What public intervention(s) for market risk management in agriculture?

After synthesizing the results of the economic analyses carried on market risk management in agriculture, a complex and recurring object in the agricultural policy debates, we propose some thoughts to help guide political action. To begin with, this action must be directed towards the regulation (control) of market risk management rather than the physical markets. The implementation of this general recommendation requires the continuation of specific economic works.

Price volatility is not specific to the agricultural markets; we find it on all the commodity markets, even those of other classes of financial assets. Moreover, raw materials (including farm produce) are useful for optimal diversification of the portfolios of investments, including in a counter-inflationary strategy. The innovation in financial instruments opens up the possibility of investment in low-cost raw materials; financial funds have massively bought oil, metals and farm produce for a decade.

The dangers of a price policy
Price stabilization does not appear to be a tenable political goal in spite of the specificities of farm produce, in particular the emotional nature of their food dimension. Public intervention in view of a stabilization of the markets presents major dangers. Stabilization by objective price or min-max tunnel de facto creates a minimum price, likely to be manipulated as price support. In other words, possible market failure can be corrected by a policy which itself is failing. Additionally, economic analysis shows that while a stabilization policy for the agricultural markets is most often favourable to consumers, it is unfavourable to producers. Faced with a reduction in price volatility, farmers increase their production, causing a reduction in the average price. This reduction in the average price is finally more harmful to them than the reduction in the price dispersion around this average. The stabilization of agricultural income, by crop or by farm, is doubtless a better economic goal. It requires a joint assessment of the prices, yields and also of the input costs. In this respect, the land factor may be used, thanks to an adapted land policy which does not block farm leasing, in order to stabilize farm income (that is to say the income of the farmer rather than that of the landowner). In the same way, investment decisions can be used to mitigate the variability in farm income.

Is it necessary to develop stocking policies?
As the “regional” farm produce markets are more and more integrated, the issue of market risks in agriculture is an international one. In agricultural economics, the dominant analysis is that trade between nations combined with private stocks efficiently limit price variations resulting from exogenous supply or demand uncertainties. Is it necessary to go farther with a world governance based on public stocks? The experience of agreements on the subject is instructive and rather negative. International public stocks policies are difficult to implement, in particular because not all countries have the same definition of agricultural risks (in other words, the identification of the moment when it is necessary to stock or destock) and governments first worry about the volatility of prices on their own markets before looking at the international market. At the same time, the
regulation of prices by private stocking or aid to private stocking is unrealistic because difficult to organise on an international scale and economically inefficient.

On the other hand, a financial regulation of the markets should be envisaged if investors’ impact on volatility is evident and if the economic benefit of diversification is lower than the cost induced by the price volatility on the agricultural development of the developed, emerging and developing countries. A financial regulation is also justified to limit the systematic risk linked to the absence of chain compensation, the result of which would be drops in the prices of farm produce (therefore, extreme volatility).

Are risk markets in agriculture incomplete?
Are the risk markets so incomplete that the economic agents cannot protect themselves from the repercussions of the risk? There is no doubt that markets are incomplete, if only because there is little in the way of futures markets and insurance companies do not cover all the risks of agricultural production. The real question is whether they are too incomplete. We can distinguish the case of arable crops from that of animal products (cattle, pigs, poultry and milk) and from niche productions (for example fruit, vegetables, seeds). With regard to arable crops, nothing indicates that markets are “too” incomplete. The price of a single arable crop can lead to the formation of all prices of arable crops (through the expected common margin, the expected yields and the production costs with expected yield). Besides, the technical functioning of the futures markets, when they exist, is satisfactory. They functioned without failing during the major increase in prices in 2007 and during the big drop in 2008. That does not prevent the prices from temporarily deviating from the costs of production. But experience shows that markets quite quickly correct these deviations. In climate risk, individual insurance favours the creation of information about the level of risk, its pricing and management. But it is expensive because of the transaction costs and it loses efficiency in order to counter moral hazard or adverse selection (for example, big deductions).

Index insurance (climate for example) responds to these constraints. It is simple, cheap and without moral hazard. On the other hand, it loses in efficiency when the basis risk is high, that is to say when the index used is a regional average with a big dispersal of individual yields or when the index is a very local measure which does not reflect the situation of the geographically scattered producers. Finally, the systematic nature of some of the risks limits the “local” development of the insurance. The constraints of private reinsurance and / or the absence of public reinsurance may accentuate the limit of agricultural insurance.

On the other hand, the incompleteness of the risk markets is far clearer with regard to animal productions and niche products. It can be bound to a characteristic of the products as for the beef meat in Europe which remains a little standardized product, therefore difficult to finance. It may be linked to the existence of a sustainable public intervention, like in the case of milk. It may be due to producers’ risk management practices: absorption of the risk by bank credit and suppliers for swine production, or through product diversification for vegetables and even fruit (in a historical regulatory framework).

Priority to the management of catastrophic risks
Public intervention has to concentrate on the so-called “catastrophic” situations, the causes of which may be natural (climatic, health) or market (institutional shocks, series of market failures, panic among private operators). “Unfortunately”, it is extremely difficult to objectivize catastrophic situations because they partially depend on the existence or not of instruments deprived of risk management. Often called disasters or crises, these situations are never clearly defined, beyond the definition by the World Trade Organization (WTO) for which a “disaster” corresponds to a loss of production of more than 30% with regard to the average of the last three years. They pertain to real conditions bound to health or climate-related events and frequently institutional ones (embargos for example). The cultural and political aspects also influence the perception of exceptional situations but without a catastrophic nature.
What directions for the management of agricultural risks?
Using this information from the literature, it seems that a public policy for the management of specific agricultural risks must first attempt to provide operators with the unit means of risk management (price, yield, quality, production cost) rather than try to stabilize prices through direct or indirect public intervention. In this way, farmers can move towards a stabilization of their income via a proactive technical and financial approach. They will then perform their basic job, the management of specific agricultural risks.

Four areas of thinking for public policies can be put forward. First of all, monitor the development of the private risk market (financial reference markets, insurance, risk management derivatives on the over the counter (OTC) market). In parallel, it is necessary to implement financial rather than regulation, for a control of the systematic risks bound to the mechanisms of investment, for a control of insiders’ operations (real separation of bank activities in particular) and for a control of the impact of investment funds by cross-volatility. The implementation of public safety nets “integrated” into the private market in case of disaster cannot be bypassed but the definition of the phenomena must be objectivized. Last, the implementation of mass deterrent instruments must be envisaged, creating a political dissuasion to avoid the transfers of instability from the country which intervenes to the one which does not intervene (safeguard clause). However, it must be said that several economic issues still have to be addressed in order to optimize the practical approach to implementation of these measures.

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