Evaluation of Measures Applied Under the CAP to the Cereals Sector

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Background to the study and objectives

Scope of the evaluation

This evaluation assesses the relevance, effectiveness and efficiency of measures applied under the Common Agricultural Policy (CAP) to the EU-27 cereals sector.

The period of analysis is from 1 January 2005 onwards.

The instruments covered are:

The **Mid-term Review (MTR)**, Council Regulation (EC) No. 1782/2003 and subsequent changes introduced by

The **Health Check**, Council Regulation (EC) No. 73/2009.

These were complemented by Council Regulation (EC) No. 1784/2003, subsequently integrated into Council Regulation (EC) No. 1234/2007, and subsequent changes introduced by Council Regulation (EC) No. 72/2009

Data sources

DG Agriculture and European Commission data

The EU Farm Accountancy Network (FADN) database on incomes of the three types of holdings that rely most heavily on cereal production: cereal, oilseed and protein (COP) specialists; general field crop holdings; and mixed crop-livestock producers

National and regional official databases

Structured questionnaires with cereal producers (205 farmers) and end-users

Interviews with producer associations, local cereal processors and EU-wide and national trade associations

Case studies in Bulgaria, Estonia, France, Germany, Greece, Hungary , Poland, Romania, Spain and the UK

Methodology

The evaluation relies on detailed micro-economic analyses, but inevitably macro-economic conditions are also covered.

Much of the analysis relates to the responses of producers and processors to the incentives created by policy reforms.

Quantitative methods include comparative static techniques to compare ‘post-reform’ outcomes after the MTR reform (2007-2010) with the situations in the ‘pre-reform’ (2000-2003) and ‘transition’ (2004-2006) periods.

Dynamic methods include correlations and measures of volatility, notably for prices, productivity and crop areas.

Analysis of the impact of CAP measures on incomes relies on two approaches: crop-specific analyses based on data from MS; and incomes on holdings in the FADN database.

Description of the sector and the intervention logic

EU-27 areas planted to cereals and other crops, 2000-2003 to 2007-2010 *(in million hectares)*

	2000-2003	2004-2006	2007-2010
Cereals	60.4	59.0	58.0
Common wheat	*22.4*	*22.4*	*22.9*
Durum wheat	*3.9*	*3.6*	*2.9*
Barley	*14.2*	*13.8*	*13.6*
Maize	*9.5*	*9.2*	*8.4*
Rye and meslin	*3.3*	*2.6*	*2.8*
Oats and mixed cereals	*4.7*	*4.5*	*4.4*
Other cereals	*2.3*	*2.7*	*3.0*
Oilseeds	8.3	9.1	10.5
Protein crops	1.7	1.9	1.3
COP area	70.4	69.9	69.8
Sugarbeet	2.0	2.0	1.6
Uncultivated land[1]	6.1	6.3	5.4
Utilised agricultural area	188.3	184.2	179.4

Source: EU Agriculture–Statistical and Economic information (2011), Eurostat (and previous issues).

EU-27 cereal, oilseed and protein crop areas as % of the total utilisable agricultural area (UAA)

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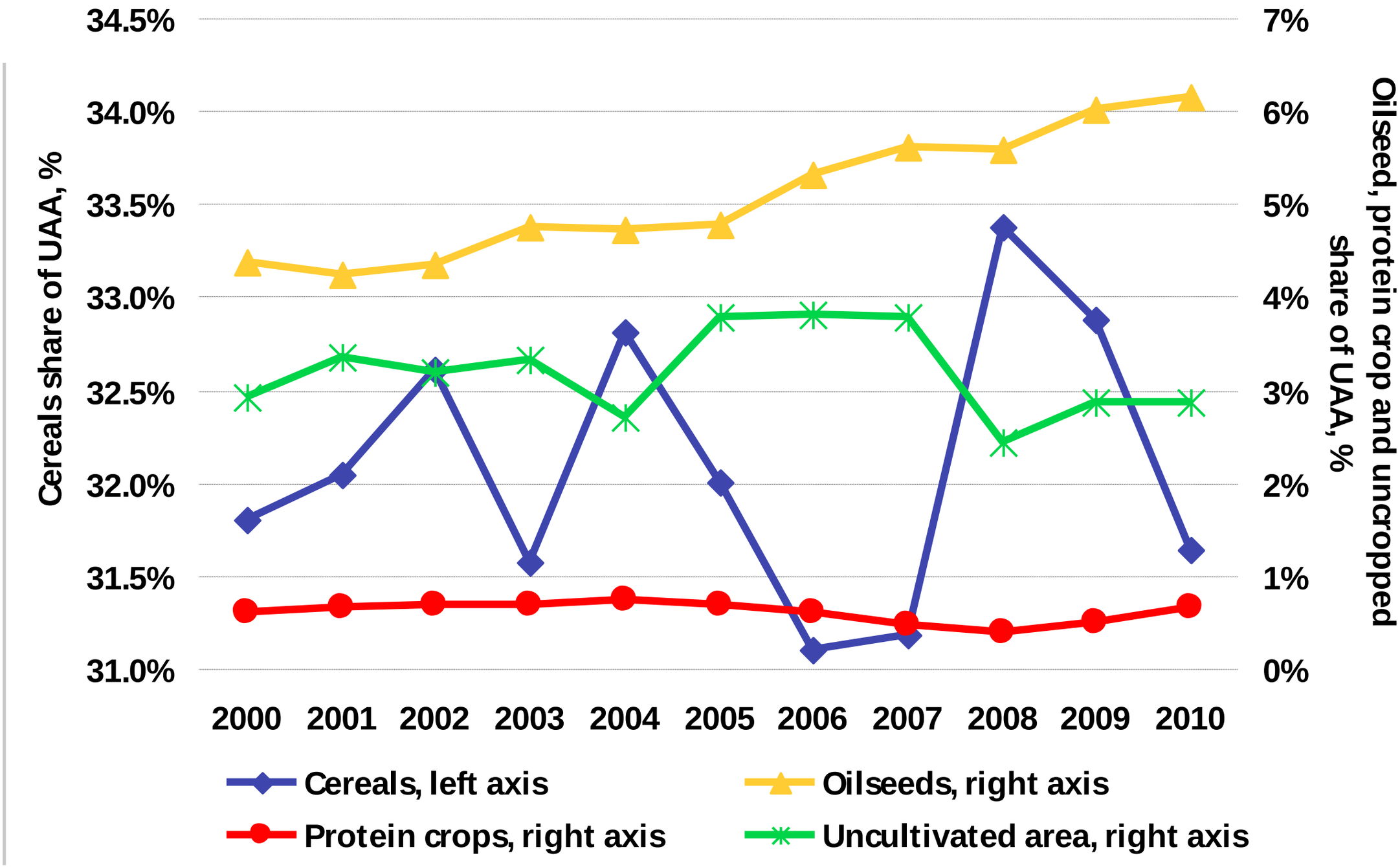
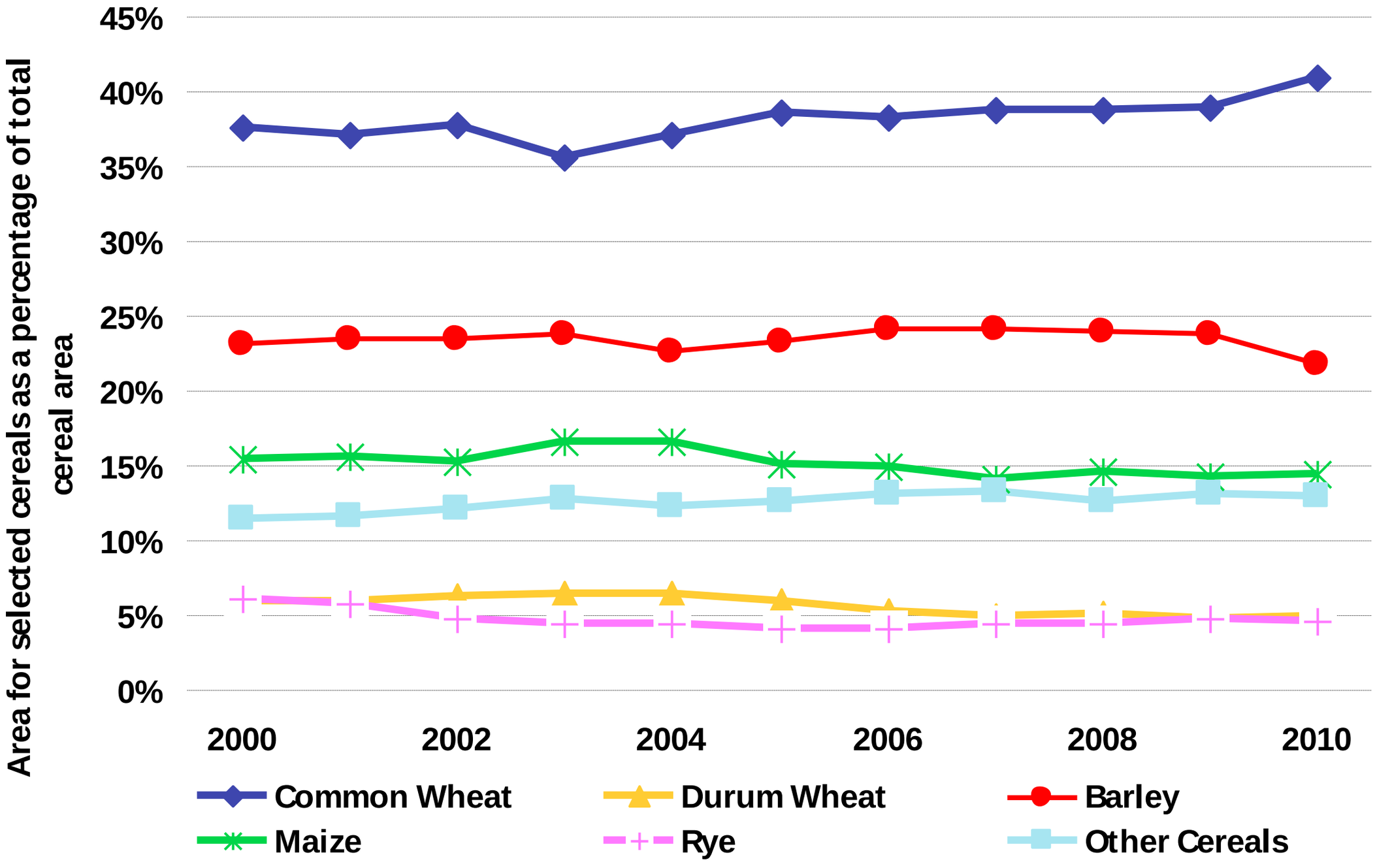


Source: Marketing year data from 'Prospects for Agricultural Markets and Income' DG Agri, December 2011; Eurostat.

Areas planted to the leading cereals as a % of the total EU-27 area under cereal crops



Source: Marketing year data from 'Prospects for Agricultural Markets and Income' DG Agri, December 2011; Eurostat

Measures applied in the cereals sector: *the Intervention Logic*

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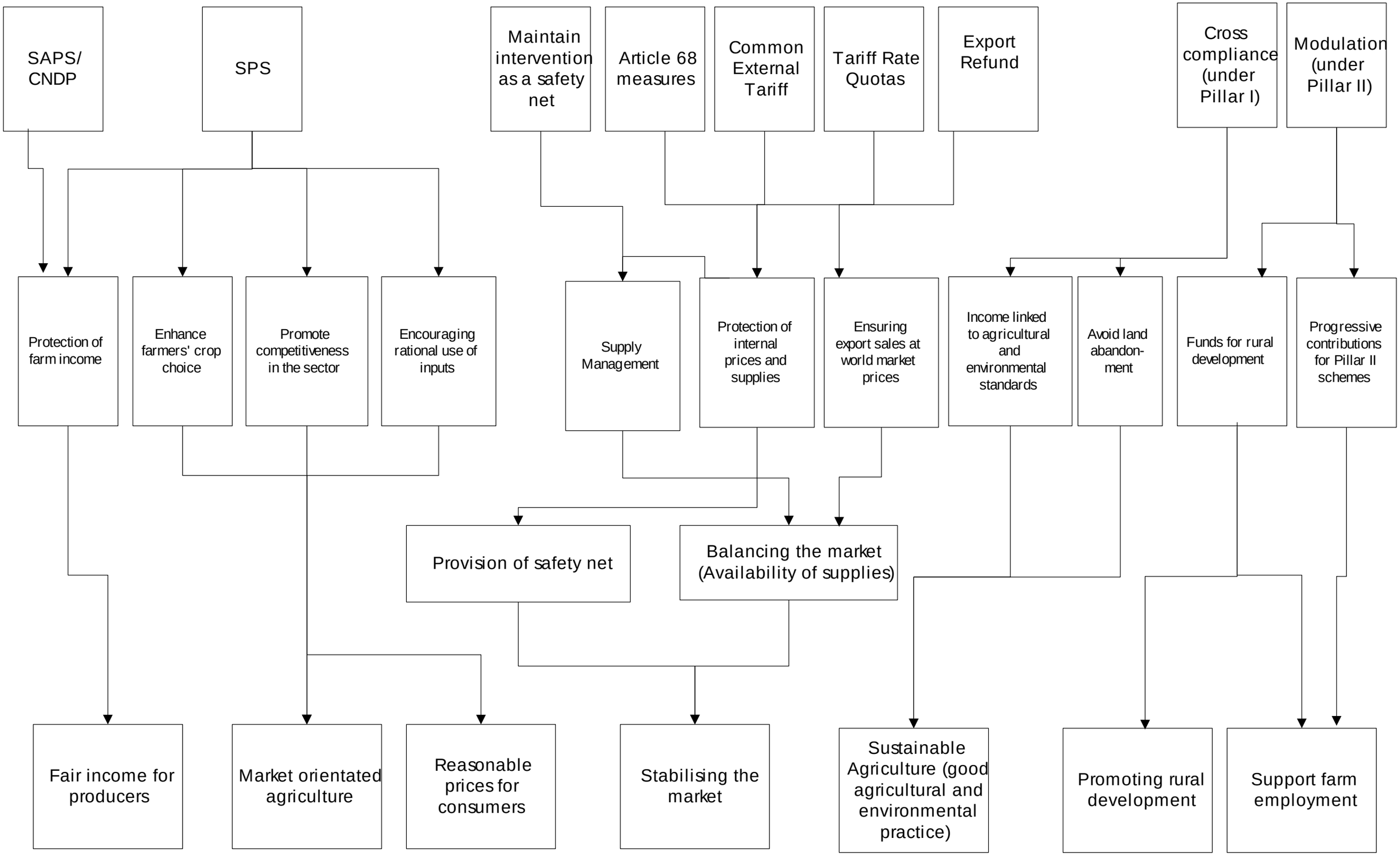
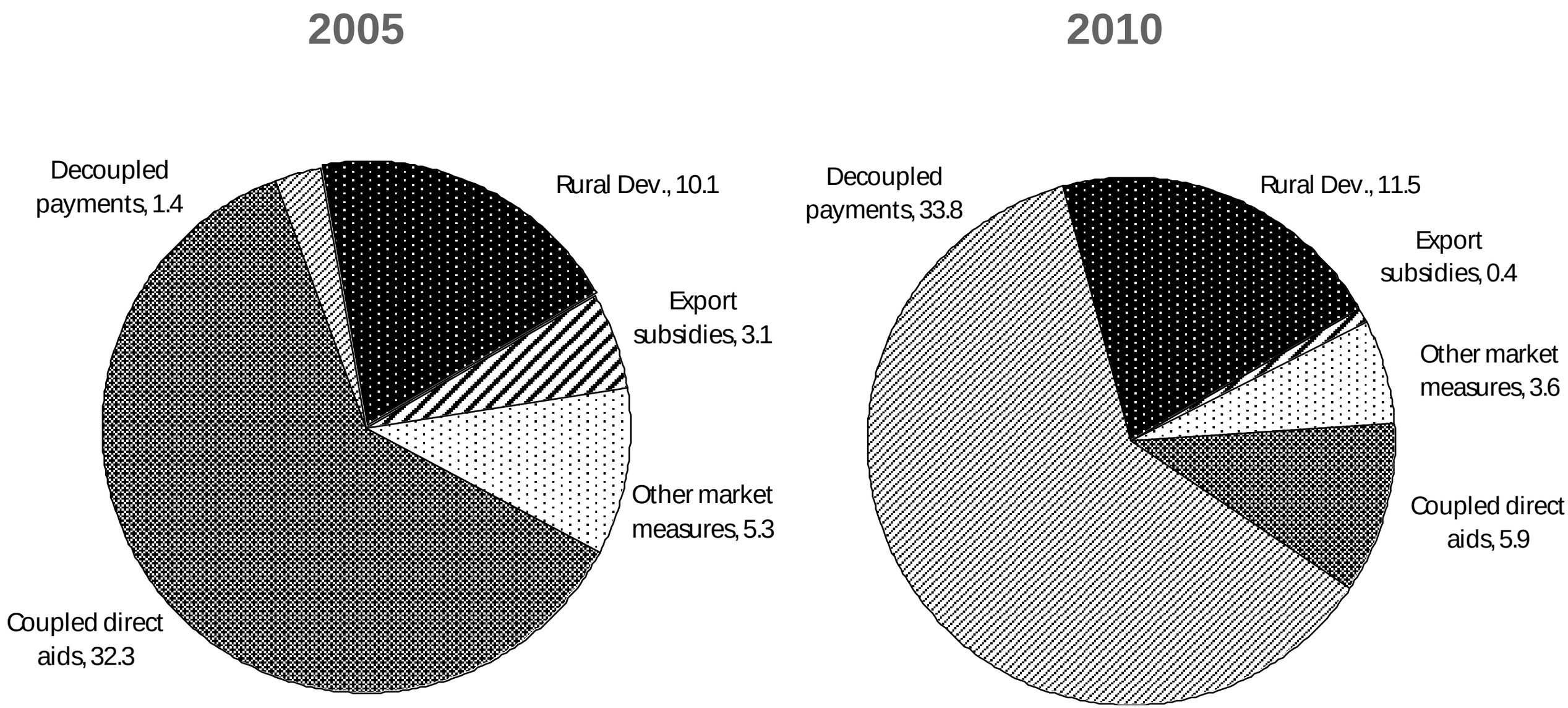


The evolution of total CAP expenditures by type of measure from 2005 to 2010: *the shift from coupled to decoupled aids*



Note the amounts are in billion Euros

Source: European Commission - DG Agriculture and Rural Development (October 2011).

Theme 1: Impacts on the production of cereals

EQ1: To what extent have CAP measures applicable to the cereals sector affected the production of cereals?

EQ1: Summary conclusions — the areas planted to cereal crops

The cereals share of the total EU-27 utilised agricultural area rose from 31.5% to 32.3%, pre- to post-reform. This was purely the result of an increase in the cereals share in EU-12 MS.

Greater specialisation is evident in common wheat cultivation.

Durum wheat's share of EU-15 cereal areas declines.

EU-12 areas devoted to 'other cereals' rise appreciably.

There are divergent trends in maize areas in EU-15 MS, falling in MS that had given higher coupled aids to maize than to other cereals, but rising in those MS that had not favoured maize.

Following the end of intervention for rye, its share of areas fell in the EU-15. There was a sharper drop in its share in the EU-12, attributed to a shift to 'other cereals' for on-farm feed uses.

EQ1: Summary conclusions — cereal yields

Average EU-27 cereal yields were the highest among the leading producing countries of common wheat and barley and close to the world average for maize.

The volatility of EU annual cereal yields was lower than for most other major producers of the same cereals.

Average annual increases in EU common wheat yields were the highest of all the leading producers of the crop; but for barley and maize, the EU recorded some of the lowest annual yield increases among the major producers.

The ending of compulsory set-aside is estimated to have reduced average EU cereal yields by 0.9%, as less productive land previously in set-aside was brought back into cultivation.

EQ1: Summary conclusions — production practices and counterfactual simulations

There is evidence that producers in some EU regions no longer follow standard agronomic recommendations on crop rotations.

There are indications that changes in production technology have been encouraged by CAP measures that are not cereal- specific (cross compliance, agri-environmental schemes).

In assessing the counterfactual of no coupled aids, it was estimated that a 1% increase in average gross margins on all COP crops raised total COP areas by 0.4%.

Simulations of the removal of all forms of coupled aids in 2007-2010 upon total cereal and oilseed crop areas indicated that they would have fallen as follows from their actual levels: the sharpest (7.3%) decline for durum wheat; a 3.3% drop for barley; and falls of 2.3-2.5% for common wheat, maize and rye.

Theme 2: Impacts on the supply to the EU processing industry

EQ2 and EQ3: To what extent have CAP measures influenced cereal supplies and corresponded to the needs of the cereal processing industry?

EQ2 & EQ3: Summary conclusions — cereal supplies and quality

The most demanding end-uses are for barley for malting; for high protein wheat for bread-making; and for high quality durum wheat for pasta.

The EU has a supply surplus in malting barley, maintaining average malt exports of 4-5 million tonnes, grain equivalent.

Common wheat users in flour milling often need higher protein wheat supplied through the tariff rate quotas or can blend with wheat gluten, a by-product from starch output.

Durum wheat's import requirement has risen from 13.7% to 17.4% of total demand, pre- to post-reform. The MTR included special coupled aids to promote high quality output in traditional areas, but output fell sharply in those regions and users in some MS report a decline in EU quality.

EQ2 & EQ3: Summary conclusions — meeting the needs of cereal users

In feed, the largest cereal end-use sector, cereals (nearly all domestic) increased their share of total EU industrial feed use, from 43.1% to 47.5% pre- to post-reform. Competitively priced cereals gained at the expense of imported cereal substitutes.

Processing capacity grew in the EU starch sector from 2000, in EU-12 MS, in particular. The reduced role of intervention attracted investment to land-locked, cereal-surplus MS.

Biofuels have been the most rapidly expanding end-use for cereals since 2004. Initially, feed wheat was the favoured feedstock but since 2008, maize use has increased.

Farming silage maize for biogas plants has been a big growth sector in Germany, where it now occupies 11% of the UAA.

Theme 3: Competitiveness of the cereals sector

EQ4 – EQ9: Competitiveness/market orientation; price level/volatility; supporting producer incomes; reducing administration; fostering innovation.

EQ4: Summary conclusions — competitiveness and market orientation

Comparisons of the direct costs per tonne of the major cereals in the EU and US reveal that the EU is cost-competitive for common wheat and barley, but is not for maize.

When compared with Russia and Ukraine, the EU has a cost disadvantage in all major cereals. This explains why in 2003 a TRQ was introduced on cereal imports from these countries.

The decision not to offer export refunds on cereals since 2006 has lifted WTO limits on subsidised exports and demonstrated the market orientation of EU cereal exports. The EU share of world exports of wheat and flour rose from 5.2% to 7.7% from 2000-2003 to 2007-2010.

EQ 5: Summary conclusions — the impact of measures on the price level and volatility

The reforms, by liberalising cereal markets, raised correlations between internal and external prices for most cereals. They also brought EU price volatility closer to world levels.

Price levels rose after the MTR, but this was a reflection of world market developments, rather than the measures.

Intervention buying and import tariffs, by providing a safety net, would have been expected to result in lower volatility in the internal market than in export markets.

An unexpected outcome was that the reverse was the case. This could not be explained by exchange rate movements.

The heightened price volatility has increased the use of futures and options for private price risk management.

EQ 6: Summary conclusions — the impact of CAP measures on producers' incomes

The net impact on incomes of decoupling aids should have been small as a result of the methodology behind the SPS. Some coupled aids continued in 2007-2010, but in a much reduced form, while intervention and border measures provided support to internal prices when world market levels were low.

For the cereal producers, FADN data implied that the nominal value of coupled plus decoupled aids per hectare changed negligibly, pre- to post-reform. In real terms, it fell slightly.

We analysed four alternative definitions of producer incomes. In all cases, real incomes increased post-reform for most MS and types and sizes of holdings. World market price rises caused incomes to increase. The CAP measures provided a stable element that helped to maintain nominal incomes.

EQ 7: Summary conclusions — the impact of CAP measures on administrative costs

The LMC producer questionnaire and interviews indicate that producers perceive that their administrative burden has risen.

It is unclear whether they differentiate between administration for CAP payments as a whole and cereal-specific measures.

Cross compliance is one aspect cited as having become more onerous, with the Commission increasing farm audits and better risk assessments. This has led to an unanticipated development in the emergence of zero-grazing management, because livestock farming is viewed as particularly vulnerable to the imposition of sanctions for failing to meet standards.

National payment agencies report a decline in administrative requirements and broadly welcomed decoupling.

EQ 8: Summary conclusions — the impact of CAP measures on innovation in production

In the certified seed sector, cereal producers in the EU turned away from certified seeds (other than for maize, which uses only hybrid seeds, which cannot be retained for planting) towards the use of on-farm retained seeds. This was most notable for durum wheat.

The barriers to GM varieties allowed the EU to develop exports of non-GM varieties of maize seed. Net trade rose from a deficit of 19,000 tonnes in 2000-2003, to 1,000 tonnes in 2007-2010 and a surplus of 48,000 tonnes in 2011.

While many changes in farm practices do not relate to CAP measures, increased zero grazing, concerns about cross compliance and changes in oilseeds/cereals rotations (to meet biofuel demand) are changes that were policy-induced.

EQ 9: Summary conclusions — the impact of CAP measures on innovation in cereal use

By far the most important development in novel uses of cereals has been the development of biofuel crops policy.

No other MS matches Germany's expansion in silage maize use for biogas, which has raised this crop to 11% of the entire German Utilisable Agricultural Area.

Biopolymers are a major growth area, but only developed significantly very recently. In 2010, capacity to process cereals into biopolymers, led by bioplastics, in the EU-27 was 175,000-200,000 tonnes of cereals per annum.

Another promising future end-use is the processing of straw. The enzymatic treatment of hemi-cellulose in straw for ethanol production is the technology closest to commercial realisation.

Theme 4: Sustainability of the cereals sector

EQ10 and EQ11: Environmentally sustainable production; and the use of former set-aside land.

EQ 10: Summary conclusions — measures and environmentally sustainable production

Decoupling had a generally neutral environmental impact via changes in areas planted to different cereals. Input use for most cereals is similar; the main exceptions are durum wheat production in traditional areas, with low application rates of fertilisers, pesticides and irrigation, and irrigated maize farming, which has higher than average levels of input use.

Since areas under both cereals declined, the net impact of decoupling on cereal plantings should have been neutral from an environmental perspective.

With oilseeds supported by non-CAP measures (led by higher biofuel mandates), producers were often found to be raising the frequency of rapeseed plantings in rotations with cereals above the recommended one year in four. This has an adverse impact on soil fertility/quality and disease control.

EQ 11: Summary conclusions — the impact of ending set-aside on area left uncropped

Immediately after the setting of zero set-aside, a 20% decline occurred between 2007 and 2008 in the area left fallow.

There is some evidence of an adverse impact on biodiversity from data on farmland bird populations across the EU.

Producer interviews and questionnaires suggest that agri-environmental payments, under Rural Development schemes, rather than other cereal-specific CAP measures, had a greater impact on the adoption of sustainable practices on farms, including the decision whether or not to leave land uncultivated.

Evaluations of set-aside measures suggested that a quarter of set-aside land would be left fallow in the absence of set-aside; another quarter was used for industrial crops; the remaining half of the set-aside area would return to arable crop farming.

Theme 5: Efficiency, coherence and relevance

EQ12 – EQ15: Efficiency meeting objectives; coherence with CAP objectives; meeting the needs of producers and users; and adding value to the wider EU economy.

EQ 12-15: Summary conclusions — efficiency, coherence, needs and added value

The MTR had, as objectives, maintaining durum wheat output in traditional area and promoting use of certified seeds. It did not achieve either, with evidence of deadweight in the measures.

Ending higher coupled aids for maize in some MS, reforms in intervention rules and the decision not to offer export refunds, all increased efficiency and were coherent with a greater market orientation, with supplies reaching users at reasonable prices.

However, some measures did not meet CAP objectives. Article 68 measures in MS often run counter to the ‘benefits in terms of administrative simplification’ a major objective of the MTR.

Examples of outcomes that run counter to CAP objectives are (a) growth in German silage maize areas for biogas and (b) the failure to follow recommended crop rotations in some regions.

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