event of a future food price crisis, AMIS does not have the power to forbid a specific country from using policies such as an export ban. However, discussion in AMIS makes adverse policy reaction less likely.

Commodity outlooks, such as the OECD-FAO Agricultural Outlook perform a similar, if less explicit role in governance by building consensus on medium-term prospects for the major agricultural commodities, reflecting a long-standing expertise in commodity market analysis. Such international mechanisms and reports are valuable assets to all governments and for coordinated action, as good examples of how international governance can work for the benefit of every government, even in a multi-polar world where geo-politics and geo-economics are inherent to international negotiations.

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This research paper looks at the crises in international agricultural markets during the last decade and draws out some lessons. Although crop prices continue to be volatile, the bout of high prices/high volatility ended by 2015. The initial rapid rise of prices was not predicted, and surprised both market players and the international community more broadly. Considerable policy attention was focused on the crisis, by the UN broadly, by FAO and its members, by G20 heads, agricultural groups, and national governments. Attention by investors was also significant, as rates of return rose. The links of higher prices to growing population, incomes, energy/biofuels, dietary mix, combined with concerns for future sustainability and climate change, drew substantial concern. The main causes of higher and more volatile prices are now reasonably well understood, particularly the critical role played by adverse domestic policy reaction. However, the impact of higher prices is less well understood. Indicators of food insecurity now appear to show less impact than originally estimated, and supply response bringing prices down appears to have been higher than anticipated. International governance institutions have learned that timely cooperation of data and sharing of policy actions are crucial in times of market shocks. The paper draws from recent data and interviews with various analysts to draw out lessons for understanding markets, the need for timely data and indicators, and the roles for governance institutions.

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