

Managing  
agricultural price  
volatility in Africa

## Context matters for policy effectiveness

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Soaring agricultural prices in 2007/2008, followed by decreasing prices in 2009/2010 then a new surge in late 2010/ 2011, have placed the management of agricultural price volatility at the heart of policy debates. Many developing countries have implemented policies to limit agricultural price volatility and its adverse effects, without always achieving the expected results.

Analysis of recent experiences in Africa shows that in order to be effective, a policy measure must meet four conditions: it must be based on robust knowledge; it must be predictable; its funding must be secured; and its enforcement must be monitored.

### Protecting the domestic market

For several years, often in response to the 2007/2008 crisis, many developing countries have been stepping up their intervention to stabilise agricultural prices on their domestic markets. The policies implemented are particularly aimed at protecting domestic markets from price fluctuations on the international market, by combining border measures with domestic market measures. They reflect both the will to restore the role of the State in the regulation of agrifood markets and a loss of faith in the functioning of international trade.

These policies diverge from the recommendations of international donors. Donors argue that trade liberalisation stabilises prices, as a price shock on a national market is absorbed by a globalised market through dilution or compensation effects. To avoid the adverse effects of price hikes or slumps, they advocate, in the short term, private risk management mechanisms and safety nets and, in the medium and long term, programmes to increase agricultural productivity.

A broad range of policy measures are available to countries. Border measures are aimed at adjusting supply to demand in the territory, by controlling imports and exports:

perspective

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tariffs, import and export licences; state imports; or export restrictions. Domestic market measures are aimed more at adjusting supply to demand over time, especially through the management of buffer stocks, which may be combined with subsidies or taxes on the price of products or agricultural inputs.

To limit agricultural price volatility on their markets, African countries have combined border measures with domestic market measures. But how effective has this been? Despite the lack of hindsight, several lessons emerge from recent experiences.

Five African countries were studied: Madagascar and Mali for rice, and Kenya, Malawi and Zambia for maize. These five countries share certain characteristics. Their revenue is low: gross domestic product per capita is less than 1 000 US dollars. Their cereal consumption is high: cereals account for over half of total calorie intake (from 50% in Kenya to 66% in Mali). Finally, these countries import less than a quarter of their cereal consumption (from 10% in Malawi to 25% in Kenya).

For each country, price volatility management policies have been described and classified by periods according to the measures undertaken. The periods laid out reveal a tradition of intervention in agricultural markets that has persisted in East African countries, including during the period of liberalisation. However, price instability management policies were abandoned in Mali and Madagascar, before being restored recently. Country by country and period by period, local price series have been examined. The coefficients of variation (the ratio of the standard deviation to the mean) have been calculated and compared to those on international markets. State intervention is

considered effective if the coefficient of variation for agricultural prices on the domestic market is lower than the coefficient on the international market.

Three situations can be distinguished:

- State intervention has limited cereal price volatility, for example in Madagascar and Zambia during the management of the 2007/2008 crisis;
- State intervention only partially succeeded in limiting price volatility, for example in Mali during the 2005 and 2008 crises;
- State intervention increased price volatility, for example in Madagascar in 2004, in Zambia in 2001, 2002 and 2005, in Malawi in 2005, and in Kenya in 2008.

What were the factors of success or failure? Beyond the measure chosen, the conditions for implementing this measure appear to be decisive.

*Beyond seeking miracle remedies, governments must ensure that the measures adopted will be effective in the context of their countries, failing which they may exacerbate the crisis*

## Choosing measures according to national specificities

In order to be effective, each type of measure must meet four conditions, with varying degrees of importance depending on the measure: the intervention must be based on robust knowledge; it must be predictable; its funding must be secured; and its enforcement must be monitored.

### Robust knowledge

Whatever the measure, in-depth knowledge of the situation and of the mechanisms at work is required. In practice, access to robust expertise is a decisive condition for the effectiveness of State intervention. Technical expertise underpins decisions and guides choices. What stock volumes should be built up? At what moment in time? At what price? At what price should stocks be sold off? What volumes should be imported or exported? At what level should tariffs be set?

Accurate analyses based on sound data are needed to anticipate requirements, for example through early warning systems. In Zambia in 2001, food requirements were underestimated, which delayed the government's reaction and that of private importers; however, in 2005 they were correctly anticipated thanks to informal exchanges of information between representatives of far-

### Countries combine several measures to stabilise prices

		Madagascar (since 2004)	Mali (since 2005)	Kenya (since 2000)	Malawi (since 2000)	Zambia (since 2001)
Border measures	Import control	X	X	X	X	X
	Export control	X	X			X
Domestic market measures	Buffer stocks		X	X	X	X
	Price regulation			X	X	X

mers and of the government. Expertise may be collective, as in Madagascar within the consultation platform set up in 2008 (see next section).

### Predictable intervention

State intervention should be announced so that private operators can anticipate it and make informed strategy decisions.

This is a key condition whatever the measure considered. For import control, private importers must be able to predict the volumes imported by the State, the date of importation and the tariff level. For internal market measures, merchants must be able to anticipate the volumes that will be sold off, the date of sale and the selling price. In the absence of this information, private operators will tend to withdraw from the market: this is known as the crowding out effect, and may increase price volatility. For example, in Zambia in 2005 and in Kenya in 2008, some merchants, seeing domestic prices rise, asked the State to waive import tariffs. The State announced an agreement in principle, without specifying the date of implementation. In expectation of the tariff waiver, the operators delayed their imports, which accentuated price hikes. As another example, in Zambia in 2001 and 2002, in Madagascar in 2004 and in Malawi in 2005, the State decided to import cereals to offset the deficit caused by insufficient national production, without specifying the date or the volumes of such imports. Fearing State competition (especially given that State imports may be subject to lower tariffs), the private operators decided not to import. The volume of State imports was too low and the date of importation too late to limit the price hikes on domestic markets.

Conversely, predictable intervention may ensure effectiveness. In Madagascar during the 2008 crisis, the State decided to use imports to meet national rice consumption and to restrict soaring agricultural prices. It set up a consultation platform to anticipate requirements for rice. Private operators and public agents shared information and were able to implement appropriate strategies.

### Secured funding

The State must be in a position to free up funds to finance the costs linked to State intervention. Financial capacity is essential to costly measures. For example, in Mali in

2005 and 2008, the budget allocated to the operation of buffer stocks was not enough to provide these stocks with their own working capital and to therefore build up sufficient volumes to curb soaring cereal prices.

On the contrary, in Zambia and Kenya, substantial financial resources were allocated to the operation of buffer stocks and to maize price subsidies. In Zambia, the public budget allocated to internal market measures represented 4% of the total national budget in 2007; this considerable budget was partly financed by mining revenue.

Furthermore, it is important to plan how to limit the additional costs that may arise, especially those linked to production incentives, such as producer price subsidies. In Malawi, for example, producer price and agricultural input subsidies proved particularly costly, calling into question the price instability management policy. A quota system would limit the existence of additional costs.

### Monitored enforcement

The State must be able to guarantee that its intervention has been effectively implemented and carried through. This monitoring capacity is essential for border measures (imports and exports). In Mali in 2005, national production was low, leading the government to ban cereal exports. This measure proved ineffective due to difficulties monitoring borders – a condition that is even harder to meet given that the country has extensive land borders, as do many of the Sahel countries. Monitoring capacities are also necessary for intervention on domestic markets, especially for cereal consumption subsidies and the administration of producer prices. For example, in Zambia in 2001, the subsidies paid to merchants were not passed on to consumer prices; they therefore failed to limit price increases.

Measures may be circumvented by public agents (stabilisation agencies not applying floor prices) or by private operators (merchants not passing on prices or choosing to export in an illegal manner).

In any case, this behaviour is motivated by the pursuit of private income, and it undermines the effectiveness of the stabilisation policy. To ensure the policy it has defined is effective, the State must therefore be able to both monitor its enforcement and to penalise non-compliant behaviours.

*Alone, the State will be unable to stabilise agricultural prices on domestic markets. Cooperation with private actor is essential.*

## A few words about...

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## Associating public and private stakeholders

Beyond seeking miracle remedies, governments must ensure that the measures adopted will be effective in the context of their countries, failing which they may exacerbate the crisis. They must therefore choose measures according to their institutional, geographical, social, political and economic environment. For example, a low-income country with no specific resources, or one that is dependent on donors for its current expenditures, will need to guarantee its financial capacity before building up public buffer stocks. A landlocked country with extensive land borders should not ban exports to halt soaring prices, but instead should favour regional policies to offset the porosity of its borders. On the other hand, an island country may choose to control its borders, as Madagascar did to good effect.

The four conditions identified concern the capacity of States to define and enforce policies, and to ensure operators have faith in State intervention and will comply with it. Some developing countries may struggle to meet these conditions because of their institutional fragility.

Although the State has a key role to play, alone it will be unable to stabilise agricultural prices on domestic markets. Cooperation between public and private actors is vital to the success of price volatility management policies. Consultation platforms have demonstrated their effectiveness in Madagascar. Public-private partnerships may also be envisaged to manage stocks: consultation on the methods for stockholding, joint funding, or contractual arrangements between

the State and private actors concerning storage. This cooperation between public and private operators is still in its infancy in developing countries, and requires further research. In particular, the apparent contradiction between the need for transparency regarding stock volumes to anticipate food crises and the pursuit of private interests must be analysed. ■

This issue of *Perspective* takes up certain elements for reflection developed within the Groupe de recherches sur la régulation des marchés agricoles (GREMA - research group on agricultural market regulation), which brings together experts from the French Society of Agriculture, CIRAD, GRET and IRAM. It is based on a study coordinated by Françoise Gérard, which includes case studies in Africa conducted by Arlène Alpha, Sophie Barthelon, Hélène David-Benz, Franck Galtier, Françoise Gérard and Élodie Maître d'Hôtel.

The study is available on line: [http://www.inter-reseaux.org/IMG/pdf/Managing\\_Food\\_Price\\_Volatility\\_for\\_Food\\_Security\\_and\\_Development\\_Grema.pdf](http://www.inter-reseaux.org/IMG/pdf/Managing_Food_Price_Volatility_for_Food_Security_and_Development_Grema.pdf)

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- Maître d'Hôtel É., Le Cotty T., 2011. Is a public regulation of food price volatility feasible in Africa? An ARCH approach in Kenya. Paper presented at the annual conference of the International Society of New Institutional Economics, Stanford USA.



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### perspective

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## TO FIND OUT MORE

Poulton C., Kydd J., Wiggins S., Dorward A., 2006. State intervention for price stabilization in Africa: Can it work? *Food Policy*, vol. 31, p. 342-356.

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