Chapter 12
Dealing with Volatility in Agriculture: Policy Issues

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Abstract The chapter illustrates instruments available to deal with volatility, indicating advantages and disadvantages based on implementation experience. The role of market instruments as a product safety-net and that of decoupled payments is to make farms less vulnerable to fluctuations in prices and to provide an income safety-net independent of the market situation. Current CAP instruments need to be adjusted to achieve the objectives of market stability in light of the medium-term market perspectives, in the most effective and efficient way. A concluding paragraph indicates broadly what type of instruments could be suitable in a post-2013 context.

12.1 Reasons to Address Volatility

From an EU perspective, institutional reasons for addressing volatility lie within the original Common Agricultural Policy (CAP) objectives of stabilising agricultural markets and ensuring a fair standard of living for farmers from the Treaty of Rome, which have been left untouched by the Lisbon Treaty and thus remain valid for the future. The policy mix in place to achieve these objectives has been regularly adapted over the last decades in line with a changing economic, social and political environment.

The issue of volatility is central to today's CAP debate. The reason is twofold. On the one hand, the medium-term perspectives for agricultural markets are expected to be characterised by a gradual recovery supported by structural factors like the growth in global food demand, the development of the biofuel sector and the long-term decline in food crop productivity growth, which would combine to sustain prices above historical levels. But this market outlook faces a number of uncertainties. They concern in particular the pace of recovery from the financial and economic crisis (with its impacts on exchange rates, disposable income, asset values

Disclaimer: The views expressed in this chapter are those of the author and should not be attributed to her affiliated institution.

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and energy prices); future changes in the policy environment (e.g. the outcome of the current Doha Development Round, the policies on renewable energy), as well as the path of technological change, in particular, productivity growth. All these factors could have far-reaching implications for the future pattern of agricultural markets.

On the other hand, the move towards greater market orientation has exposed European farmers to higher market volatility, and they are also more sensitive to changes in the macroeconomic environment (like GDP and/or exchange rate fluctuations). Instability on world commodity markets may also permeate to European Union (EU) markets as a consequence of greater trade openness.

The objective of this chapter is to illustrate the possible role of policy instruments in dealing with volatility. Thus, it starts by presenting existing and past policy instruments which have been used to deal with volatility, outlining their advantages and disadvantages (Section 12.2), then it shows how volatility is currently dealt with within the CAP (Section 12.3) and, based on experience from implementation, suggests in broad terms what instruments could be suitable in a post-2013 context (Section 12.4).

12.2 Instruments to Deal with Volatility

12.2.1 Price Support

For a long time guaranteed institutional prices were the main tool within the CAP to ensure support for farmers. Institutional prices set for agricultural products enabled domestic prices to be kept relatively high and stable in comparison to those in the world market. Moreover, in order to avoid increasing competition from imports, support prices had to be accompanied by a certain degree of border protection (e.g. tariffs). If on the one side EU markets were isolated – and thus protected – from external shocks, on the other, high domestic prices boosted production, which in many cases exceeded domestic uses. As a consequence, increasing amounts of production put market balances into risk (see Fig. 12.1).

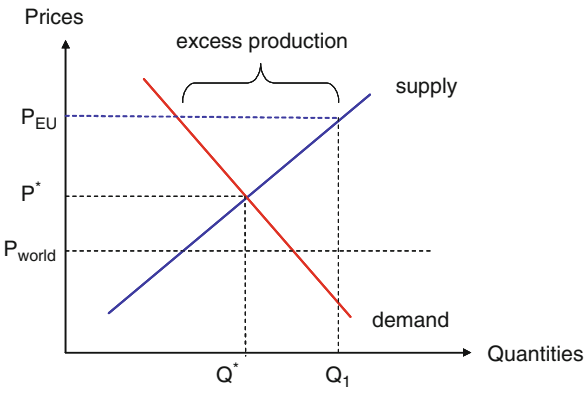


Fig. 12.1 Price support

To re-establish equilibrium, quantities had to be withdrawn from the domestic market through public intervention or exported to third countries. In such cases export refunds were paid to bridge the gap between EU and world market prices. Increasing stocks cumulated for many sectors (e.g. cereals, butter, wine). As a result, budgetary costs increased steadily, leading to the budgetary crisis of the 1980s and the ensuing reform in the mid-1990s.

Through the various reforms (1992, 1999 and 2003), and with support switching from product to producer support through decoupled payments, intervention systems have been reviewed accordingly, with intervention prices being progressively reduced and aligned to world prices. Public intervention today represents a targeted product safety-net (i.e. private and public storage). Institutional prices are set at a level that ensures they are used only in times of real crisis. However, intervention is justified under conditions of *force majeure* (e.g. extreme weather) to compensate farmers for high income variability due to extreme variations in prices (e.g. Arts 70–71 of Reg. 73/2009 on direct payments).

12.2.2 Supply Control

Quantitative restrictions, for example sugar and dairy quotas, had to be introduced in order to deal with market imbalances – including those created by high price support – as well as to contain budgetary costs.

Although it is true that in periods of over-production quotas contributed to reduce budgetary costs and to improve market balance, the rigidity they create has detrimental effects on price stability. The impact on prices of any shock on the demand (or supply) side is swelled by the fact that supply cannot adapt to these changes (see Fig. 12.2). This drawback is of particular importance for agricultural markets.

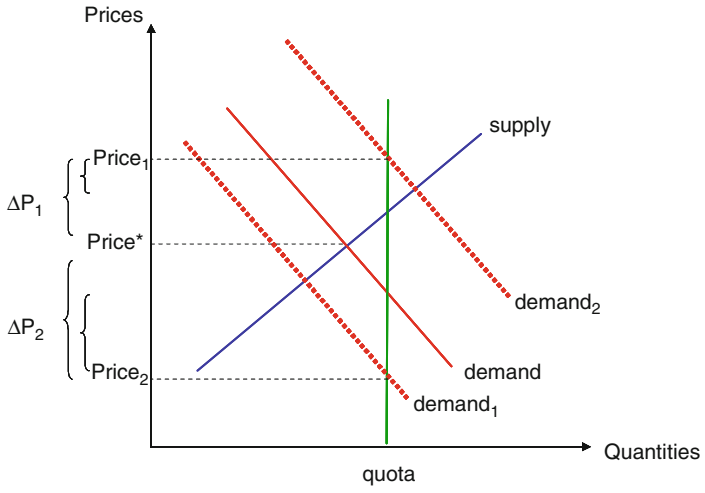


Fig. 12.2 Quotas

The recent dairy crisis provides a good example. Agricultural prices declined sharply from September 2008 until May 2009 following the demand drop resulting from the economic crisis and dairy farmers suffered more than other actors in the dairy food chain. This can be explained mainly by the rigidity of the sector, in particular by constraints hampering supply response to price signals.

Other factors played a part as well, among them a low price transmission along the food chain, lack of transparency and lower bargaining power with respect to other actors in the chain. These elements have been examined by the dairy High Level expert Group (HLG) on milk, which in its final report (European Commission, 2010) identified, in contractual and inter-professional arrangements, a way to increase the bargaining power of farmers and to improve the food chain organisation.

12.2.3 Stability Through Price Guarantee – Counter Cyclical Payments

Counter cyclical payments are implemented in the United States. They have been designed to support and stabilise product-specific revenue, and indirectly income, in years when current prices for historically produced commodities are lower than target prices (Dismukes and Coble, 2007). Thus, when market prices fall, payments increase. These programmes provide a payment when the actual price falls below a certain reference level, protecting farmers against price risks. A farmer gets no compensation through this scheme for low yields, as the price compensation is only paid for the actual yield.

Counter-cyclical payments have several major drawbacks. The unpredictability of budgetary expenditures and insulation of farmers from market signals are two of the best-known. They are also problematic from a WTO point of view as they are linked to current prices, and thus trade distorting.

The biggest drawback is the lack of any link to real farm income, since they do not take into account the total yield and the farm cost of production. When the yield is low, or when input costs increase but the market price of the related crops does not increase proportionally, the programme fails to deliver its targeted aim – it guarantees price for a specific crop but not income.

Figure 12.3 below shows how counter-cyclical payments work in the US model, introduced as an additional safety-net to the Loan Payments Programme by making up the difference between low commodity prices and pre-determined target prices.

12.2.4 Stability Through Decoupled Support

Decoupled direct payments have been introduced with the 2003 CAP reform. They can be seen as a way to stabilise and enhance farm income by guaranteeing a basic fixed income support to farmers and as such representing a producer safety-net. This is illustrated in Fig. 12.4, where real prices and revenues per hectare in the

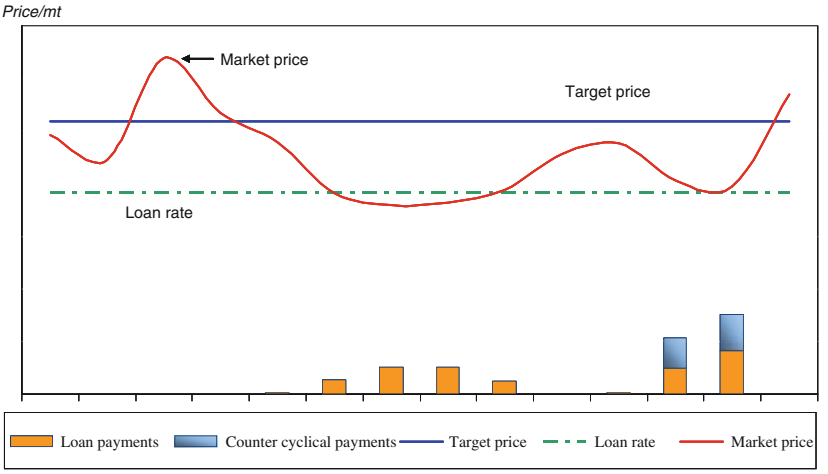


Fig. 12.3 Counter-cyclical payments

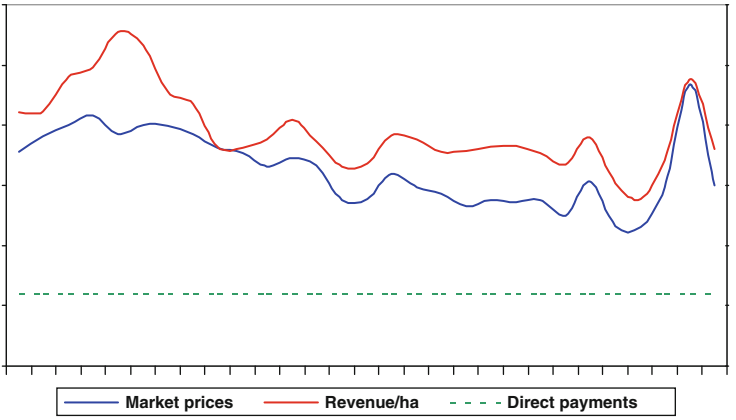


Fig. 12.4 Decoupled support

EU during the last 30 years are put together with the EU average value of direct payments.

This type of income stabilisation through direct payments makes farms less vulnerable to fluctuations in prices providing an income safety-net independent of the market situation. Without such stabilisation many farms, including economically viable enterprises that could potentially respond to the long-term demands of the sector, may come under threat and could be forced out of business. Reducing the income variability gives these farms the necessary liquidity to survive crises, reduces investment risks and, thereby, contributes to maintain economically sound farms in the sector in the long-run.

Results from simulations (ECNC, LEI, ZALF, 2009) showed that a sudden termination of direct payments would lead to disruptive income losses that could force a large number of farmers out of the sector. This supports the idea that income support smoothes out the structural adjustment process and allows a gradual adaptation of the sector and the rural areas to the new conditions, avoiding disruption to existing structures.

12.2.5 Stability Through Income Guarantee

In the EU the idea of an income stabilisation tool has been floating since the 2003 CAP reform. One option put forward in the 2005 Communication on risk and crisis management in agriculture examined an income stabilisation tool. Under this option farmers would be compensated for a serious fall in income, in particular a fall of more than 30%.

The Commission[1] made an analysis of the income stabilisation tool using FADN data for EU-25 in the period 1998–2006. The farm net value added (FNVA) was used as income indicator. Estimates have been calculated on the share (%) of farms that would be eligible for compensation, and budget needed for 70% compensation for EU-25 in the period 1998–2006 (see Fig. 12.5).

As can be seen in Fig. 12.5, the implementation of this instrument may be subject to a high yearly variability in terms of expenditure, which may also have an impact on potential recipients in terms of production behaviour. Other challenges

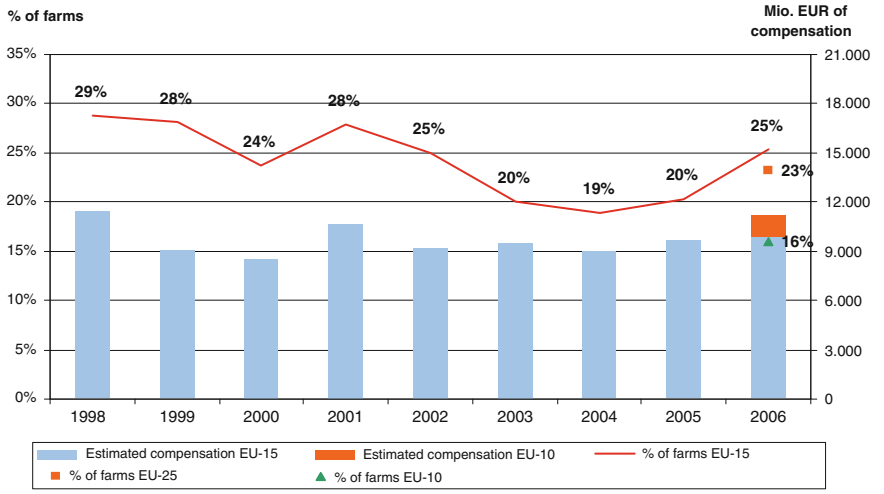
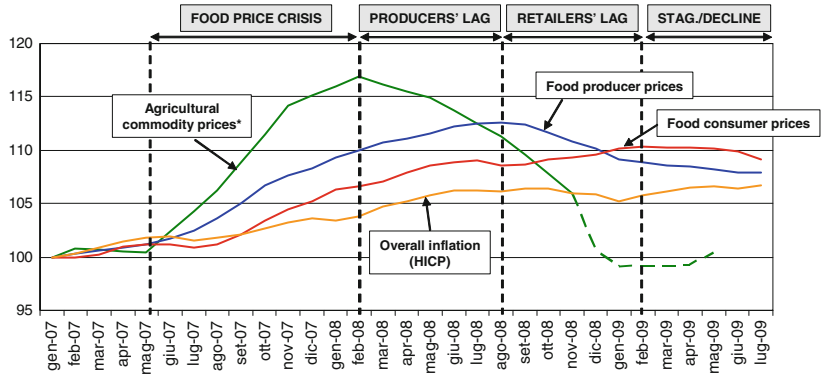


Fig. 12.5 Income stabilisation tool

[1] Directorate for Agriculture estimates calculated using FADN data.



** Quarterly data for agricultural commodity price index; from January 2009, the index has been extrapolated based on price levels of major commodities available in Agriview's database*
Source: European Commission – DG Economic and Financial Affairs, based on Eurostat and Agriview data

Fig. 12.6 Short-term price evolution along the food supply chain

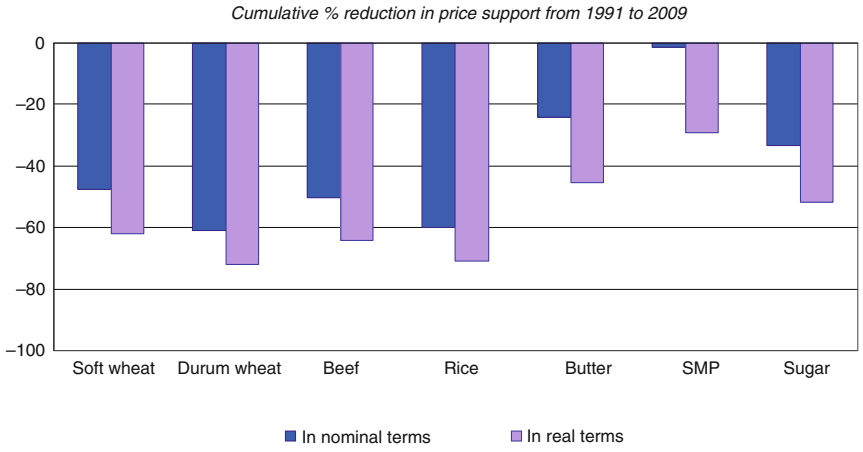
for applying an income stabilisation tool at EU level are related to budgetary needs – this tool would require on average approximately 10 billion euros per year for EU-25 – also the organisational arrangements could also be complex to implement, both at EU and MS levels. Certainly, these challenges invite the comparison between such a scheme and decoupled support in terms of transfer efficiency.

A series of other questions needs to be addressed on its implementation: should it be an EU-wide tool or a more targeted one, articulated according to different situations across the EU and across sectors?; should it be a fixed or variable (e.g. like a top-up to compensate income variability)?; should it be financed exclusively by the EU or also by MS' own money?

12.2.6 Improving the Food Chain

The improvement of the functioning of the whole supply chain could be seen as an alternative way to indirectly address the issue of volatility because it may contribute to market stability. This is possible improving transparency and allowing an efficient price discovery along the supply chain.

The figure below illustrates how price transmission along the food chain is channelled through the different actors. Using price indexes (January 2007=100), it exclusively shows variations in the recent past. It should be noticed that after a steep positive trend, commodity prices at farm level already started a downward trend in February 2008, but prices paid by the industry and retailers showed a lag of 6 and 12 months, respectively. These time lags indicate that farmers were the actors along the food chain to have suffered most the price crisis since its very beginning.



Source: European Commission - DG Agriculture and Rural Development

Fig. 12.7 Reductions in EU price support, bringing EU prices in line with world prices

These instruments have been successfully implemented in certain sectors (fruit and vegetables and wine) for a long time. In particular, measures aiming to promote the creation of farmer producer organisations (POs), inter-branch organisations (IBOs), as well as co-financing operational programmes. A series of competition rule derogations are granted. Such instruments tend to have strong sector-specific characteristics, reflecting the structure of the industry.

12.3 The CAP Today

The core element of the latest CAP reform process has been the greater emphasis placed on competitiveness and market orientation, with a decline in support for products and their prices in favour of support for producers and their income. Effectively, it meant the separation of the income support component (through de-coupled payment) from the market stabilisation component (through intervention). Intervention became less relevant with the increased role of world markets, flexibility in farmers' production choices and changes in supply chains and demand patterns. In this context, market stability is ensured, allowing the efficient functioning of markets, stimulating its development and transparency and facilitating participation of actors. The reform process also implied a move from policies concentrated mostly on commodity markets to horizontal instruments, which can benefit differentiated niche markets and a wide range of market actors.

Historical trends in EU prices highlight the results of this market orientation process. In most commodities, EU market prices have been decreasing over the last 15 years and today they are close to world prices.

In the same fashion, trends in EU prices for most commodities mirror those of world prices because markets are much more connected, but this higher "exposure" to market changes and trends increased beyond what was previously foreseen. This was obvious during the commodity price boom in 2007 and then during the price slowdown that followed the economic crisis in 2009. On both occasions, prices showed a historically high volatility, with very sharp variations in short periods of time.

The issue is now whether the current CAP instruments can continue to achieve its objectives in the light of the medium-term market perspectives in the most effective and efficient way, and what changes are needed to ensure them.

From the perspective of increased price volatility and climate change, active risk management will be increasingly important for farmers. The CAP already possesses several tools that address risks that farmers face. Firstly, there exists the possibility of subsidies for farmers that subscribe to crop, animal and plant insurance against adverse climatic events, and animal and plant diseases, creating mutual funds for combating animal and plant diseases, and environmental incidents. Secondly, there are special risk and crisis management measures for fruit and vegetables and wine: supporting (through producer organisations or national envelopes) production planning; concentration of supply; promotion of products; green harvesting; non-harvesting, harvest insurance, market withdrawals, free distribution, promotion and communication, mutual funds, potable alcohol distillation, crisis distillation, by-product distillation. Lastly, two measures address production risks among those of a Rural Development toolkit: introducing appropriate prevention measures against natural disasters in agriculture and forestry; and restoring agricultural and forestry production potential damaged by natural disaster (Measure 126 and 226), and "Vocational training and information", where risk management could be addressed as one topic (Measure 111).

Undoubtedly, the current reform path towards better effectiveness and efficiency must continue, while addressing in parallel new emerging issues.

The emergence of the biofuel sector in the United States and its impact on markets is one of the factors contributing to the expected increased market volatility, together with increased demand and speculation (see Baffes and Haniotis, 2010 for a detailed analysis of factors determining the latest prices hikes). While the biofuel sector is foreseen to reinforce the link between agricultural commodities and energy prices (both on the supply and demand side), thus contributing to higher price volatility, climate change may also lead to a significant increase in production risk. In this context agricultural prices would follow movements of non-agricultural prices (especially energy and minerals) much more closely, leading to a double squeeze of farmers' income both on the revenue and the cost side.

12.4 Volatility Instruments in a Future CAP

Based on what has been examined in preceding paragraphs, we can assert that thanks to progressive reduction of support prices, intervention systems today represent a targeted product safety-net, which is triggered only in exceptional circumstances

and is no longer a structural outlet for farmers (e.g. dairy crisis experience). However, there is still room for improvement of the various intervention systems in place, to render them more efficient, and easy to implement promptly and control in case of crisis.

Since quotas generate rigidity in production and greater price volatility, any shock on the demand (or supply) side is amplified by the fact that supply cannot adapt to these changes. In a more market-orientated context, like that of the CAP post-2013, quotas cannot be seen as a solution to the market problems faced by the sector today. Phasing-out remains the least disruptive way of removing them.

Other instruments may complement intervention since they address sources of uncertainties and farm income variability, such as farmers' low bargaining power and transparency. A careful analysis of the possibilities for extending certain instruments designed to improve the formation of value added along the food chain is essential to contribute to market stability.

Decoupled direct support, which constitutes the bulk of our agricultural support provides a producer safety-net to our farmers, which is essential for farm economic viability. Effectively, it contributes to ensure a certain farm income stability which, in combination with cross-compliance, promotes sustainable farming activity. Nevertheless, there is place for adjustment and convergence within and across MS. It is no longer justified to have a distribution amongst farmers based on historical production and it is also pertinent to look at the rebalancing of direct payments among Member States. The difficulty in deciding the degree and the speed of such harmonisation has been amply demonstrated by the Impact Assessment of the Health Care (HC) CAP reform.

An income stabilisation tool could be seen as a more targeted measure than current decoupled direct payments in achieving market stability, making the price and production volatility more tolerable for farmers overall. However, its implementation raises the important questions of how to implement such a system and be effective and efficient, given the diversity of sectors and currently applied risk management and financial practices across MS.

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