

# Conclusion

## **Agricultural price volatility is problematic.**

Price volatility refers to erratic fluctuations, variations of such magnitude and frequency that instead of sending signals to agents as market fluctuations do, they exceed producers' and consumers' capacity to adapt (OECD, 1982).

Excessive fluctuations in agricultural prices harms:

- vulnerable consumers because they threaten consumers' food security (in the case of price hikes);
- farmers because they make the profitability of investments extremely variable, limiting incentives to intensify production and causing bankruptcies (when prices collapse); and
- national economies, because they threaten their fragile equilibriums. Indeed, for the poorest nations, agriculture's preponderant role as a source of income and the proportion of household spending devoted to agricultural products generate a risk likely to spread to the entire economy (systemic risk).

Agricultural price variations are not harmful in and of themselves: the problem is volatility. Indeed, price variations are, in principle, signals that enable actors to adapt their behaviors to the state of market fundamentals. In the case of erratic fluctuations (see the definition of volatility above), these signals are obscured, which causes agents to allocate their resources sub-optimally, and sometimes even causes panics that amplify the initial imbalances. Volatility must be viewed over different lapses of time depending on the actors concerned.

## **The problem of price volatility cannot be resolved by treating its symptoms alone; its causes must also be cured.**

Until now, the recommended approach for tackling excessive price volatility has sought to limit its negative effects:

- by promoting private mechanisms allowing different economic operators (producers, traders, para-state offices, etc.) to protect themselves from price risks (futures contracts, insurance);
- by providing government support for vulnerable households (safety nets: consumption subsidies, food grants, monetary transfers); and
- by using macro-instruments (STABEX, IMF facilities) to provide ex-post support to governments.

This approach aiming to cure only the symptoms has, however, shown its limitations. Private risk management instruments are not very widespread, notably in developing

countries, and safety nets, in addition to being potentially very costly, have generally not been able to offset food security problems when prices skyrocket.

The insufficient and inoperative nature of measures aiming only to limit the negative effects of price volatility calls for the joint implementation of mechanisms aiming to limit price volatility by acting directly on its causes.

**The causes of price volatility are multiple and intertwined.**

There are numerous causes of agricultural price volatility. For agricultural price volatility on the domestic level, one can distinguish between:

- exogenous causes, mostly natural in origin (climate events, pests), that have a strong impact on agricultural production levels (notably in developing countries where intensification is low), and over which agricultural market actors have little influence;
- endogenous causes, that is to say causes within agricultural markets themselves, which are linked to (i) the behaviors of actors—producers, intermediaries, consumers, governments—who are in a situation of uncertainty, (ii) to the specific characteristics of these products (production times, cobweb effects, land rents, storage and transport costs) on the supply side as well as (iii) the characteristics of the demand (not very reactive because the product is a staple good, subject to export restrictions so as to ensure domestic supply);
- causes imported from other contexts (international price volatility) or other sectors over which agricultural market actors have little to no influence (exchange rate variations, changes in oil prices, the shift of investments from classic financial markets to agricultural markets, etc.).

The causes of agricultural price volatility, described here for domestic markets, also have an effect on international agricultural commodities markets. Thus, while international price volatility is a cause of imported volatility from the standpoint of countries or regions, it too has endogenous and exogenous causes.

These causes are intertwined and mutually reinforce each other during feverish periods. While some causes, notably exogenous causes, may be the source of a price hike, other causes can amplify this hike. For example, the sharp price hike in 2008 on the physical and financial markets of many countries seems to have been the result of a combination of several factors listed above (increased demand, natural hazards and a temporary supply deficit, a low level of stocks, an oil price spike, export restrictions, financialization on agricultural commodities derivatives markets, rising uncertainties).

**The causes of price volatility are likely to have a stronger effect in the future.**

The interplay of the fundamentals of the agricultural supply and the agrifood demand makes it so that agricultural price volatility is likely to be greater in the future. Indeed, food markets will remain tense because of rapid growth in demand (population growth, urbanization, the growth of agrofuel) and slower growth in the agricultural supply

(productivity reserves to exploit under the constraints of more costly fossil energy and respect for the environment). In short, the multiple causes mentioned above are likely to accentuate agricultural price volatility in the future.

- Exogenous causes. According to the Intergovernmental Panel on Climate Change (IPCC), climate change will very probably lead to the multiplication and aggravation of natural weather hazards.
- Endogenous causes (within the market). It is possible that the reduction in public stocks, added to the growing financialization of futures markets for foodstuffs will make price forecasts more difficult for the actors in these markets and, ultimately, lead to greater price volatility.
- Imported causes. Heightened trade interdependency (country accessibility, smaller transfer costs) could lead to greater sensitivity of domestic prices to the volatility of international prices. International price volatility could itself be increased by the fact that the countries that are influential in international trade are becoming increasingly sensitive to climate risks (overlapping of exogenous and imported causes).
- Causes imported from other sectors. The stronger link between the prices of food and energy products has increased the risk that instability in the oil and natural gas markets will be transferred to food products. Similarly, there is the risk that the growing financialization of agricultural markets and the fluctuations in exchange rates may exacerbate agricultural price volatility.

**Treating the causes of price volatility implies public intervention in conjunction with private mechanisms (the market alone is not enough).**

To contain agricultural price volatility, the choice of instruments should be made in function of the causes of volatility.

For instance, in theory, the market can be used to limit price volatility in the case of natural instability. The development of commercial trade is justified by the possibility of relying on the “law of large numbers” since deficits from one zone can be offset by surpluses in another zone. In this case, economic operators can use insurance-type instruments to cover their risks. Public intervention will nevertheless be necessary to compensate for market operation difficulties.

In the case of endogenous instability, however, only public regulatory intervention is an effective way to lessen uncertainty and its unwanted effects (control of foreign trade, stock management). Taking care of sufficient and stable volume supplies and stock is as important as price stability.

In practice, however, it is impossible to distinguish exactly what proportion of price volatility comes from natural, endogenous or imported causes. Public intervention aiming directly to limit agricultural price volatility is therefore necessary.

In all cases, to limit agricultural price volatility, it would be good to seek to improve agricultural market operations through public investments (infrastructures, information

systems) and through recourse to private mechanisms enabling better matching of supply to demand over space and time (private storage, warrantage, etc.).

**Acting on the international scale is necessary but insufficient (one must also intervene in domestic and regional markets).**

Several points argue strongly in favor of envisaging intervention on the international scale even though price instability is far from limited to this scale. Action can be taken on both its effects and causes.

Although the majority of the population in developing countries feed themselves with local products, rising prices on international markets have a serious effect on urban populations in heavily importing countries. In addition, although the relative stability of agricultural prices on international markets prior to 2007 did not have a stabilizing effect on the price of local products in domestic markets, the 2008 crisis showed that a sharp price spike could destabilize domestic markets. Some instruments, such as special safeguard mechanisms or the removal of import taxes, are used by vulnerable countries to protect themselves. They are, however, relatively constrained by the international trade rules established at the WTO, notably as regards tariff instruments. Even though LDCs are rarely brought before the WTO's Dispute Settlement Body (DSB), these rules should be relaxed for them. Systems for insuring against strong price hikes for importing countries are being studied, but the margin for action provided by these instruments drops with repeated shocks.

It therefore seems necessary to find the means to act on the causes of excessive price instability in these markets rather than merely attempt to offset their effects after the fact.

Several possibilities can be studied:

- Improve transparency of and access to market information, both in regard to stock levels and the various operators' positions equally.
- Foster the creation of public and/or private stocks in order to maintain a stock-to-consumption ratio that would reassure markets, and coordinate international actions in this area. These questions must be analyzed in greater detail.
- Supervise export restrictions. Export restrictions are legitimate tools for exporting countries that want to protect their populations from sharp price hikes. However, in a tense market, they help destabilize the market and accentuate price hikes. International coordination and the setting of rules on these measures are desirable; their implementation conditions require in-depth analysis.
- Harmonize and regulate commodity derivatives markets so that they best reflect physical fundamentals. The role and scope of excessive speculation in agricultural price volatility are highly controversial, especially since these markets have become very complex and opaque. Nevertheless, it seems that a consensus is emerging on the greater correlation between commodities derivatives following market financialization and on the need for some degree of regulation in derivatives

markets. The regulation movements underway in the United States and the European Union raise the question of global harmonization of regulations for these markets.

Once again, intervening in international markets will not be enough given the challenge of stabilizing the price of local products on domestic markets.

**Intervening in domestic and regional markets implies mobilizing a combination of instruments.**

The analysis of various national experiments revealed a certain number of cases in which intervention lowered price volatility and made decisive progress in the fight against poverty and food insecurity. In these cases, two price regulation instruments were used to keep prices within a dynamic band:

- buffer stock management (smoothing over time), and
- control of one's foreign trade (smoothing over space).

These instruments to regulate the operation of agricultural markets directly must not be envisaged in isolation, but as integral parts of an overall institutional environment, in addition to measures setting an ambitious overall policy for rural areas, and in collaboration with the private sphere. In all cases:

- The provision of public goods (infrastructures, transportation, communications) is necessary to facilitate market operations and create an environment that is conducive to the development of private activities.
- By lowering uncertainty and creating a conducive economic environment, direct public action on markets should facilitate the operation and development of private risk-coverage instruments.
- "Safety net" mechanisms aiming to ensure direct transfers to the most vulnerable households are necessary.

Thus, a combination of instruments is necessary. The instruments must notably act on both the causes and effects of agricultural price volatility, mobilize both public and private actors, and intervene on the national and international levels.

**The implementation conditions of market regulation instruments are crucial.**

The case studies conducted showed that certain conditions are crucial to the capacity of the instruments set up to limit agricultural price volatility effectively.

- Policy decisions must be based on solid expertise: in successful experiences, the intervention relied on a dynamic price band system based on international prices. It is necessary to adapt intervention levels constantly and avoid over-production.
- Managing intervention costs (and possible excess costs in the case of strong incentive measures) is a crucial consideration.

Price stabilization policy implementation conditions are decisive for these policies' capacity to limit price instability. Indeed, the case studies revealed situations in which policies aiming to limit price volatility turned out to be ineffective (no reduction in price volatility) or harmful (increased volatility).

Comparative analysis of the case studies showed that, in order to avoid these harmful effects, the government must:

- have sufficient access to the financial resources necessary to implement the announced policies;
- be able to monitor compliance with the policies set up by minimizing avoidance strategies; and
- be able to ensure that the policies set up are predictable so as to avoid crowding-out effects.

These three conditions (financial capacity, enforcement capacity, and predictability) depend on the capacity of the government (or, when appropriate, the public authorities of regional unions) to set up policies effectively and transparently.

One way to improve policy effectiveness and predictability is to create structures to foster consultation and negotiation between public and private actors. This must be accompanied by capacity-building programs so as to ensure that each type of actor has the ability to defend their interests (asymmetry problems).

#### **Some potential lines of action deserve further study.**

Analysis of national experience with lowering agricultural price volatility revealed a range of points that require further analysis.

- Reflection—unique to each nation and based on consultation among actors—on what constitutes “excessive” agricultural price volatility is necessary. When should price volatility be seen as abnormal, as socially unacceptable? This will make it possible to determine intervention levels.
- The cost of agricultural price regulation instruments is often put forth as an argument in favor of no intervention, notably when it comes to public stocks. However, few studies provide information on the benefits linked to the existence of these stocks: cost-benefit analysis must be developed for the various possible instruments. Consideration of all the inter-related factors in the economy calls strongly for the production of detailed analyses, and modeling would then make it possible to clarify the assumptions as to how the economy operates and synthesize the results.
- Analysis has revealed the importance of public and private partnerships in regulating agricultural prices. The analysis of these partnerships must be continued, notably in line with information dissemination (improving access to information so as to limit anticipation errors) and stock management (designing contractual frameworks to work with private operators to minimize the cost of public storage and crowding-out effects).

- Analysis has shown that, when prices skyrocket, the countries used a combination of border measures and buffer stock management. It is necessary to adjust WTO rules to encourage countries—particularly the poorest countries—to implement ambitious agricultural policies to fight food insecurity and poverty (policy space).
- The regulatory framework for financial markets—especially agricultural commodity derivatives markets—must be studied so as to define mechanisms that help limit speculative bubbles.
- International coordination and the setting of rules are desirable so as to improve transparency and available information, particularly on stocks, ensure the preservation of a stock-to-consumption ratio able to reassure markets, and provide guidance for export restriction measures. Their implementation conditions require in-depth analysis.
- It would be good to re-examine the complex question of the feasibility of levying extremely low taxes on transactions to both discourage excessive speculation and help the poorest countries finance their agricultural policies.