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Food price
instability
in developing
countries

The need for public intervention to stabilise prices

Franck Galtier

The food crises which affected the Sahel in 2005 and the international markets in 2008 have placed the issue of food price instability at the very forefront of discussion. The urban riots which broke out in about forty developing countries as a result of the sharp price increases of 2008 emphasised the fact that this instability can have serious consequences for food security both in the short term – consumer access to food – and in the long term – incentive to producers to invest and increase production. Numerous experts predict that this instability will be long-lasting, both on the international markets and in developing countries. What, then, should be done?

The quest for a miracle instrument

Since the inter-war years, the search for a solution had centred on price stabilisation through the public authorities, in particular by creating stocks. During the 1980s, economic liberalisation led to the emphasis being placed on risk management through private instruments (futures markets, options), complemented by safety nets intended for vulnerable households. These approaches did not achieve the desired results.

A comprehensive examination of all the potential instruments for handling food price instability was necessary, resulting in four categories being identified according to the objective – to stabilise prices or manage price risk – and the method of governance – market-based or public.

The four categories of price instability management instruments

	Objective	Stabilise prices	Manage price risk
Governance			
Market-based		"A-instruments"	"B-instruments"
Public		"C-instruments"	"D-instruments"

perspæctive

In this publication from the Cirad, the researchers open new lines of thought and action based on their research.

The central tenet of A-instruments is that the arbitrages of market actors cause prices to be homogenised over time, in space and between products, which in principle reduces their instability. These instruments are intended to modernise production and trade structures with a view to facilitating arbitrages between crops, production techniques, locations and times of purchase and sale. They include the construction of storage infrastructures, the development of quality standards and the creation of warehouse receipt systems or exchanges.

Also founded on the market, B-instruments are intended to limit the effects of price instability on income by enabling economic actors to cover themselves against the risks linked to price variability (futures contracts, call or put options) and harvests (crop insurances, weather index insurances).

C- and D- instruments fall into the field of public intervention. C-instruments aim to stabilise prices by controlling production (input subsidies), regulating imports and exports (variable taxes and subsidies, quotas, bans) and using public stocks.

D-instruments enable household incomes to be supported during periods of high prices. They are based on transfers targeting poor or vulnerable households and vary according to the nature of the good transferred (money, vouchers, food or even inputs), the level of cover (donation or subsidy) and the existence of a counterpart (generally labour).

Managing risks without affecting prices: a well-established doctrine... until the crises of the current decade

Since the 1980s, the predominant idea has been that it is preferable to manage risks without affecting prices. The effects of price instability would be reduced by means of private instruments (crop insurance, futures markets and other B-instruments), complemented by safety nets intended for vulnerable populations (D-instruments).

The doctrine is founded on two arguments. Stabilising agricultural prices would prevent prices from playing their role as a signal guiding production and trade behaviour and, by disconnecting prices from the level of production, it would deprive producers of the “natural insurance” provided by the negative correlation between the quantity harvested and the price (the worse the harvest, the higher the price and vice-versa, resulting in incomes being stabilised).

This strategy has not stood the test of time. Private risk management instruments are still used only very rarely, despite initiatives aimed at promoting them vis-à-vis producers, traders and even the governments of developing countries. Moreover, the crisis which affected the Sahel in 2005 revealed that the safety nets did not succeed in checking the deterioration of the nutritional situation of vulnerable households.

The three causes of food price instability in developing countries

Most analysts implicitly take it for granted that price instability is a result of natural hazards. Some works have nevertheless highlighted the importance of imported instability (Byerlee *et al.*, 2005) and endogenous instability (Bousard *et al.*, 2006).

Natural instability: price fluctuations are linked to variations in domestic supply resulting from natural hazards affecting production (rains, locusts etc.).

Imported instability: the variability of international prices, exchange rates and transport costs give rise to price instability on the domestic market.

Endogenous instability: price variability is caused by the functioning of the market itself. Actors make decisions – concerning production, investment and storage – by anticipating the price levels. If they base their expectations on past price changes, a vicious circle may arise: the instability of expectations leads to price instability, which exacerbates the instability of expectations. This concerns, in particular, cobweb phenomena, speculative bubbles or panic movements. Prices can therefore vary independently of the “fundamentals”.

Finally, the crisis of 2008 was born on the international markets and was in large part the result of speculative and panic movements on the physical market. It demonstrates the importance of imported instability and endogenous instability which, according to most experts, will play a major role in the coming years. At the same time, the arguments against price stabilisation do not hold for these two types of instability.

In the event of endogenous instability, not only do prices not convey the appropriate information to the economic actors, they also mislead them. By reducing the endogenous component of instability, stabilisation policies would enable prices to reflect more faithfully the scarcity or abundance of goods, thereby playing their role of a source of information more effectively.

In situations of imported instability, the domestic price depends on the international price and the exchange rate and not on the harvests within the country concerned. Moreover, even in cases of natural instability, the negative correlation between prices and harvest works against farmers whose production is in deficit: when the harvest is poor and the prices are therefore high, these farmers must buy large quantities to feed their family. Furthermore, in certain countries, a large proportion of the producers are in deficit (approx. 60% in Kenya and Ethiopia).

The new paradigm: stabilising prices to modernise agriculture

In addition to its consequences on access to food for poor households, food price instability also affects the capacity of agricultural systems to modernise, a modernisation which is now seen as a necessary step in the process of economic development. The modernisation of farms and markets relies on the investments of producers and traders. These are nevertheless risk averse and only invest if prices are not too unstable. Historically speaking, green revolutions have only occurred in situations of relative price stability.

The stabilisation of food prices must therefore be seen from a long-term point of view as a condition of development.

Which instruments should be adopted? The performance of the instruments depends on the causes of the instability: the same instrument may have a stabilising effect, a destabilising effect or no effect at all depending on the type of instability. For example, the development of transport infrastructures reduces price instability if it is natural (production surpluses and deficits in different zones are more able to offset one another), while it may increase it if the instability is endogenous (the slightest rumour leading to massive movements of stocks). It is therefore essential to design stabilisation policies suited to each cause of instability.

In the case of natural instability, the solution involves attacking the problem “at its root” by modernising the production and trade structures for food products. The modernisation of farms makes production less sensitive to natural hazards (irrigation, pest management etc.) and more reactive to price movements. Modernising the markets allows production deficits and surpluses to be offset between zones (by means of trade) and between years (by means of storage). Nevertheless, this modernisation, which requires investment from private actors, is hampered by price instability. Public intervention intended to have a stabilising effect – use of public stocks, border controls – is therefore necessary to break this vicious circle.

If the instability is endogenous, public intervention may be necessary to calm the speculation fever on the markets. This may involve recourse to the international market (by removing the taxes on importations or even by subsidising them) or the use of a public stock.

Choosing
instruments
according
to the causes
of price instability.

To improve expectations, stabilisation policies should be transparent.

A few words about...

Franck Galtier

Economist at the CIRAD in the MOISA unit (<http://umr-moisa.cirad.fr/en/>), Franck Galtier works on the relation between the organisation and the performance of the agricultural markets. In particular, he has studied the coffee, cocoa and grain markets at an international level, in Central America and in West Africa.

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If the instability is imported, two levels of action can be envisaged: the international level and the national or regional level. The stabilisation of international prices could be achieved by the regulation of futures markets (with a view to reducing speculative bubbles), an interdiction on export bans or the implementation of international coordination with a view to increasing physical stocks. To stabilise prices at the national or regional level, border controls are necessary. Variable taxes on imports are the tool best suited to offsetting the effect of international price variations. However, recourse to these taxes is severely restricted by the World Trade Organisation (special safeguard clause), hence the need to relax the conditions of use for these taxes in the case of food products imported by developing countries.

In light of this, some form of public intervention intended to bring about a stabilising effect (C-instruments) is necessary, irrespective of the cause of the price instability. To enable actors to improve their forecasts and risks to be reduced, the interventions must be foreseeable and therefore realistic, transparent and credible.

If they wish to encourage the modernisation of their agricultural systems, the governments of developing countries should develop a price stabilisation strategy combining the four categories of instrument. This is a global objective which runs counter to the predominant doctrine, hence the need to mobilise the international community and to define new rules.

To find out more

Boussard J.M., Gérard F., Piketty M.G., Ayouz M. and Voituriez T. (2006). Endogenous risk and long run effects of liberalization in a global analysis framework. *Economic Modelling*, 23(3), 457-475 [on the role of endogenous instability and the link between the causes of instability and the performance of the instruments].

Byerlee, D., Jayne, T. S., and Myers, R. (2005). Managing Food Price Risks and Instability in an Environment of Market Liberalization. World Bank, Washington, DC [on the role of imported instability and the need to modernise the markets].

Timmer, P. (1989). Food price policy: the rationale for government intervention. *Food Policy* 14(1), 17-42 [on the need for government intervention to stabilise prices and thereby facilitate the modernisation of agriculture].

World Bank (2008). *World Development Report 2008, Agriculture for Development*. Washington DC: The World Bank, 2007 [on the importance of the modernisation of agriculture in the development process].

This issue of *Perspective* presents the main results from a study of the food price instability management instruments. Financed by the Agence Française de Développement and the French Ministry of Foreign and European Affairs, the study was entrusted to the Ecart consortium and coordinated by Franck Galtier. It involved four research institutions: the CIRAD, the IRAM, the NRI and the University of Wageningen (WUR).

To date, it has resulted in the publication of two documents.

- A summary: Galtier, 2009. How to manage food price instability in developing countries? Working Paper MOISA No 5. November 2009, 27 pp.

Available for consultation at: www1.montpellier.inra.fr/bartoli/moisa/bartoli/download/moisa2009_pdf/WP_5_2009.pdf

- A report: Galtier *et al.*, 2009. *Quels instruments mobiliser face à l'instabilité des prix alimentaires ? Rapport final de l'étude*. Ecart. AFD-MAEE, August 2009. 256 pp + appendices.

The points of view expressed here are those of the author and not necessarily those of the institutions to which he belongs.



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