Chapter 10: Efficiency, Coherence and Relevance

**Evaluation Question 12:** To what extent are the CAP measures applicable to the cereals sector after the 2003 reform efficient in achieving the objectives of these measures?

**Evaluation Question 13:** To what extent are the CAP measures applicable to the cereals sector after the 2003 changes coherent with the overall concept and principles of the 2003 reform of the CAP and with the overall EU objectives?

**Evaluation Question 14:** How far do the objectives aimed at correspond to the needs of the cereal producers and to those of the cereal users?

**Evaluation Question 15:** To what extent does the implementation at EU level of the CAP measures applicable to the cereals sector provide added value given the objectives of the policy and the reform?

### 10.1 Interpretation of the questions

The principle of efficiency is defined as the best relationship between resources employed and results achieved. Overall, CAP policy objectives have remained fairly consistent over the years although, as Chapter 3 described, the balance of emphasis has shifted since the 2003 MTR and subsequent reforms away from market support towards supporting producer incomes and sustainability objectives. In assessing whether the measures have been efficient in achieving their goals, there is a strong overlap with a discussion of coherence and hence the analysis also addresses the extent to which the measures have been coherent with the guiding principles of reforms since 2003, including changes made under the Health Check and overall EU objectives.

Coherence is defined as the extent to which complementarity or synergy can be found within a programme and in relation to other programmes and we assess whether measures applied in the cereals sector have been synergistic between the different policy objectives, drawing heavily upon the conclusions of earlier chapters. These refer back to the global objectives since the 2003 reform of the CAP outlined in Chapter 3. These are described in the next section, but may be summarised as follows: the promotion of market orientation, increased competitiveness, maintaining fair producer incomes, enhancing the sustainability of agriculture and simplification.

We consider, as relevant, the degree to which these objectives correspond to producer needs, which we interpret first and foremost as the provision of a safety net to support their incomes. For end-users, we refer back to earlier chapters where needs are assessed directly in relation to EQ2 and EQ3 on consistency and the stability of supplies. A further aspect in interpreting end-user needs is in terms of operating in a liberalised and demanding environment.

We conclude with analysis of the extent to which the CAP measures in the cereals sector add value to the EU as a whole, focusing upon the externalities in other agricultural sectors and in downstream processing. Table 10.1 below presents the main judgement criteria, indicators and data sources relevant to EQ12-EQ15.

### Table 10.1: Judgement criteria, indicators and data sources (EQ12 to EQ15)

<table>
<thead>
<tr>
<th>Judgement Criteria</th>
<th>Indicators</th>
<th>Data Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>The extent to which the objectives were achieved with a reasonable use of resources</td>
<td>Changes in budgetary expenditure allocated to the measures</td>
<td>DG Agri budgetary data</td>
</tr>
<tr>
<td>Stabilisation of the market (availability of supplies)</td>
<td>Reference is made to analysis under EQ1-EQ3</td>
<td>Reference is made to analysis under EQ1-EQ3</td>
</tr>
</tbody>
</table>


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10.2 Relevant CAP measures

The main CAP measures relevant to this chapter may be summarised as follows:

The original objectives of the CAP (Title II, Art. 39, TFUE, 2010, ex-Art. 33 of the Treaty of Rome) were "(a) to increase agricultural productivity […] by ensuring the rational development of agricultural production […]; (b) to ensure a fair standard of living for the agricultural community; (c) to stabilise markets; (d) to assure the availability of supplies; and (e) to ensure that supplies reach consumers at reasonable prices."

The MTR, Council Regulation (EC) No. 1782/2003, introduced decoupling, combining payments made through many coupled aids. It stressed the promotion of food quality and enhancement of competitiveness, and made the decoupled payments conditional upon cross compliance. Among the products for which coupled aids were maintained was durum wheat, for which a specific supplement was paid for the cultivation of good quality output in traditional production areas.

The Health Check, Council Regulation (EC) No 72/2009, continued the simplification of policy intervention in the cereal sector. A particular focus was the system of public intervention buying, which had been reformed for maize under Council Regulation (EC) No 735/2007 through the introduction of limits to maize intervention stock purchases. The Health Check set intervention stock purchases at zero for other feed grains (barley and sorghum) and durum wheat to facilitate farmers’ responses to market conditions, while retaining intervention as a safety net. It also abolished the starch production refund to reflect the changes in cereal markets.

10.3 Our hypotheses

In terms of the optimal use of resources, we assess how budgetary expenditure has evolved across the cereals sector and the implications from the perspective of cost- and time-efficiency. In addressing whether changes to measures are coherent with the aims and principles of the reform, this analysis also highlights any areas of policy inefficiency, namely in the form of deadweight effects and unintended side effects.

We first focus on the effect of decoupling, where the transition from coupled aids to the decoupled SPS reduced cereals-specific expenditure. As part of this analysis, the case of durum wheat support is particularly instructive, as durum wheat was distinct from the other cereals in that it experienced a larger reduction in specific support over the period under review. The case of maize farming is also assessed in view of differences in coupled

3 Deadweight is defined as effects which would have arisen even if the intervention had not taken place. Deadweight usually arises as a result of inadequate delivery mechanisms, which fail to target the intervention’s intended beneficiaries sufficiently well. ’Evaluating EU Activities, A practical guide for the Commission services’, DG Budget, July 2004.
payments across MS over the same period. Both examples serve to illustrate how far policy aims and principles were met.

We then assess expenditure on intervention and export refunds in terms of cost efficiency and policy effectiveness. Both instruments are assessed as to whether the reforms were consistent with the objective of achieving a safety net. Our hypothesis regarding the decision not to offer export refunds is that EU cereal producers are no longer constrained by WTO limits imposed on subsidised exports, thereby implying opportunities to exploit comparative advantage.

It should be noted that our discussion frequently refers to Article 68/69 measures (described in Chapter 3). We hypothesise that they have increased the perceived complexity of CAP measures and their administration, offsetting some of these gains made in terms of overall efficiency.

### 10.3 Efficiency of the measures

#### 10.3.1 Decoupling and the relevance for cereals

Table 10.2 presents financial report data, published annually by the European Agricultural Guarantee Fund (EAGF) and its predecessor, the EAGGF Guarantee Section. From 2006-2010, the data allows us to distinguish between annual expenditure on direct aids and the amount allocated to cereals, and these are shown in relation to total agricultural spending.

The data reveal that the introduction of decoupling had cut expenditure on crop area payments (made to cereals, oilseeds and protein crops) from €25.8 billion in absolute terms in 2000 to €2.8 billion in 2010. Decoupled expenditure on the SPS scheme, meanwhile, had doubled from the time of its introduction in 2006, rising from €14.5 billion to reach €29.1 billion by 2010. The data are on total expenditure and imply a clear cost-reduction in the administration of cereal-specific measures. The table also provides annual spending on rural development to put in context the shift in expenditure towards sustainability objectives over the period.

<table>
<thead>
<tr>
<th>Table 10.2: Evolution of EAGGF/EAGF direct aids and cereal items (billion Euros, percentage of EAGF spending)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Single Payment Scheme</td>
</tr>
<tr>
<td>Single Area Payment scheme</td>
</tr>
<tr>
<td>Crops area payments</td>
</tr>
<tr>
<td>of which arable</td>
</tr>
<tr>
<td>of which cereals</td>
</tr>
<tr>
<td>Arable as % of EAGF spending</td>
</tr>
<tr>
<td>Cereal as % of EAGF spending</td>
</tr>
<tr>
<td>SPS/SAPS as % of EAGF</td>
</tr>
</tbody>
</table>


Note: The crops area payments are for cereals, oilseeds, protein crops, grass silage and set-aside.

In EQ1 (Chapter 4), we hypothesised that the transition from coupled to decoupled payments and the reduction in the remaining coupled aids altered the relative profitability of alternative crops, which would have been reflected in changes in the choice of crop and greater specialisation. Consequently, planting decisions should give a greater weight to
market-based influences. Further, we examine the objective of maintaining producer incomes. Our analysis for EQ6 (Chapter 6) concluded that the reforms have been coherent with maintaining producer incomes per hectare in nominal terms via a stable level of coupled plus decoupled aids per hectare, but coupled plus decoupled aids per hectare fell slightly in real terms. However, the “favourable world market price environment”, specifically mentioned in the recital to the Health Check reform, meant that total incomes per hectare increased in real terms in most MS. Thus, external factors, rather than policy reforms allowed this objective to be realised.

In the recital to the MTR, it was stated that the objective of “Enhancing the competitiveness of Community agriculture and promoting food quality and environment standards [would] necessarily entail […] an increase in the costs of production for agricultural holdings in the Community”. The discussion of direct production costs in Chapter 6 reveals that the measures were successful in enhancing competitiveness. It should be noted that for the three main cereal crops, average direct costs per tonne generally fell in real terms between 2001 and 2010 in the 10 case study MS.

10.3.2 Durum wheat support

Among cereal crops with specific coupled supports, the reforms should have led to a fall in their areas as the aids were lowered. The reduction in such aids was greatest for durum wheat in EU-15 MS, and its area did decline. However, this conclusion has to be tempered by some MS’ retention of coupled supports via the application of Articles 69 and 68.

Table 10.3 reveals that expenditure for durum wheat measures (excluding Article 69/68 aids) fell 87% from €1,006 million in 2000 to €128 million in 2010; of which support for high quality output (via the durum wheat quality premium) comprised the largest remaining single payment totalling €81 million. Production support was cut substantially, declining from over €1 billion, on average, from 2000 to 2005, to €47.5 million by 2010, but some specific payments continued to be paid from 2006 to 2010 in recognition of the role of production in traditional areas. From 2006 onwards, there were no payments made to producers in non-traditional areas.

Table 10.3: Evolution of EAGF/EAGGF expenditure on durum wheat measures (€ million)

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-traditional</td>
<td>2.0</td>
<td>9.3</td>
<td>8.4</td>
<td>8.4</td>
<td>9.4</td>
<td>6.1</td>
<td>2.3</td>
<td>:</td>
<td>:</td>
<td>:</td>
<td>:</td>
</tr>
<tr>
<td>areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional areas</td>
<td>1,004</td>
<td>1,014</td>
<td>1,191</td>
<td>852.5</td>
<td>1,103</td>
<td>977.5</td>
<td>396.0</td>
<td>55.8</td>
<td>46.1</td>
<td>49.1</td>
<td>47.5</td>
</tr>
<tr>
<td>Quality premium</td>
<td>2</td>
<td>7</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,006</td>
<td>1,024</td>
<td>1,199</td>
<td>860.8</td>
<td>1,113</td>
<td>1,109</td>
<td>500.8</td>
<td>138.1</td>
<td>125.3</td>
<td>136.7</td>
<td>128.1</td>
</tr>
</tbody>
</table>


Impact on areas: Table 2.13 of Chapter 2 revealed a 22.2% decline in the EU-27 total durum wheat area between 2000-2003 and 2007-2010. This resulted entirely from a fall from 3.68 to 2.74 million hectares in traditional production areas, while non-traditional areas rose from 0.15 to 0.24 million hectares. Thus, the MTR reform in specific aids failed to meet its objective of “maintain(ing) the role of durum wheat production in traditional production areas while strengthening the granting of the aid to durum wheat respecting certain minimum quality requirements”.

In Chapter 6, we found that the counterfactual of full decoupling of the coupled aids would have had the greatest proportional effect on durum wheat areas among cereals (Section
Moreover, our analysis in Chapter 5 found increasing evidence of consolidation, implying greater efficiencies in production. The contrast between the rise in non-traditional areas, without coupled aids since 2007, and the fall in traditional areas, which continued to receive some coupled aids, suggests that the previous CAP measures supporting durum wheat in traditional areas did not suffer from deadweight, but did encourage inefficient production in these traditional areas.

Impact on quality: Our analysis for EQ2 also demonstrated that, at an EU-27 level, processors in the durum wheat sector relied increasingly upon high quality imports to supplement domestic output. This was particularly true in Italy. LMC’s Evaluation of the durum wheat CMO concluded that the objective of improving quality was not met for the EU-27 as a whole. Processors stated that quality had either not changed or deteriorated in the main producing MS, despite the durum wheat quality payment. This suggests inefficiency in the measures to improve quality via the quality premium. This was a deadweight effect, in that the costs of purchasing and auditing certified seed use approximately matched the value of the supplement, and hence the measures had no appreciable impact on trends in crop quality. Nevertheless, it should be recalled that quality is a function of many variables (weather, crop management and variety choice, etc.). Furthermore, the Evaluation of the durum wheat CMO revealed that the quality premium is implemented differently by national payment agencies in MS, in the number of qualifying varieties and quantity of certified seed.  

10.3.3 Maize farming

In Table 6.2 (Chapter 6) we analysed the impact of the move from coupled to decoupled aids on maize areas. We found that France, Spain and Italy, which had provided higher coupled area payments for maize, recorded a 12.4% reduction in maize areas after decoupling was introduced under the MTR. France and Spain continued coupled payments under the MTR at 25% of previous rates, and so did not end totally the bias in favour of maize plantings; yet their maize areas fell by 8.8% and 25.2%, respectively. In the MS that did not have this bias in their maize area payments, total maize areas rose 3.1%. Two of this latter group of MS (Germany and Greece) saw their areas decline (by 4.9% and 5.0%), but these falls were below those reported by France, Spain or Italy.

In terms of the efficiency of the MTR in boosting competitiveness and market orientation, we conclude that decoupling met the objective as regards maize farming in the EU-27. Maize cultivation declined in MS that had provided higher coupled payments to maize areas pre-reform, while maize areas were in general maintained in MS that did not have this bias.

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5 The calculations were a function of higher historical reference yields.
10.3.4 Intervention as a safety net

Diagram 10.1 reveals a strong correlation between changes in end-of-year cereal stocks and the amount spent on cereal intervention storage. The diagram plots the evolution of expenditure on the intervention stock scheme and, within the total, the expenditure that is specifically allocated to cereals intervention. Negative sums indicate that the revenues from the sale of intervention stocks exceed the costs of managing the stocks.

The removal of rye from intervention in 2003 and changes to maize intervention from 2007 were specific policy responses to tackle burdensome stocks and increasing costs associated with the administration of intervention.

The diagram reveals that expenditures on storage increased in 2008 and 2009, but the changes made to the scope of intervention meant that, by 2010, total expenditure on intervention was significantly lower than it was when the Commission actively used intervention as a market management tool in the mid-2000s. We conclude that the reforms made to intervention were both effective and efficient. Total expenditure on cereals intervention fell sharply by 2010 and cereal intervention stocks were progressively reduced to zero. Higher expenditure in 2008 and 2009 occurred at a time when the cereal market experienced great price volatility and intervention stocks provided a safety net for domestic prices.

Impact on areas: Our analysis in Section 4.5 (Chapter 4) revealed that the removal of intervention support for rye reduced the rye share of total cereal areas. In the EU-15, this resulted in a modest decline in areas, falling by 0.1% between the pre- and post-reform periods, but the effect was more pronounced in the EU-12, declining from 9.2% to 7.7%. We concluded that the EU-15 MS on balance suffered little from the ending of rye sales into intervention, probably because feed rye traded at a comparatively stable relativity to feed barley prices and thus rye benefited indirectly from supports for other feed cereals. For the EU-12 MS, our interpretation is that the decline in rye areas was largely linked to a shift towards ‘other cereals’ used in on-farm livestock feed.

The phasing out of intervention support for maize from 2007 onwards should have had some impact upon the attractions of maize plantings. However, stronger world market cereal prices in 2010, when maize intervention purchases were limited to zero, meant that the impact of this reform would be muted. The maize share of cereal areas fell from 11.9% to 11.2% and from 21.9% to 19.5% in the EU-15 and EU-12, respectively. This is consistent with our hypothesis, but probably reflects, to a larger extent, the ending of higher coupled aids paid for maize than other cereals in some MS under Agenda 2000 discussed in Section 10.3.3.

We conclude from this analysis that the objective of ensuring that intervention operates as a safety net at times of market need has been effective and has achieved greater cost efficiency. It is also coherent with the broader objective of promoting market orientation.

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6 These developments are described in Section 3.4 of Chapter 3.
10.3.5 Export refunds

Table 10.4 describes expenditures on cereal and rice product export refunds from 2000 to 2010. The decline in these expenditures to zero reflects the decreasing relevance of such refunds, described in Section 3.7 of Chapter 3.

Table 10.4: Evolution of EAGF expenditure on export refunds (million Euros)

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereals and rice</td>
<td>862</td>
<td>299</td>
<td>140</td>
<td>214</td>
<td>95</td>
<td>131</td>
<td>129</td>
<td>42</td>
<td>10</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Non-Annex I products</td>
<td>572</td>
<td>436</td>
<td>414</td>
<td>433</td>
<td>380</td>
<td>335</td>
<td>274</td>
<td>185</td>
<td>118</td>
<td>90</td>
<td>51</td>
</tr>
<tr>
<td>Other products</td>
<td>4,212</td>
<td>2,667</td>
<td>2,878</td>
<td>3,083</td>
<td>2,909</td>
<td>2,586</td>
<td>2,091</td>
<td>1,218</td>
<td>798</td>
<td>559</td>
<td>334</td>
</tr>
<tr>
<td><strong>Total Export</strong></td>
<td><strong>5,646</strong></td>
<td><strong>3,401</strong></td>
<td><strong>3,432</strong></td>
<td><strong>3,730</strong></td>
<td><strong>3,384</strong></td>
<td><strong>3,052</strong></td>
<td><strong>2,494</strong></td>
<td><strong>1,445</strong></td>
<td><strong>925</strong></td>
<td><strong>650</strong></td>
<td><strong>385</strong></td>
</tr>
</tbody>
</table>

| **Refund Expenditure** | | | | | | | | | | | |

Source: The European Agricultural Guarantee Fund (EAGF) annual financial reports.

Interviews with EU-wide and national trade associations revealed that this change was viewed as positive, by removing a layer of red tape associated with export trade. This finding might appear counter-intuitive, since the logic of export refunds was to bridge the gap between high prices on the internal market and lower world prices, so as to aid the competitiveness of EU cereal exports. However, our interviews revealed that the processing and trading sectors found the export refund system requirements unduly cumbersome. Furthermore, our analysis in Chapter 6, demonstrated that the decision not to offer export refunds helped to overcome the limits on subsidised exports under the WTO and helped to raise the share of EU net exports in total world exports between 2000-2003 and 2007-2010, reflecting a comparative advantage in common wheat.

The decision not to offer export refunds has proved particularly important in meeting several key objectives. It helped to ensure that supplies reach consumers at reasonable prices by reducing the gap between internal and external prices. Just as significant, by removing the constraints on subsidised export volumes, which were managed in part via the application of set-aside, it has allowed coherence across the entire agricultural sector, and not solely the cereal sector, to be achieved with the original Treaty of Rome objective of the rational development of agricultural production, as well as the Health Check objective of competitiveness and market orientation.

The indirect consequences (via set-aside) of the application of cereal export refunds affected the whole of arable agriculture and led to limits, that were not market-based, on planting decisions, with an associated loss of competitiveness, in terms of the application of comparative advantage in crop choice, and reduction in market orientation. This had repercussions upon other crop sectors, and indirectly upon downstream processing. Therefore, the absence of export refunds has provided value added at an EU level beyond the boundaries of the cereal sector.

From the perspective of the national payment agencies, which are responsible for administering export refunds, the retention of the refund system in the legislative framework require systems of implementation to be maintained. This not only implies a continuing financial cost, but also a requirement to conduct regular procedural reviews and manpower. This is a clear inefficiency for MS payment agencies and one that will become evident if cereal product export refunds are eliminated entirely (rather than being set at zero, as they have been since 2007).

10.4 Meeting the needs of producers

Producer needs may be interpreted as requiring both income stability and a safety net to support their incomes in the event of low prices. Our analysis in Section 10.3.4 revealed
that the reforms made to intervention had, by 2010, ensured it was applied in a largely discretionary manner. This also coincided with a period of considerable price volatility where the provision of a safety net function was even more important, from the perspective of producers. Yet, as we described in Chapter 6, an unexpected empirical finding has been that price volatility in 2007-2010 was higher in the internal market than it was in the external market.

Taken as a whole, the reforms allowed producer decisions to respond to market-based signals, in line with the broad objective of improving market orientation. Decoupling and tonnage limits applied to certain cereals on sales into intervention stocks ensured that producer decisions were increasingly market-based.

The reforms encouraged producers to specialise in crops, and not solely cereal crops, in which they have a comparative advantage, with value added benefits for the wider EU economy. As a result, we hypothesised that this would have improved the competitiveness of cereal producers. Furthermore, the compulsory set-aside obligation had been established to limit EU production in anticipation of avoiding problems with the limits imposed on subsidised exports under the GATT Uruguay Round, as mentioned above. These limits restricted the ability of producers to compete in the international arena; with its removal, the export performance of EU cereal producers improved significantly, particularly (as we demonstrated in EQ4) in the common wheat sector.

The reforms have been consistent with the objective of maintaining producer incomes. When contrasted with the counterfactuals of no coupled or no decoupled payments, we found that CAP measures were crucial in maintaining producers’ incomes. Hence, a more market-orientated and competitive agricultural system has been coherent with continued support to cereal producers.

For both EU-15 and EU-10 MS, real farm net incomes per family work unit (FWU) increased in most MS. However, combined nominal coupled and decoupled aids per FWU were barely changed after the reform; thus, the real value of the supports from these measures declined and rising incomes were the result of higher market prices, rather than the CAP measures.

A further aspect of producer needs is to scale back the administrative burdens associated with the cereal measures that they face. In Chapter 7, we demonstrated that the expenditure allocated to cereal-specific measures had declined significantly. Yet, from statements made by producers and their associations in the producer questionnaire and fieldwork, it emerged that they consider that little has changed in the overall administrative burden; indeed, several asserted that the administrative burden had increased, since the MTR reform.

We concluded that this reflected administrative requirements outside the EU-wide cereal-specific CAP measures. In particular, they are a consequence of the increased complexity of Article 69/68 measures, some of which are linked to cereal production. As such, these national measures run counter to the “benefits in terms of administrative simplification” that are an objective of the MTR. A further increase in administrative burdens was linked by producers to the need to demonstrate cross compliance, and a growing trend cited by producers and end-users was a request for the certification of fully traceable supply chains. This last trend is not a direct consequence of the CAP measures, but is viewed by producers as having been encouraged by cross compliance.

10.5 Meeting the needs of end-users

In Chapter 5 (EQ2 and EQ3), our analysis revealed that processors in the milling and malting sectors reported that their needs for high quality cereals were well met, both in the volume and quality of supplies on the local market. This implies that, following changes in
the CAP measures, domestic cereal producers have maintained consistent supplies to the downstream sectors.

This was particularly the case in the high quality malting barley sector, where processors reported their needs were being well met. For the common wheat milling sector, it was found that internal supplies were often supplemented with higher quality wheat imports and CAP TRQ arrangements for low to medium wheat were often used to secure supplies as end-user needs required. In other sectors, particularly in the compound feed industry, the zero tolerance policy towards unauthorised GM events, rather than specific CAP measures in the cereal sector, posed the greatest challenge to securing supplies of cereal substitutes such as distillers’ dried grains.

In an environment of increased price volatility and a more liberalised market after the MTR reform, we demonstrated in Chapter 6 that processors, as well as traders and producers, found it easier to manage price risk. There is evidence of the increased use of futures and options contracts in the EU, most significantly in 2010, when compared to 2008 which, with hindsight, was a time when market conditions should have encouraged the use of these instruments before prices slumped.

Indirectly related to end-user needs, we note that increased consolidation has been evident across all of the processing sectors. While this has largely been a response to external factors, the interviews revealed that the reforms scaled back former constraints inherent in the measures governing their ability to trade competitively. This was particularly the case with the suspension of export refunds, whose absence was viewed as a positive factor facilitating export trade.

### 10.6 Added value

The CAP reforms have greatly reduced the scope of the measures applicable specifically to the cereals sector. Since the application of the Health Check and the phasing out of coupled aids, the most clear-cut example of CAP measures, which are not cereal-specific but can be used to support the cereals sector, are those under Article 68, which provide MS with scope to target supports, directly or indirectly (e.g. via the livestock sector), to cereal production. In assessing the addition of value by CAP measures in the cereals sector, we include consideration of the wider context, and notably the role of cereals as the major arable crop in the EU in relation to the global objectives of the CAP, notably market stabilisation, maintaining producer incomes, sustainability and enhancing market orientation.

In judging added value, we need a benchmark against which to judge outcomes. The one that we adopt is full market liberalisation. There are four main respects in which the CAP measures diverge from full liberalisation: in the application of environmental conditions for income support; in the provision of a safety net for prices; in the promotion of particular end-use applications, such as bioenergy; and progressivity in the provision of decoupled aids.

The retention of border measures and intervention stock purchases, as policies that could be applied if world prices fall below a safety net level, would add value, vis-à-vis the outcome under full liberalisation, via both market stabilisation and the maintenance of producer incomes. It was an unexpected result, therefore, to discover (in Chapter 6, Section 6.12) that price volatility was typically higher in the internal cereal market than in the world market, which casts doubt on the success of the measures in achieving the market stabilisation objective after the MTR.

Producer incomes were maintained partly as a result of CAP measures, but largely as a result of higher market prices, as Chapter 6, Section 6.15, demonstrates. We conclude, therefore, that the reforms added value (when compared with full market liberalisation) in this respect.
Considering market orientation, the decoupling of aids and the reductions in the levels of obligatory intervention stock purchases and easing of border measures definitely achieved higher correlations between internal and external market prices for most cereal crops, apart from maize. However, it should be remembered that there are other aspects of EU policy (non cereal-specific and outside of the CAP) that conflict with the objective to promote market orientation. In the bioenergy sector, the non-CAP measures, notably the Renewable Energy Directive, provide additional coupled incentives. We demonstrated in Chapter 9 that this gave rise to specific national policies that generated a sharp increase in the silage maize share of the total Utilisable Agricultural Area in Germany, which appears excessive and thus does not add value to the cereals sector as a whole from the perspective of meeting the objectives of market orientation.

The respect in which the reforms add greatest value is in the sustainability of production. The environmental benefits of sustainable forms of cereal production are, under a fully liberalised market system, externalities, which are not captured by producers. Hence, a free market will lead to sub-optimal levels of sustainable agricultural activities. Our analysis revealed that cross compliance might have encouraged some producers to adopt minimal sustainable and innovative production practices. Incentives provided under agri-environmental schemes were more effective than cross compliance in encouraging sustainable practices, thereby adding value.

We conclude, therefore, that the CAP measures have added value in meeting the objectives of the sustainability of cereal production and helping to maintain producers’ incomes. In respect of market stabilisation the empirical evidence does not imply that the reforms have added value for producers. Regarding market orientation, the measures have, in general moved in that direction, but there are examples, notably in the application of Article 68 to durum wheat output, where the CAP reforms have not added value. The same is also true of some non-CAP measures affecting cereal production in individual MS, exemplified by the silage maize biogas incentives in Germany.

10.7 Key conclusions regarding efficiency, coherence and relevance

Taken as a whole, the reforms have encouraged an increasingly free market approach to cereal growing, without reducing support to producers, endangering the supply for users, or placing an increased burden on the environment. The reforms have been relatively efficient, in that the cost has declined and national payment agencies and, to a lesser extent, producers see the administrative burden as manageable. While, as a whole, the reforms have therefore added value, it must be stressed that in the process, cereal-specific measures have become less important. Increasingly, the support for producers and protection of the environment is driven by Pillar II schemes, which are outside the direct scope of this evaluation.

Regarding outcomes, the measures have promoted the development of cereal crops and end-uses in which the EU-27 has a comparative advantage. Common wheat is the cereal in which the comparative advantage, judged by international cost competitiveness, is greatest. The reforms included the decision not to grant export refunds, which meant that WTO Uruguay Round limits upon subsidised exports were not effective and facilitated the abolition of set-aside.

Following these reforms, average real common wheat cereal direct costs fell in the ten selected case study MS between 2001 and 2010. The EU-27 share of world common wheat exports rose; and, despite greater competition from Ukraine, Russia and Kazakhstan, the EU maintained its common wheat and barley exports to those regional markets which are closest to the EU. Within the domestic market, the reforms to intervention stock purchasing promoted the development of processing, notably for starch and biofuels, in land-locked cereal surplus MS, where investors took advantage of lower cost cereals than in deficit MS
and in coastal regions. The greater competitiveness of local feed cereals was also reflected in an increase in the cereal share of industrial feed ingredients within the EU.

In these respects, the reforms promoted efficiency and the outcomes were both coherent and relevant. The exceptions tended to be in sectors where measures worked against the emergence of comparative advantage. As noted above, the retention of some durum wheat coupled aids, including those via Article 68 payments, created deadweight and failed to prevent a substantial decline in output in traditional areas. The other notable exception affecting cereal production was the consequence of non-CAP measures, namely the excessive promotion of silage maize cultivation in Germany in response to national incentives and the Renewable Energy Directive.