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Food Price Volatility and its Implications for Food Security and Policy

Edited by Matthias Kalkuhl, Joachim von Braun and Maximo Torero

SUMMARY

- Unacceptably high number of people suffer from food and nutrition insecurity. Multiple episodes of food crises in the last decade have made the situation worse.
- Previous research has mainly focused on traditional market fundamentals to understand food price volatility. New research suggests that stronger interlinkages between the food, feed, financial and energy markets have contributed to rising and volatile food prices.
- During periods of excessive price volatility, it is the poor and vulnerable population in developing countries that are mostly affected.
- Properly designed and implemented policies to areas such as agricultural markets, stocks, trade and regional cooperation, climate change, technological change, social protection and nutrition will assist in minimizing the impacts of excessive food price volatility to people in developing countries.
- Extreme food price volatility calls for radically new global governance arrangements to better facilitate policy direction in relation to food and nutrition security.

The level of hunger in developing countries has fallen by 29% since 2000, according to the Global Hunger Index 2016. Despite this fall in hunger, the percentage remains unacceptably high, with approximately 800 million people still suffering from undernutrition and micro-nutrient deficiencies. Since 2007, global agricultural markets have experienced large price swings, which in turn, has brought increased concerns regarding the stability and reliability of the global food system.

The book *Food Price Volatility and its Implications for Food Security and Policy* focuses on the stability dimension of food security from the lens of agricultural market linkages and food prices. It studies the drivers and consequences of instabilities in the food market and the role of policy as a tool to reduce volatility, or to increase the capacity to cope with extreme price spikes. The book contributes to the ongoing political agenda of the international community, including the Sustainable Development Goals (SDGs) and the G20, to reduce hunger and enhance food and nutrition security.

Matthias Kalkuhl · Joachim von Braun
Maximo Torero *Editors*

Food Price Volatility and Its Implications for Food Security and Policy

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FOOD PRICE VOLATILITY CAUSAL IMPACTS

Various chapters in the book discuss the underlying causes of food price volatility and its impacts on food security. It is important to identify how food price volatility is interlinked in different ways. Figure 1 shows how these interlinkages work and highlights the causal impacts of food price volatility.

Food price volatility is deeply related to markets where goods and services are exchanged and where prices are formed. Food markets cannot be considered in isolation: Spatially separated markets are linked through trade whereas food markets are influenced by commodity, asset and financial markets. In turn, this can influence trading and allocation decisions of actors that are also engaged in food markets. Due to these complex interlinkages and interactions between several actors and economic sectors, food prices are not the mere result of farmers' supply and consumers' demand. Neither is price volatility solely determined by harvest and income shocks. Food and feed processors form part of the agricultural value chain, as do biofuel refineries. Seeds, fertilizers, crop protection and machinery are important inputs to increase agricultural productivity. However, they may also lead to an increase in financial risk because investments have to be paid out of uncertain harvest revenues. Governments and institutions as depicted at the top of the conceptual framework can intervene

in markets by changing tariffs, imposing export restrictions or by holding stocks, and selling or buying grains, for example.

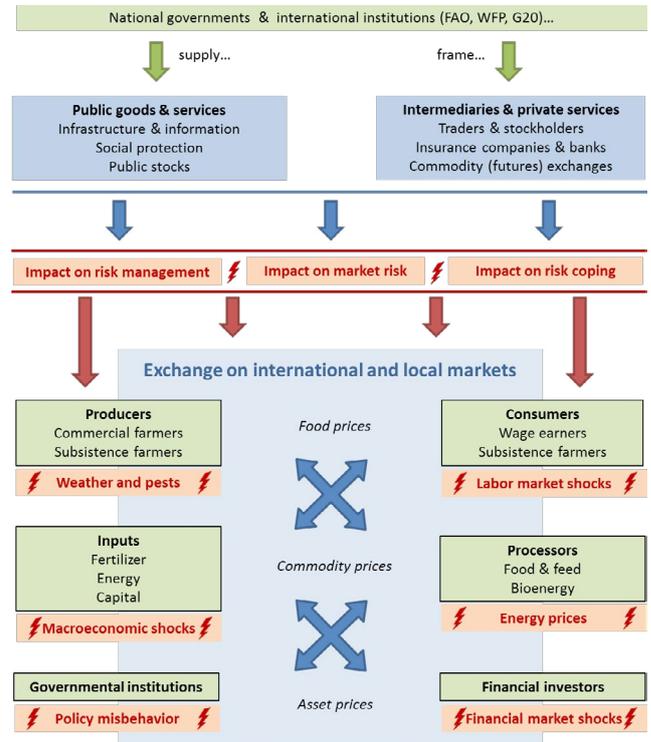


FIGURE 1: Conceptual framework of the causal impacts of price volatility
Source: Authors

FOOD PRICE VOLATILITY DRIVERS

It is crucial to analyze both the demand and supply sides of the world food equation in order to understand food price volatility causes. To distinguish how different factors affect price changes, the authors have grouped these causes into:

- Root causes (also known as exogenous shocks);
- Conditional causes (market conditions and political environment); and
- Internal causes (also known as endogenous shock amplifiers).

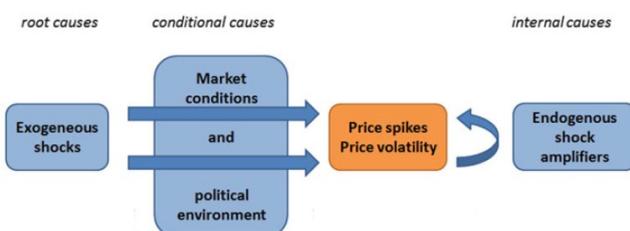


FIGURE 2: Framework of the causes of global food price volatility and spikes
Source: Authors

Figure 2 demonstrates the drivers that cause price spikes and price volatility.

The root causes include:

- Extreme weather events;
- Oil price shocks;
- Economic growth and demand growth and
- Economic shocks.

The conditional causes include:

- Concentration of production and export and
- Lack of information and transparency.
- The internal causes can include:
 - Excessive speculation and financialization of agricultural commodities;
 - Discretionary trade policies (export bans, aggressive imports) and
 - Food stocks-to-use.

FOOD PRICE VOLATILITY CONSEQUENCES

Excessive food price spikes can result in social unrest

There is strong evidence to suggest that periods of excessive price spikes can lead to social unrest. It is particularly interesting to observe the global food crisis period of 2007-08 and how this is associated with a higher number of food riots that occurred during that period in Africa. This can hardly be considered a coincidence and instead, highlights a consequence of a food crisis caused by excessive volatility.

Volatility can influence behavior

Volatility can have an impact on the behavior of governments, producers, consumers, processors and traders who might have difficulties in coping with excessive volatility. This leads to further policy misbehavior and misallocation of resources (see Figure 1). The authors, for instance, found that increased volatility on international markets had weakened the supply response to higher prices of global production. Hence, global food supply has not fully responded to higher prices as producers are reluctant to take on increased market risks.

International food price volatility can also affect domestic food markets

In various chapters of the book, the authors analyze spatial transmission of price shocks and volatility, finding that millions of poor consumers in developing countries are exposed to shocks in international

markets – despite trade policies. These studies indicate that price changes at global markets serve as an important indicator for local food security risks, although the latter is also shaped by local supply conditions and the institutional environment to provide insurance and social assistance.

Higher food prices reduce the real income of poor consumers

Poor consumers spend a large percentage of their income on food which naturally then becomes an issue when food prices increase. A case study on Afghanistan demonstrates that the poorest are hardly able to reduce calorie intake further. Instead, they cut expenditures on other domains such as health or on the quality of food, which ultimately can contribute to micronutrient deficiencies. As the vulnerability of the poor consumer increases in such circumstances, others such as net-seller can benefit from higher food prices. Market instabilities make it difficult for farmers to forecast crop prices during a harvesting period and therefore they cannot exploit all income enhancing options with respect to input and crop choice. This lack of information becomes particularly severe for farmers who are living far from markets and without access to information technologies such as mobile phones and radio.

POLICY ACTION: VOLATILITY REDUCTION

With unreliable international markets, some governments turned to distortive trade restrictions and others sought to become more self-sufficient, which is often an expensive way to reduce vulnerability to international market shocks.

Agricultural market policies: information, transparency and regulation

Improving the information base on global agricultural markets and the transparency of commodity markets has been an important goal of the international community. The Agricultural Market Information System (AMIS), established in 2011 as a G20 initiative, aims to enhance information transparency in order to align policy responses in times of crises. Investment in an information platform that brings together different data and incorporates a bottom-up method for data-collection would surely improve such systems.

Excessive speculation has the potential to increase

food price volatility and therefore, policies should be directed to curbing excessive speculation. This can be achieved by increasing the transparency of actors and transactions by introducing appropriate reporting obligations. Because grain and oilseed markets are connected to speculative activities in financial markets, agricultural commodity markets should not be exempted from relevant regulation of banking and financial systems. An alternative could be to strengthen responsible investment in the financial sector, which include food security risk management strategies that impose temporary constraints on commodity markets.

Policies to stocks, trade and regional cooperation

The authors analyze to what extent regional grain storage for West African countries and for member states of the Association of Southeast Asian Nations (ASEAN) can help to stabilize food supply and reduce

ce costs. Strategic food reserves, particularly if regionally coordinated, can be efficient in overcoming temporary supply shortages without distorting the sustainability of local markets. Biokraftstoffe, Energiepreise, Klima- und Technologiewandel

Policies to biofuel, energy prices, climate change and technological change

Climate change is strongly connected to food security and price volatility. Mitigating climate change also affects food systems. Emission reductions in the agricultural sector are directly linked to changes in land-use and cultivation systems. Policies should directly address the need to target greenhouse gas emissions and foster investments in climate change adaptation, infrastructure and technological advancement in seeds and cultivars.

Social protection and nutrition policies

Actions related to agricultural production, trade and reserves are necessary but not sufficient for overcoming a food and nutrition security crisis. As volatility is inherent in agricultural markets, health and nutrition risks must be addressed through social protection and responsive health services. Priority policy actions are called for in the following areas:

1. Social protection and nutrition actions to ensure the basic nutrition security of the vulnerable;
2. Protective actions, such as cash transfers and employment programs, to mitigate short-term risks;
3. Preventive health and nutrition interventions to avoid long-term negative consequences.

In addition, governments can improve nutrition-specific approaches by focusing on the functioning of the financial sector in ensuring improved access for the poor to financial services.

LOOKING AHEAD: A NEW INTERNATIONAL INSTITUTIONAL ARRANGEMENT

A well-functioning global institutional architecture for food and nutrition security is well overdue. International extreme food price volatility calls for global governance action, and that requires fundamental institutional arrangements that are currently lacking. What is needed is a legitimate and innovative set of strategic bodies to help coordinate actions. Global nutrition policy needs an organizational home, and should not be split among (currently five) different

agencies. This approach should allow for a legalized policy authority to facilitate policy direction in relation to food and nutrition security.

This global governance institution should not only address current trends, but also have a perspective on future decades, in order for uncertainties and opportunities to be recognized. Such a body – which could be named the ‘Intergovernmental Panel on Food and Nutrition Security’ (IPFNS) – could meet this gap.

BOOK AND AUTHORS

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