



Agricultural Risk Management: A Holistic Approach

Highlights

- Farmers are exposed to a variety of risks that can lead to income fluctuations.
- Risk management policies should consider all factors that jointly impact farm incomes, rather than concentrate on one single factor, such as price or yield.
- Governments have a role to play in managing the risk of catastrophic events that have a low probability of occurrence but high impact on many farmers.
- Policies should not frustrate farmers' own strategies to address normal business risk, however, nor should they crowd out market-based solutions, such as private insurance and forward contracts.



What's the issue?

The agricultural sector has always been exposed to price volatility – indeed, swings in product and input prices tend to be larger in agriculture than in other sectors. This is partly due to the reliance of production on natural conditions and weather influences, and partly to the specificities of agricultural commodity markets that can lead to sharp reactions by prices to changes in supply. In general, price spikes are more likely than troughs, in part because most agricultural products can be stored when prices are low and sold later.

Disease outbreaks and adverse weather events, such as floods and droughts, also contribute to supply volatility and can negatively impact producer incomes, markets, trade and consumers. These are expected to become more frequent as a result of climate change.

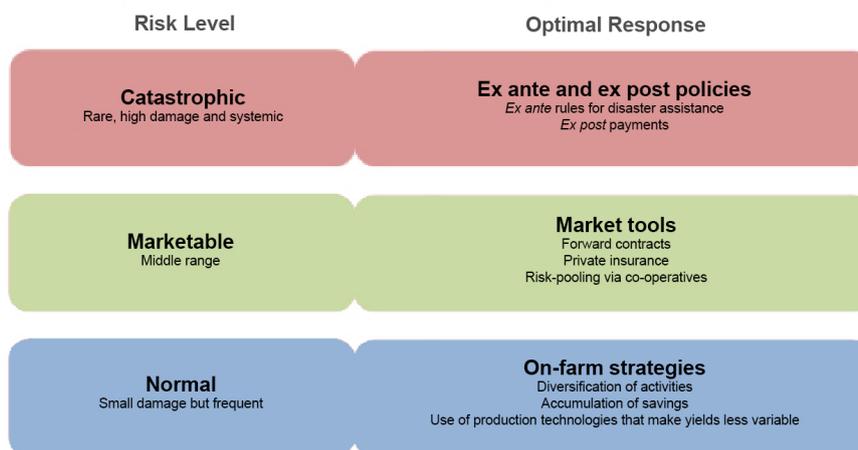
Risks in agriculture are interconnected, sometimes compounding and sometimes offsetting each other. If the prices of inputs (such as fertiliser) and outputs (such as agricultural commodities) move in the same direction, for example, the impact on net returns is reduced. Production risks can be partially offset by price movements: when crop yields are low but prices are high, revenues are more stable. It is the net risk effect on income that matters.

OECD analysis of risk management in agriculture has identified three layers of risks which require different responses:

- **Normal variations in production, prices and weather do not require any specific policy response.** These can be directly managed by farmers as part of normal business strategy, via the diversification of production or the use of production technologies which make yields less variable. Income-smoothing through tax instruments is also part of normal risk management.
- **At the other extreme, infrequent but catastrophic events that affect many or all farmers over a wide area will usually be beyond farmers' or markets' capacity to cope.** A severe and widespread drought is one example. The outbreak and spread of a highly contagious and damaging disease is another. Governments may need to intervene in such cases.
- **In between the normal and the catastrophic risk layers lies a marketable risk layer that can be handled through market tools,** such as insurance and futures markets, or through co-operative arrangements between farmers. Examples of marketable risks include hail damage and some variations in market prices.

Risk management tools are essential to enable farmers to anticipate, avoid and react to shocks. Efficient agricultural risk management systems will preserve the standard of living of those who depend on farming, strengthen the viability of farm businesses, and create an environment which facilitates investment in the farming sector.

OPTIMAL RISK MANAGEMENT STRATEGIES FOR EACH RISK LEVEL



Source: OECD (2011), *Managing Risk in Agriculture: Policy Assessment and Design*, <http://dx.doi.org/10.1787/9789264116146-en>.



What should policy makers do?

A broad approach is needed that recognises how different sources of risk, different strategies and different actors – both public and private – interact.

- **Governments should adopt a holistic approach to risk management**, assessing all risks and their relationships to each other, and avoiding focusing on a single source of risk, such as prices.
- **Governments should increase co-operation and communication with stakeholders** – farmers and veterinarians included – in order to understand the capacity of farmers to manage risk and the additional resources needed to improve responses.
- **Agricultural risk management policies should focus on catastrophic risks that are rare but cause significant damage** to many farmers at the same time. The procedures, responsibilities and limits of the policy response – including explicit triggering criteria and types and levels of assistance – should be defined in advance of the event.
- **Policies should not provide support for the management of “normal” risk**. This should be the preserve of farmers themselves. Minimum intervention prices or payments that are triggered when prices or returns are low may actually be counter-productive, as they tend to induce more risky farming practices.
- **Policies should also avoid crowding out the development of private insurance markets by subsidised insurance**. Subsidising insurance can be

costly for governments and has not deterred pressure for additional ad hoc governmental assistance after a catastrophic event.

- **Governments should play a primary role in facilitating good “start-up” conditions**, by providing information, regulation and training for the development of market-based risk management tools such as futures, insurance and marketing contracts.



Further reading

This document is based on the evidence and analysis found in a number of OECD reports and papers published in recent years:

- **Risk Management of Outbreaks of Livestock Diseases**
- **Smallholder Risk Management in Developing Countries**
- **Managing Risk in Agriculture: Policy Assessment and Design**
- **Risk Management in Agriculture in Australia, Canada, the Netherlands, New Zealand and Spain**
- **A Comparative Study of Risk Management in Agriculture under Climate Change**

A complete list of relevant books and papers can be found at <http://oe.cd/taking-stock> or on the Agriculture Ministerial website at www.oecd.org/agriculture/ministerial.