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Lubica Bartova, Robert M'Barek, Hans van Meijl, Myrna van Leeuwen, Andrzej Tabeau, Petra Salamon, Oliver von Ledebur, Frederic Chantreuil, Fabrice Levert, Trevor Donnellan, et al.

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Contact information
Address: Edificio Expo. c/ Inca Garcilaso, s/n. E-41092 Seville (Spain)
E-mail: jrc-ipts-secretariat@ec.europa.eu
Tel.: +34 954488318
Fax: +34 954488300

http://ipts.jrc.ec.europa.eu
http://www.jrc.ec.europa.eu

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■ AGMEMOD Partnership

- *Agricultural Economics Research Institute (LEI), The Hague, The Netherlands:* Hans van Meijl, Myrna van Leeuwen, Andrzej Tabeau
- *Bundesforschungsanstalt für Landwirtschaft (FAL), Braunschweig, Germany:* Petra Salamon, Oliver von Ledebur
- *Centre of Agricultural Economics, INRA-ESR, Rennes, France:* Frédéric Chantreuil, Fabrice Levert
- *Teagasc-Rural Economy Research Centre (RERC), Athenry, Co. Galway, Ireland:* Trevor Donnellan, Kevin Hanrahan
- *Latvian State Institute of Agrarian Economics (LSIAE), Riga, Latvia:* Danute Jasjko, Guna Salputra, Ludmilla Fadejeva
- *University of Ljubljana, Biotechnical Faculty (LJUB), Ljubljana, Slovenia:* Emil Erjavec, Stane Kavcic, Darja Regoršek
- *Universitat fur Bodenkultur Wien (BOKU), Wien, Austria:* Martin Kniepert
- *Université Catholique de Louvain (UCL), Louvain-La-Neuve, Belgium:* Bruno Henry de Frahan, Olivier Harmignie
- *Institute of Agriculture Economics (IEABG), Sofia, Bulgaria:* Nedka Ivanova, Mariya Peneva
- *Research Institute of Agriculture Economics (VUZE), Prague, Czech Republic:* Ivan Foltyn, Jan Kubát
- *Food and Resource Economic Institute (FØI), Frederiksberg C, Denmark:* Jorgen Dejgaard Jensen
- *Institute of Economics and Social Sciences of Estonian Agricultural University (EAU), Tartu, Estonia*: Mati Sepp
- *MTT Agrifood Research Finland (MTT), Helsinki, Finland:* Jyrki Niemi, Lauri Kettunen
- *Department of Economics, University of Athens (NKUA), Athens, Greece:* Elias Mantzouneas
- *Corvinus University of Budapest (CUB), Budapest, Hungary:* Tibor Ferenczi
- *Polytechnic University of Marche-Ancona (UNIVPM), Ancona, Italy:* Roberto Esposti, Antonello Lobianco
- *Lithuanian Institute of Agrarian Economics (LAEI), Vilnius, Lithuania:* Irena Krisciukaitiene, Salomeja Andrekiene, Andrej Jedik, Willi Meyers, Aiste Galnaityte
- *Warsaw School of Economics (WSE), Warsaw, Poland:* Sylwia Krawczyńska, Katarzyna Kowalska
- *Institute of Agricultural Economics (IEARO), Bucharest, Romania:* Camelia Serbanescu, Cristian Kevorchian
- *Slovak Agricultural University (SAU), Nitra, Slovak Republic:* Lubica Bartova, Pavel Ciaian, Jan Pokrivcak
- *Unidad de Economia Agraria, Centro de Investigacion y Tecnologia Agroalimentaria de Aragon, (CITA), Zaragoza, Spain*: Azucena Gracia
- *Queen's University of Belfast (QUB), Belfast, UK:* Zi Ping Wu, Philip Kostov

■ Foreword

Quantitative models are important tools for analysing the impact of agricultural policies. One of the modelling approaches used to analyse the impact of the Common Agricultural Policy is AGMEMOD (AGricultural MEmber states MODelling), an econometric, dynamic, partial equilibrium, multi-country, multi-market model. AGMEMOD models provide extensive details of the agricultural sector in individual EU Member States including the new members Bulgaria and Romania, and the EU as a whole.

A study was carried out from November 2005 until June 2007 by the AGMEMOD Partnership under the management of the Agricultural Economics Research Institute (LEI, the Netherlands), in cooperation with the European Commission's Joint Research Centre - Institute for Prospective Technological Studies (JRC-IPTS). The aim was to generate projections for the main agricultural commodity markets for each year from 2005 until 2015.

Detailed documentation on the AGMEMOD modelling approach, along with the outcome of the study, is published in five reports in the JRC-IPTS Scientific and Technical Report Series (Box 1) under the heading "Impact analysis of CAP reform on the main agricultural commodities".

Box 1 Impact analysis of CAP reform on the main agricultural commodities

Report I ***AGMEMOD – Summary Report***
This report presents the projections of agricultural commodity markets under the baseline, further CAP reform, enlargement scenarios and exchange rate change sensitivity analyses for the aggregates EU-10, EU-15, EU-25 and EU-27. It summarises the characteristics of the modelling tool used, focusing in particular on the features implemented in this study, and addresses issues that need further attention. (http://www.jrc.es/publications)

Report II ***AGMEMOD – Member States Results***
This report outlines the results of the baseline projections of agricultural commodity markets, further CAP reform scenario impact analyses and exchange rate change sensitivity analyses for individual EU-27 Member States except Malta and Cyprus. For Bulgaria and Romania enlargement and non-enlargement scenarios are analysed. (http://www.jrc.es/publications)

Report III ***AGMEMOD – Model Description***
This report describes the modelling techniques used by the AGMEMOD Partnership, with the emphasis on new commodities modelled and policy modelling approaches. (http://www.jrc.es/publications)

Report IV ***AGMEMOD – GSE Interface Manual***
The Manual gives an overview of the GAMS Simulation Environment (GSE) interface and its application with the AGMEMOD model. (http://www.jrc.es/publications)

Report V ***Commodity Modelling in an Enlarged Europe – November 2006 Workshop Proceedings***
These proceedings consist of presentations and conclusions of a workshop held in November 2006. The presentation of outcomes of the other models such as FAPRI, ESIM, AGLINK and CAPSIM are included in addition to the AGMEMOD approach. (http://www.jrc.es/publications)

We acknowledge the work undertaken by country teams of the AGMEMOD Partnership and by Myrna van Leeuwen, LEI, the Netherlands, the project co-ordinator.

■ Executive Summary

This report presents the AGMEMOD (AGricultural MEmber states MODelling) country reports of the study "Impact Analysis of CAP Reform on the Main Agricultural Commodities" providing projections for each year from 2005 until 2015 for individual EU-27 Member States except Malta and Cyprus. The study was carried out by the AGMEMOD Partnership under the management of the Agricultural Economics Research Institute (LEI, the Netherlands), in cooperation with the European Commission's Joint Research Centre - Institute for Prospective Technological Studies (JRC-IPTS).

AGMEMOD is an econometric, dynamic, partial equilibrium, multi-country, multi-market model. The AGMEMOD models provide extensive details of the agricultural sector in individual EU Member States and the EU as a whole.

The objectives of the study were threefold:

i) To provide market projections for the main European agricultural commodities based on the latest agricultural and trade policy developments and information available;
ii) To assess the impacts of selected scenarios on the main European agricultural commodity markets. In particular, these scenarios concern the introduction of decoupling and new direct payment schemes as well as the enlargement of the EU in 2007;
iii) To apply and improve an agricultural sector model for the enlarged EU, implemented in standard computer software (GAMS and MS Excel), and to make a preliminary version operational and available for the European Commission.

Projections and simulations have been generated for individual EU Member States and the EU at different aggregation levels (EU-10, EU-15, EU-25, EU-27), providing results on supply, demand, trade and prices for the main agricultural commodities (cereals, oilseeds, livestock products and dairy products).

Impact of the following ***scenarios*** was analysed:

- The Baseline scenario for the EU-15 and Slovenia models reflects the 2003 CAP reform, which covers the additional milk quotas, a cut in intervention prices and national implementation of the Single Farm Payment Scheme. For the EU-10 implementation of the SAPS until 2008 followed by introduction of the Single Farm Payment Scheme from 2009 onwards are assumed. Complementary national direct payments remain in force in the EU-10 until 2013;
- The Further CAP Reform scenario, in which all direct payments are decoupled and the rates of compulsory modulation are doubled to 10%, both from 2007 onwards;
- The Enlargement scenario, which examines the consequences of accession to the EU of Bulgaria and Romania.

The AGMEMOD ***modelling system*** applied in this study has been econometrically estimated at individual Member State level. The country models contain the behavioural responses of economic agents to changes in prices, policy instruments and other exogenous variables of agricultural markets. Commodity prices adjust so as to clear all markets considered. For each commodity modelled and in each country, the system generates the main domestic market variables such as production, food and feed demand, prices, trade and stocks. Agricultural income is calculated at sector level. As all policy-relevant agricultural markets are covered,

the econometrically modelled country-specific agricultural markets also provide a sound basis for an analysis of the impacts of policy changes.

To ensure that the projections of the modelling system are consistent from an economic and policy perspective, projections have been validated by standard econometric methods and through consultation with national experts. In addition, the study analysed the impact of three alternative paths of US dollar versus euro exchange rate changes in a form of a sensitivity analysis. The obtained projections largely accord with the *a priori* expectations. A decline (increase in the value of the €/US dollar exchange rate compared with the baseline assumptions leads to higher (lower) internal EU market prices and consequent adjustments to production, domestic use, imports and exports.

Although results differ across countries, the ***key findings of this* study** regarding the aggregated EU25 ***baseline projection analyses*** are as follows:

- Despite the decoupling measures of the 2003 CAP reform (also referred to as the Luxembourg Agreement), the EU production in several sectors (wheat, maize) will grow over the period 2005-2015.
- Higher dynamics can be found in the oilseed sector with demand propelling the markets.
- The decoupled payments will induce a further decline in beef and lamb production.
- Pig meat and poultry production are largely unaffected by decoupling.
- The dairy sector is expected to be negatively affected by declining prices, which occur largely as a consequence of the reductions in intervention prices for dairy products, but quotas will still be fulfilled.
- A shift away from butter and skimmed milk powder production can be expected and at the same time growth in the production of cheese is projected.

The ***key findings*** of this study regarding the ***scenario projection analyses*** are as follows:

- The *Further CAP Reform scenario* projections tie in with *a priori* expectations, in that the impact of policy measures assumed in this scenario is very limited due to the fact that many Member States had already chosen to largely decouple direct payments under their implementation of the Luxembourg Agreement at national level.
- The *2007 Enlargement of the EU* with the accession of Romania and Bulgaria is not expected to dramatically change the situation of most key EU agricultural markets. There are increases projected for the production of EU sunflower oil, soft wheat and maize, but accession is projected to have less of an impact on livestock and meat markets.

Although the agricultural markets of the individual countries have differing levels of development and the country models are being further developed, the projections provide useful information about general trends of individual Member State agricultural markets.

Contents

List of Tables

List of Figures

Acronyms

AGMEMOD:	AGricultural MEmber states MODelling
AGMEMOD 2020:	The EU 6th Framework Programme project
CAP:	Common Agricultural Policy
CEECs:	Central and Eastern European Countries
CNDP:	Complementary National Direct Payments (top-ups)
EU-10:	8 EU Member States of 2004 enlargement, Malta and Cyprus not included
EU-15:	15 EU Member States before 2004 enlargement
EU-25:	23 EU Member States after 2004 enlargement, Malta and Cyprus not included
EU-27:	25 EU Member States after 2007 enlargement, Malta and Cyprus not included
FAPRI:	Food and Agricultural Policy Research Institute, USA
GAMS:	General Algebraic Modelling System
GDP:	Gross Domestic Product
GSE:	GAMS Simulation Environment
JRC-IPTS:	Joint Research Centre - Institute for Prospective Technological Studies (Spain)
OECD:	Organisation for Economic Co-operation and Development
PSE:	Producer Support Estimate
SAPS:	Single Area Payment Scheme
SFP:	Single Farm Payment
USD:	U.S. Dollar
WTO:	World Trade Organisation

1 Introduction

In the context of the ongoing Common Agricultural Policy (CAP) reform(s) and EU accession of new Member States in 2004 and 2007 with a significant agricultural sector, quantitative analysis is crucial for policy-makers. Agricultural models are important tools for assessing the impact of policies and economic parameters on market variables and sector income.

AGMEMOD (AGricultural MEmber states MODelling) an econometric, dynamic, partial equilibrium, multi-country, multi-market model is characterised by its bottom-up approach and is one of the agricultural sector models focusing on the European Union. The AGMEMOD Partnership consists of 22 research teams, representing most of the EU Member States.

As a part of a comprehensive study the AGMEMOD modelling team in cooperation with the European Commission's JRC-IPTS has improved the model and carried out projections for the main European agricultural commodity markets for each year from 2005 until 2015 and assessed the impacts of policies selected scenarios.

The study provided projections and simulations for:

- The individual EU Member States: Austria, Belgium (including Luxembourg), the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, the United Kingdom;
- The recently acceded countries Bulgaria and Romania;
- The EU-15 as a whole (15 Member States before 2004 Enlargement);
- The EU-10 as a whole (8 Member States of 2004 Enlargement, Malta and Cyprus not included);
- The EU-25 as a whole (Malta and Cyprus not included);
- The EU-27 as a whole (Malta and Cyprus not included).

Projections for supply, demand, trade and prices in all countries and at all levels were provided for the following agricultural commodities:

- Soft wheat, durum wheat, barley, maize, rye, other grains;
- Rapeseed, sunflower seed, soybeans, vegetables oils and meals;
- Milk, butter, skimmed milk powder, cheese, whole milk powder;
- Beef and veal, pork, poultry, sheep and goats.

Impact of the following ***scenarios*** was analysed:

- The Baseline scenario for the EU-15 and Slovenia models reflects the 2003 CAP reform, which covers the additional milk quotas, a cut in intervention prices and national implementation of the Single Farm Payment Scheme. For the EU-10 implementation of the SAPS until 2008 followed by introduction of the Single Farm Payment Scheme from 2009 onwards are assumed. Complementary national direct payments remain in force in the EU-10 until 2013.
- The Further CAP Reform scenario, in which all direct payments are decoupled and the rates of compulsory modulation are doubled to 10%, both from 2007 onwards;
- The Enlargement scenario, which examines the consequences of accession to the EU of Bulgaria and Romania.

The AGMEMOD modelling system which has been improved and applied in this study captures: (i) the dynamics of a large number of agricultural commodity markets and (ii) the impact on these markets of a variety of applied policy instruments as implemented by each EU Member State.

In this report projections for the following EU Member States are presented: Austria, Belgium (including Luxembourg), the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, United Kingdom and recently acceded countries Bulgaria and Romania.

The following chapters set out the projections of the baseline and the scenario analyses for individual EU Member States and are similarly structured: i) the Baseline projections followed by ii) the Further CAP Reform (FCR); and iii) Exchange Rate Change (ERC) projections analyses. In the Bulgaria and Romania chapters the Baseline and Enlargement scenarios projections are analysed. Projections are presented according to the "grains and oilseed sectors", "livestock and dairy sectors" and "agricultural income".

2 Austria

Martin Kniepert, Universität für Bodenkultur Wien, Austria

2.1 Baseline

Table 2.1 shows the specific assumptions for Austria on the macroeconomic variables that underlie the model's baseline and scenario projections up to 2015.

Table 2.1: Assumptions on macroeconomic variables for Austria

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	8.0	8.2	8.2	8.3	8.3	8.3	8.3	8.4	8.4	8.4	8.4	8.5
GDP	bil. Euro97	190	205	208	211	214	217	220	224	227	231	235	239
GDP per capita	Euro97/cap	23746	25007	25248	25542	25839	26127	26470	26796	27127	27462	27802	28146
Inflation	1997=1	1.11	1.19	1.21	1.23	1.25	1.27	1.29	1.32	1.34	1.36	1.38	1.41

Source: Statistik Austria, own calculations

The 2003 CAP reform changed the premiums that apply in the Austrian cereals, oilseeds, livestock and dairy sub-sectors. From 2005, the year that the SFP was introduced in Austria, only certain direct payments in the cattle sector remain partly coupled. Slaughter premiums have been maintained as partially (40%) coupled payments, while suckler cow premiums have been kept fully coupled to production. In addition, the Austrian suckler cow quota was increased by 50,000 head to 300,000, with beef heifers eligible for this coupled payment. Compensation payments in the dairy sector, introduced in 2004, will remain coupled to production until 2007, and will then be decoupled completely and added to the SFP. Durum wheat supplementary payments are the only direct payment in the arable sector that will remain coupled to production. All other payments for agricultural commodities will be fully decoupled and be paid independently of the use of land or animals.

It is assumed in the AGMEMOD model that the decoupled payments will have some supply-inducing impacts on the Austrian agricultural sector. Relative to the fully coupled payments that pertained under Agenda 2000, the supply-inducing impact of the decoupled SFP will depend on the distribution effects of payments to other sectors in comparison with entitled hectares and animals in the reference years (12% of subsidies in the reference period will flow to non-subsidised land), on (compulsory) modulation effects (total modulation rate will reach 25% of CAP subsidies in Austria in 2015) and on what has in the AGMEMOD framework has been termed "shift rate" effects (see Report III - AGMEMOD – Model description for a full discussion).
Table 2.2 shows the derived multipliers that reflect the assumed supply-inducing impact of decoupled direct payments in the AGMEMOD model for the Austrian agricultural sector. These multipliers, when multiplied by the value of the direct payments under Agenda 2000, give the 'synthetic' premiums that influence the supply side of the Austrian AGMEMOD model.
Table 2.3 presents the AGMEMOD Baseline projections for the Austrian agricultural sector. In the following sub-sections the results for the grains and oilseeds, livestock and meat, and dairy markets are discussed.

Grains and oilseed sectors
The decoupling of direct payments from production under the Baseline is projected to lead to lower receipts from grain production; this is despite the fact that producer prices for grains are projected to increase due to projected increases in EU and world market prices between 2005 and 2015. The Baseline projection for Austrian cereal prices provides for price increases over the period 2005 to 2015 of between 1 and 5% – see Table 2.3 for full details. Despite increasing prices, overall Austrian grain area is projected to decrease by

approximately 1%. Within the cereals sector, wheat area is projected to increase by 1% and maize by 12% between 2005 and 2015. Austrian barley area harvested, by contrast, is projected to contract by 12% over the same period. Projected yield developments are, for all grains, projected to largely follow their long term trends; the influence of projected price changes is marginally positive. On average, yields are expected to increase by 18% across all grains, with individual grains yield growth over the projection period ranging from 16 to 20%. Thus, despite the lower area harvested in the Austrian cereals sector as a result of the decoupling of direct payments, total Austrian grain production is, between 2005 and 2015, projected to increase by 18%. Growth in maize production accounts for the largest proportion (60%) of this projected growth.

Table 2.2: Supply-inducing multipliers of Austrian agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	0.86	0.83	0.80	0.78	0.76	0.74	0.72	0.71	0.69	0.67	0.65
Oilseeds	index	1.00	0.86	0.83	0.80	0.78	0.76	0.74	0.72	0.71	0.69	0.67	0.65
Suckler cows	index	1.00	0.86	0.81	0.76	0.72	0.69	0.65	0.62	0.59	0.56	0.53	0.50
Milk	index	1.00	0.86	0.85	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Maize	index	1.00	0.86	0.83	0.80	0.78	0.76	0.74	0.72	0.71	0.69	0.67	0.65
Ewes	index	1.00	0.86	0.81	0.76	0.72	0.69	0.65	0.62	0.59	0.56	0.53	0.50
Sheep	index	1.00	0.86	0.81	0.76	0.72	0.69	0.65	0.62	0.59	0.56	0.53	0.50
Bulls	index	1.00	0.86	0.81	0.76	0.72	0.69	0.65	0.62	0.59	0.56	0.53	0.50

Source: Own calculations

Over the period 2005 to 2015, domestic consumption of grain is projected to increase by 8%, this despite rising prices and falling livestock numbers. Feed consumption of grains is projected to decrease for all grains, with feed use of wheat declining by 15% and feed barley use declining by 22% over the projection period. Maize feed use is expected to decline by a lesser amount, with feed use of maize in Austria in 2015 2% lower than in 2005. This projected development implies a shift towards feeding maize. Concerning food use, observed consumption patterns are reinforced, with Austrian barley consumption declining. Maize and wheat non-feed use is, over the projection period, expected to increase, with income and trend effects dominating projected own price developments.

Under the Baseline, productivity-driven production increases in the Austrian cereals sector, when combined with lower consumption increases and largely unchanged projections for cereal imports, lead to projections of Austrian cereal exports growing strongly, with exports in 2015 projected to be 44% higher than in 2005. The largest part of this growth is accounted for by growth in maize exports.

With a value of €32 Mio in 2005 (at producer prices, i.e. excluding compensation payments), the value of oilseeds production in Austria amounts to only 7% of the value of all Austrian grain production. Nevertheless, when moves to encourage the production of rapeseed as an energy crop are considered, it becomes rather more important for analytical purposes. The current AGMEMOD model takes world prices of oilseeds as exogenously determined, and while projections for oilseed prices are projected to increase in US dollar terms, the projected development of prices in euro, given our assumptions about a strengthening euro, means that oilseed prices in the EU and in Austria will decline. This projection runs contrary to some expectations that the demand for oilseeds for use in the production of bio-energy will lead to higher prices.[1] Under the Baseline, oilseed prices are projected to decrease in euro terms, with rapeseed declining by 7% and soybeans by 10%, and with sunflower seed prices

1 Incorporating bio-energy demand for oilseeds within the AGMEMOD model is a topic currently being pursued as part of the 6th Framework research project AGMEMOD 2020.

constant over the projection period (2005 to 2015). Domestic use of oilseeds in Austria is projected to increase by 3% in response to lower prices. Following the decoupling of arable aid payments in 2005, total Austrian oilseed area is projected to decline by 10% over the period 2005 to 2009 and to stabilise thereafter. Rapeseed, soybean and sunflower areas harvested are all affected to more or less the same degree. Baseline oilseed yields are projected to follow long-term trends. Productivity increases (i.e. yield increases) largely counterbalance the impact of reductions in oilseed area harvested; of the oilseed crops, soybean production shows the strongest increase, with production up by 3% over the period 2005 to 2015. On the demand side, demand for soybeans is projected to grow strongly (up 63%), with growth in the domestic use of rapeseed (up 4%) offsetting the projected decline in the domestic use of sunflower seeds in Austria (-5%). Foreign trade and stocks are more or less constant over the projection period, with the notable exception that self-sufficiency in soybean is expected to decrease as growth in demand outstrips growth in indigenous production.

Livestock and dairy sectors

Under the Baseline, the size of the Austrian suckler cow herd is largely stable over the projection period (2005 to 2015): following a slight increase in the wake of the CAP reform in 2005 (which saw an increase in the Austrian suckler cow quota), beef cow ending stocks are expected to decline, so that by the end of the projection period the ending stocks will be more or less unchanged from the levels observed in 2005. This suggests that retaining the link between production and receipt of the suckler cow premium payments will fulfil its purpose (i.e. to maintain suckler cow numbers), but that the quota increase in Austria would, by 2015, not be fully used. The number of dairy cows is expected to continue largely its long-term downward trend (due to increased milk production per cow); milk price decreases, and the decoupling of the compensation payments in 2007 have an additionally depressing effect on ending stocks of dairy cows. The total ending stock of Austrian dairy cows is expected to decrease by 15% between 2005 and 2015 under the Baseline. Following these projected Baseline developments in beef and dairy cow numbers, total Austrian production of cattle is expected to decrease by 15%, while beef and veal production will decline by 8%. The lower projected decline in beef and veal production is possible due to projected increases in the average slaughter weight, with beef breeds likely to account for an increased share of the Austrian cow herd. Domestic consumption of beef and veal is projected to continue declining over the Baseline period (down 9%). The projected increase in the price of beef in Austria (up 5%) will play its part in this development. Beef and veal self-sufficiency in Austria in 2005 being 129%, the projected decline in both production and consumption of beef in Austria are not likely to change appreciably the degree of Austrian beef and veal self-sufficiency. Imports and exports of beef are both projected to increase over the Baseline period, reflecting an increased degree of market integration in central European meat markets.

The 2003 CAP reform did not bear directly on pig or poultry producers, but is projected to affect these markets via the markets for meat and supplies of grains and other feed ingredients. Despite the projected changes noted above, Austrian pork production is projected to be more or less stable (increasing by 0.5%) over the period 2005-2015. Projected declines in livestock numbers (down 5%) are offset by projected increases in the slaughter weight of pigs. After the rapid growth of pork consumption up to the mid-1980s, Austrian pork production contracted for a couple of years, and began to stabilise over the last decade. Consumption is now projected to increase again, with domestic use of pork in Austria expected by 2015 to be 5% higher than in 2005. This projected increase in domestic use is

driven by a projected 1.5% increase in per capita consumption and population growth of 3.3%. Over the projection period, Austrian self-sufficiency in pork is likely to decrease from 102% to 97%.

The fall in the poultry key market price (down 14%) will not be transmitted fully to the Austrian market over the simulation period, with poultry prices projected to decline by 2%. This price projection, when combined with changes in feed costs and substitution and trend (productivity) effects, assumes a projected increase in poultry production (up 15%). In contrast to the projected shift in Austrian pork and beef consumption, poultry consumption is projected to increase strongly (up 18%), this being driven by changes in relative prices of meats and by increasing population and per capita GDP levels.

The cuts in butter intervention prices (down 25% from 2004 prices) in the Baseline scenario are reflected in the Austrian market prices of butter, down by 6%. This is expected to lead to a 2% reduction in Austrian butter production. The price of skimmed milk powder is also projected to decrease (down 8%), generating strong decline of production to zero in recent years. This result presents a problem that will be resolved in the course of work currently in progress as part of an FP6 contract. However, it is clear from recent data on Austrian dairy commodity production that neither SMP nor WMP production is important in Austria. As the price for cheese remains practically constant, increasing over the ten-year Baseline projection period by 2%, there is no significant change in Austrian cheese production. On the other hand, changing consumption patterns and a growing demand side in general lead to an increase of cheese consumption, under the Baseline, of 17%. Milk deliveries are expected to follow the given quota, with the stepwise increase in 2004-2006 (up 0.8%). Under the Baseline, total domestic production of milk in Austria is projected to decline by 10% due to the contraction in the use of milk as an animal feed.

Table 2.3: Baseline results concerning main agricultural commodities, Austria

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	4040	4411	4487	4566	4648	4660	4807	4884	4963	5042	5121	5201
Domestic use	1,000 ton	3866	4219	4260	4307	4353	4386	4422	4469	4513	4549	4575	4604
Soft wheat													
Production	1,000 ton	1200	1301	1317	1332	1352	1370	1385	1400	1416	1431	1447	1463
Domestic use	1,000 ton	918	966	970	967	971	977	982	986	990	993	997	999
Producer price	euro/ton	104	99	98	100	102	101	101	101	102	102	103	103
Durum wheat													
Production	1,000 ton	52	81	84	86	88	89	91	93	96	98	100	102
Domestic use	1,000 ton	72	85	87	89	91	93	94	96	98	100	102	104
Producer price	euro/ton	142	140	140	142	142	141	141	142	142	142	143	143
Barley													
Production	1,000 ton	1046	1040	1046	1055	1061	1067	1073	1079	1084	1089	1094	1099
Domestic use	1,000 ton	826	853	838	831	823	808	794	782	768	752	732	712
Producer price	euro/ton	94	90	91	92	92	93	93	93	93	93	94	94
Maize													
Production	1,000 ton	1742	1989	2040	2093	2148	2203	2257	2312	2367	2423	2480	2537
Domestic use	1,000 ton	2050	2400	2451	2509	2559	2600	2646	2701	2755	2803	2847	2892
Producer price	euro/ton	107	102	102	102	103	103	103	103	103	103	103	103
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	207	261	243	239	235	238	240	241	242	243	244	244
Domestic use	1,000 ton	299	330	330	333	332	331	332	333	334	335	336	337
Rapeseed													
Production	1,000 ton	101	132	122	120	118	120	121	122	123	123	124	124
Domestic use	1,000 ton	182	207	206	205	204	205	205	206	206	207	208	208
Producer price	euro/ton	127	174	171	170	168	168	167	167	166	164	163	161
Sunflower													
Production	1,000 ton	68	75	71	72	72	72	72	71	71	71	71	70
Domestic use	1,000 ton	79	87	84	85	85	85	85	85	85	85	85	85
Producer price	euro/ton	169	179	184	183	184	185	185	185	184	183	182	180
Soybeans													
Production	1,000 ton	38	54	49	47	45	46	47	48	48	49	49	49
Domestic use	1,000 ton	37	35	40	42	42	42	42	42	43	43	44	44
Producer price	euro/ton	206	227	206	191	197	202	203	203	206	206	205	204
Beef and veal													
Production	1,000 ton	178	190	190	188	187	187	185	183	181	178	176	173
Domestic use	1,000 ton	153	147	146	144	143	142	141	139	138	136	135	134
Producer price	euro/100 kg	308	293	290	300	303	298	295	294	295	297	300	304
Pig meat													
Production	1,000 ton	469	487	487	490	490	488	487	488	489	488	486	485
Domestic use	1,000 ton	462	475	477	482	484	484	485	488	490	493	495	498
Producer price	euro/100 kg	146	135	131	131	136	138	140	139	137	140	143	146
Poultry meat													
Production	1,000 ton	109	119	121	122	124	126	128	130	132	133	135	137
Domestic use	1,000 ton	140	153	156	159	161	164	167	170	173	176	178	181
Producer price	euro/100 kg	194	193	193	192	192	192	192	192	191	191	191	191
Sheep meat													
Production	1,000 ton	7	8	8	8	8	8	8	8	8	8	8	8
Domestic use	1,000 ton	11	12	12	12	13	13	13	14	14	15	15	16
Producer price	euro/100 kg	197	205	206	208	210	212	213	214	215	216	218	219
Fluid milk													
Production-quota	1,000 ton	2544	2554	2564	2574	2574	2574	2574	2574	2574	2574	2574	2574
Domestic use	1,000 ton	742	726	724	722	719	718	716	715	714	713	685	657
Whole sale price	euro/100 kg	30	28	27	27	27	27	27	27	27	27	27	27
Butter													
Production	1,000 ton	37	33	32	32	32	32	32	32	32	32	32	32
Domestic use	1,000 ton	40	40	40	40	40	39	39	39	39	39	39	39
Whole sale price	euro/100kg	311	289	274	269	271	269	269	269	270	270	271	272
SMP													
Production	1,000 ton	16	3	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	1	3	4	4	4	4	4	5	5	5	5	5
Whole sale price	euro/100kg	253	200	187	182	185	184	183	183	183	184	184	185
WMP													
Production	1,000 ton	3	2	2	3	3	2	1	0	0	0	0	0
Domestic use	1,000 ton	2	3	3	3	3	3	3	3	3	3	3	3
Whole sale price	euro/100kg	282	275	268	278	287	283	280	281	283	285	287	289
Cheese													
Production	1,000 ton	142	148	149	149	149	149	149	149	149	149	148	148
Domestic use	1,000 ton	148	163	165	169	172	174	177	180	183	186	188	191
Whole sale price	euro/100kg	112	111	111	110	110	111	112	112	112	112	113	113

Source: Austrian AGMEMOD Model (2006)

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities and only include feedstuffs in terms of modelled input variables, it is possible to approximate the development of gross agricultural sector income. This is based on the development of agricultural output value, subsidies (direct payments and SFP) made to Austrian producers, and the commodities and feeding costs under consideration, respectively. Table 2.4 presents the Baseline projections for Austrian agricultural sector income, with data presented as indices, with base year 2000.

Table 2.4: Agricultural output, subsidies, feed cost and gross income in Austria1

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.99	0.98	0.99	1.01	1.01	1.01	1.01	1.01	1.02	1.03	1.04
Subsidies/SFP	2000=1	1.00	1.00	0.98	0.96	1.13	1.10	1.08	1.06	1.04	1.02	1.00	0.98
Feeding costs	2000=1	1.00	0.91	0.89	0.90	0.90	0.87	0.86	0.85	0.83	0.82	0.81	0.79
Gross agric. income	2000=1	1.00	1.02	1.00	1.01	1.07	1.07	1.08	1.07	1.07	1.08	1.09	1.10

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Austrian AGMEMOD Model (2006)

The share of subsidies/SFP in the agricultural output value under consideration will increase from 12% in 2000 to 15% in 2015. This is entirely due to the introduction of milk compensation payments in 2004, whereas subsidies for crops and livestock products will contract in part, due to the modulation of decoupled direct payments and due to some contraction in animal activities that remain coupled to production. From 2005 to 2015, under the Baseline, Austrian agricultural output value increases by 5%. Feeding costs are projected to decline due to decreasing stocks of animals and falling prices for oilseed meal. Overall, under the Baseline, Austrian gross agricultural income is projected to increase – ceteris paribus - by almost 8% in the study period.

2.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU Member States (MS). SPS payments in EU15 MS were, above certain amounts, also subject to modulation. The 'Further CAP reform' scenario, described in Report III -AGMEMOD - Model description, involves effectively standardising the MS' currently nationally differentiated CAP implementation plans by imposing full decoupling from 2007, while the rates of compulsory modulation associated with the current SPS are increased to 10% from 2007 onwards.

Austria chose in 2004 to decouple from production almost all direct payments previously made to farmers, except for the slaughter and suckler cow premiums (see above). Austria introduced an SPS based strictly on historical entitlements (average of payments 2002-2004). Austrian farmers receiving single farm payments (SFP) in excess of €5,000 were, like other farmers in EU15 MS, subject to modulation, with rates reaching a maximum of 5% in 2007.

The further CAP reform scenario, involving the "full" decoupling of all CAP direct payments and increased rates of modulation, would not, *a priori*, be expected to have a major impact on the supply and use of agricultural commodities in Austria. On the one hand, many commodities were already fully decoupled under the LA, so the move to full decoupling would not significantly change the policy environment faced by many producers. Increasing the rate of compulsory modulation by decreasing the value of the SFP would, however, be expected to have some (negative) impact on the supply of agricultural commodities (this rate

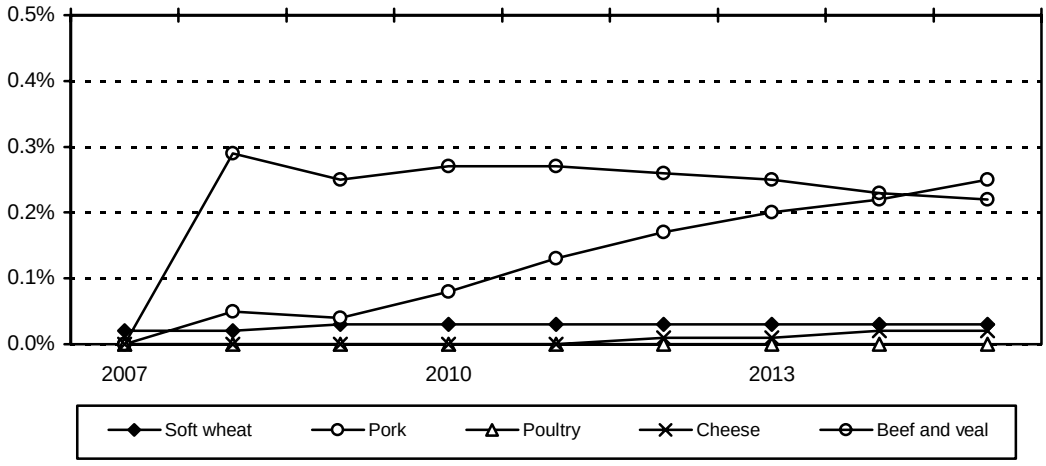
is increased from 5 to 10% for this scenario). In addition, the full decoupling of CAP payments in all EU MS would be expected to alter the supply and use balance on some EU agricultural commodity markets since many MS have chosen to only partially decouple some direct payments. The altered supply and use balance at EU level would be expected to involve the contraction of indigenous production of those agricultural commodities that are still supported by coupled direct payments and to consequently have at least some positive impact on EU market prices for agricultural commodities.

The further CAP reform scenario results presented in Table 2.6 below show the effects of complete decoupling in Austria and other EU countries. In the scenario results for Austria, the main impact of the reform would be in the cattle sector, where the suckler cow premium and the slaughter premium had remained fully and partially coupled.

FCR Scenario Main Results

The impact of full decoupling on the Austrian agricultural commodity markets is reflected in the development of prices which clear the sub-models of the Austrian agricultural commodity markets. The implementation of full decoupling across all EU MS is projected to lead to small increases in the supply-inducing prices that are used in the Austrian AGMEMOD sub-model. Figure 2.1 presents the percentage changes from the Baseline level projections for the prices of four key commodities in the Austrian AGMEMOD model (soft wheat, pork, poultry and milk).

Figure 2.1:Austrian Prices: FCR Scenario % Δ from Baseline



Source: Austrian AGMEMOD Model (2006)

Table 2.5 and Table 2.6 compare the Austrian AGMEMOD model's projections under the FCR scenario with the Baseline projections. The remainder of this section comments on these results.

Grains and oilseed sectors

The impact of the FCR scenario on Austrian grain markets, compared to the Baseline projections, are, as expected, quite modest. One important reason is that the AGMEMOD crop commodities in this study (with the exception of durum wheat) were already fully

decoupled in the Baseline, and hence the main effect of decoupling direct payments is incorporated in the Baseline projections discussed above. Under the FCR scenario, EU grain prices are projected to increase slightly due to the full decoupling of arable aid direct payments in all EU MS. However, the impact on Austrian grain prices is negligible compared to Baseline levels (see Figure 2.1).
An indirect effect of decoupling could be expected from livestock changes (see below) in that less feed is required under full decoupling due to a smaller cattle herd. This effect is not strong, but it shows up in Table 2.5. This indirect effect is opposite to the direct effect arising from the arable sector itself. This might be one reason why differences between the scenarios are somewhat limited with respect to price developments.

Livestock and dairy sectors
Under the Baseline discussed earlier, ending numbers of suckler cows in Austria were projected to increase over the Baseline period by up 1% due to the suckler cow premium remaining fully coupled to production, the increase in the suckler cow quota allocated to Austria under the reform, and the partial decoupling of the slaughter premium. The decoupling of direct payments in other EU MS under the Baseline is projected to lead to increases in EU prices, and Austrian cattle producers benefit from the higher prices while retaining their coupled support payments. The impact of the FCR scenario on the Austrian livestock supply side, when compared to the Baseline projections, is as a consequence different. Under the FCR scenario, production of beef is projected to decrease, although the magnitude of the decreases in activity in the Austrian cattle sub-sector are modest. Compared with the Baseline, the Austrian suckler cow ending stock in 2015 is projected to be only 1.1% lower under the FCR scenario. Higher cattle prices and the assumed high incentive effects of decoupled payments lead to rather similar results, when comparing the Baseline and further reform scenarios. The influence of the FCR scenario on other animal production is projected to be minor.

The reform of the dairy commodity market organisation is, under the Baseline, largely unaffected by the reforms examined under the further CAP reform (FCR) scenario. The increased rate of modulation of SFP is not projected to lead to any contraction in the total volume of milk produced in Austria. Austrian milk production is projected to continue to fill the quota. Changes in the rate of modulation are not expected to change the relative prices of different dairy commodities and as a consequence any changes in the supply and use balance in dairy commodity markets in Austria and the Austrian farm gate milk price, under the FCR scenario, are negligible. Differences are shown for skimmed and whole milk powder, but as these commodities are oscillating around zero, these projections should not be overstressed.

Agricultural income
It was expected that the somewhat higher agricultural commodity prices under the FCR scenario and the modest increases in the levels of production in response to the projected price would lead to an increase in Austrian agricultural income. On the other hand, the fall in suckler cow production and higher modulation should have the opposite effect. Whereas income was projected to increase under the Baseline by 8.4%, it is projected to decrease by 3.4% relative to this Baseline under the FCR scenario, due primarily to the increased rate of modulation assumed (Table 2.5).

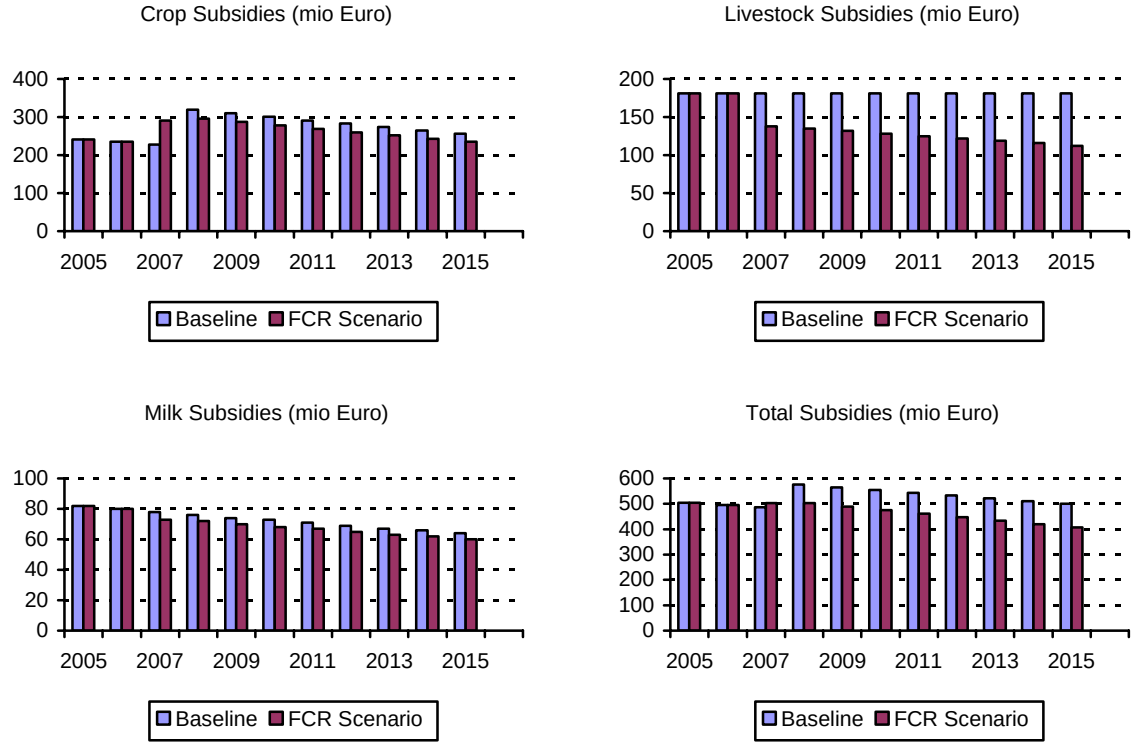
Table 2.5: Agricultural output and income in Austria: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%
Subsidies/SFP	2.2%	-12.6%	-13.4%	-14.2%	-15.0%	-15.8%	-16.7%	-17.7%	-18.6%
Feeding costs	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross agric. income	0.5%	-2.9%	-3.0%	-3.1%	-3.3%	-3.4%	-3.5%	-3.5%	-3.6%

Source: Austrian AGMEMOD model (2006)

The large reduction in subsidies that is projected under the FCR scenario is due to the switch of suckler cow payments from being fully coupled under the Baseline to being fully decoupled under the FCR scenario. With decoupling, premiums will be lowered by multipliers in order to estimate a 'synthetic' premium (in other words, to estimate the part of the premium that will be on farmers' minds when they make their production decision). Thus, part of the original suckler cow premium will go to land that was not subsidised in the reference period, while another part will be used for regional purposes (modulation effect). In comparison with the Baseline, this would mean an almost 40% reduction in the subsidies for suckler cows in the FCR scenario. These subsidies contribute almost two thirds to the total Austrian agricultural subsidies (only the commodities covered by this study have been considered). Hence the total amount of subsidies is projected to decline by approximately 20%. Figure 2.2 shows the development of subsidies in the Baseline and FCR scenarios.

Figure 2.2: Austrian Subsidies in Baseline and FCR scenario (€ million)



Source: Own calculations (2006)

Table 2.6: Austria: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.01%	0.0%	0.0%	-0.2%	-0.3%	-0.5%	-0.6%	-0.7%	-0.9%
Soft wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	-0.1%	-0.3%	-0.4%	-0.6%	-0.7%	-0.9%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	-0.2%	-0.5%	-0.7%	-1.0%	-1.2%	-1.4%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	-0.2%	-0.4%	-0.6%	-0.8%	-1.0%	-1.2%
Producer price	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%
Domestic use	0.0%	0.0%	0.0%	-0.2%	-0.4%	-0.5%	-0.7%	-0.9%	-1.2%
Producer price	0.0%	0.3%	0.2%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.2%	0.3%
Producer price	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.2%	0.4%	0.6%	0.8%	1.0%	1.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.1%	0.1%	0.5%	0.8%	1.2%	1.5%	1.8%	2.1%
Producer price	0.0%	0.0%	0.0%	0.1%	0.2%	0.3%	0.3%	0.4%	0.4%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.3%	0.6%	0.8%	1.1%	1.3%	1.6%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	1.0%	1.0%	1.4%	4.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.3%	0.4%	0.5%	0.7%	0.8%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Austrian AGMEMOD Model (2006)

2.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is US$ 1.24 per euro from 2007. In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro, with the exchange rate moving to rates of 1.3 and 1.4 US dollar per euro in 2007. The third projection is for the euro to depreciate versus the dollar to a parity exchange rate of US$ 1 per euro.

Austria is not a key price country in the AGMEMOD model structure. Thus the importance of the alternative exchange rate paths examined in this scenario lies in the impact the different exchange rates have on the key commodity price projections generated by the combined AGMEMOD model.

For a number of commodities, such as oilseeds and their associated meals and oils, the AGMEMOD model does not endogenously model their prices. Supply-inducing prices for European farmers are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products, any change in the exchange rate will have a direct impact on the national currency prices and on the associated supplies of and demand for the commodity in question. Given that Austria is not a significant producer of oilseeds or oilseed products, changes in the euro US dollar exchange rate will for such products impact on the demand in this country for these products.

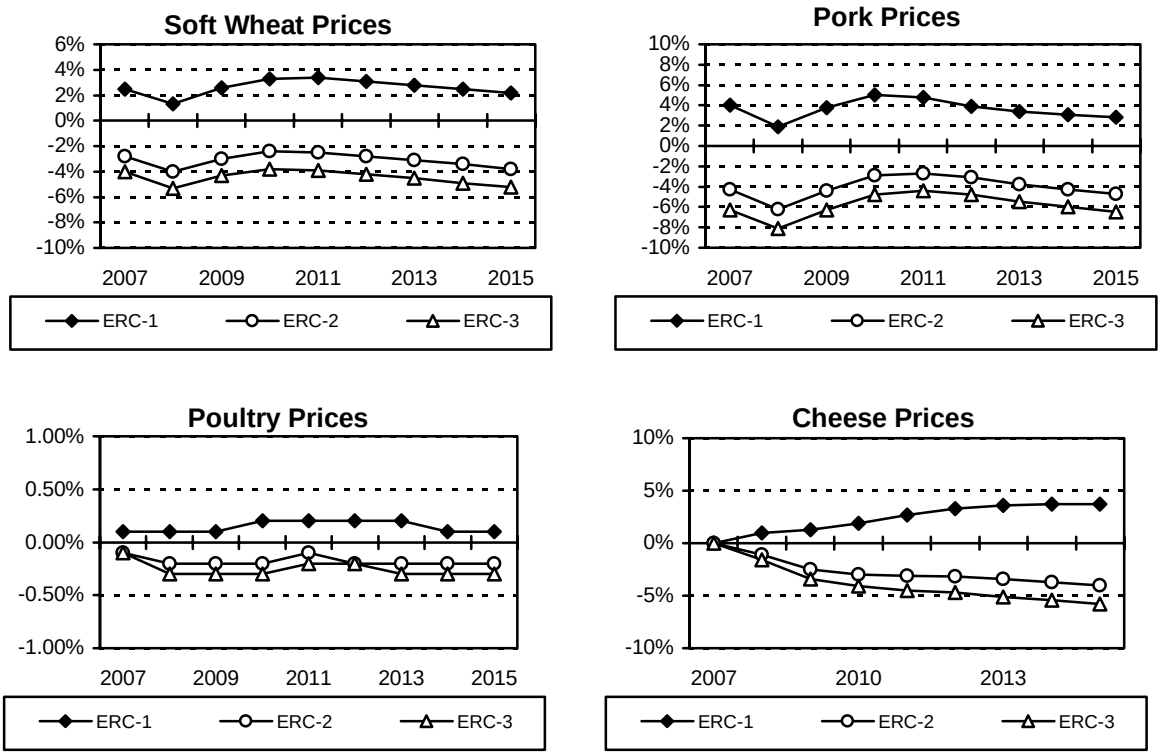
ERC Scenario Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for Austria. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 2.7 to Table 2.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

The impact of the three ERC scenarios when compared with one another and with the Baseline projections indicate that the AGMEMOD model performs as one would have expected. Key prices under the ECR-1 scenario, where the €/US dollar exchange rate is 1.0 from 2007, are characterised by increases. When compared with Baseline price projections for Austria, prices under both the ERC-2 and ERC-3 scenarios, where the euro appreciates against the dollar, decline as expected. The size of the increase in the key prices that are endogenously determined within the AGMEMOD modelling system are in general smaller than the percentage changes in prices that are determined exogenously to the AGMEMOD model. For these prices the percentage change in the exchange rate from Baseline levels is fully reflected in the euro prices for these commodities (oilseeds and oil seed meals and oils).

The impact of the changed exchange rate on commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities. Figure 2.3 illustrates the percentage change in four Austrian prices under each of the three ERC scenarios. The commodity prices chosen for Austria are soft wheat, pork, poultry and milk. These four commodity prices are all endogenously determined in the AGMEMOD model.

Figure 2.3: Austrian Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: Austrian AGMEMOD Model (2006)

When the projections for Austrian commodity markets under the ECR-1 scenario are compared with the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use.

The two exchange rate change scenarios, labelled ECR-2 and ECR-3, involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under the ECR-2, the euro/US$ exchange rate is 1.3, while under ERC-3 it is assumed to be 1.4 from 2007. As expected the projections for Austria under both scenarios are characterised by similar changes in prices, quantities supplied and demanded. As in the ECR-1 scenario, the impact of the exchange rate changes are most fully expressed in the prices of commodities which are exogenous to the AGMEMOD model system. For the majority of agricultural commodities in the AGMEMOD system, prices are determined endogenously, together with all of the elements of supply and use balances. Under each of the euro/US$ exchange rate scenarios, market prices are projected to be lower than under the Baseline, with often concomitant reductions in the volume of domestic production and small increases in domestic use. The magnitude of the impacts on prices and supply and use balances is, as expected, greater under ERC-3 than ERC-2.

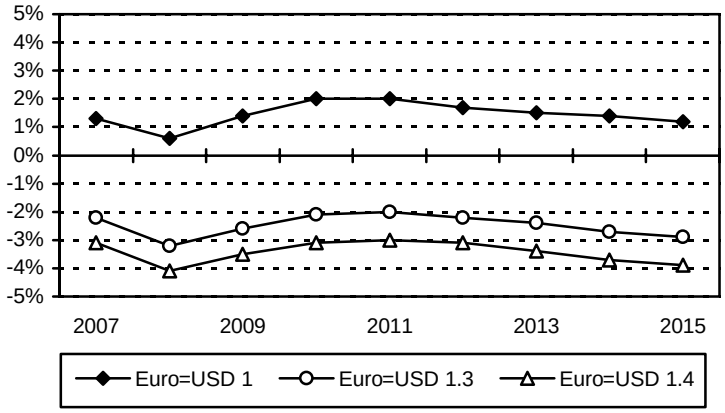
As noted above, summaries of the three ERC scenario projections are presented in Table 2.7 to Table 2.9.

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks analysed under ERC Scenarios ERC-1, ERC-2 and ERC-3. The main effect of changing the exchange rate

assumption is on the value of Austrian gross agricultural income (ceteris paribus) that is projected to result from projected changes in the value of Austrian agricultural output. Higher prices and production levels in the ERC-1 scenario would lead to increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 2.4).

Figure 2.4: Gross agriculture income in Exchange Rate Scenarios. (% Δ from Baseline)



Source: Austrian AGMEMOD Model (2006)

Table 2.7: Austria: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.1%	0.0%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%
Domestic use	-0.1%	0.0%	0.1%	0.1%	0.0%	-0.1%	-0.1%	-0.3%	-0.6%
Soft wheat									
Production	0.1%	0.3%	0.2%	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%
Domestic use	-0.6%	-0.2%	-0.5%	-0.8%	-0.9%	-0.9%	-1.0%	-1.1%	-1.2%
Producer price	2.5%	1.3%	2.6%	3.3%	3.4%	3.1%	2.8%	2.5%	2.2%
Durum wheat									
Production	0.0%	-0.2%	-0.6%	-0.6%	-0.8%	-1.0%	-1.0%	-0.9%	-0.8%
Domestic use	-0.1%	0.0%	-0.1%	-0.4%	-0.6%	-0.9%	-1.1%	-1.3%	-1.5%
Producer price	1.0%	0.2%	0.8%	0.9%	0.8%	0.6%	0.5%	0.5%	0.4%
Barley									
Production	0.0%	-0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.0%	0.1%	0.4%	0.7%	0.8%	1.1%	1.3%	1.3%	1.2%
Producer price	0.7%	0.6%	1.0%	1.3%	1.5%	1.5%	1.4%	1.3%	1.2%
Maize									
Production	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.1%	0.1%	0.2%	0.2%	0.0%	-0.1%	-0.2%	-0.5%	-0.8%
Producer price	0.8%	0.7%	1.0%	1.3%	1.5%	1.4%	1.3%	1.2%	1.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.5%	0.0%	-0.1%	-0.1%	0.1%	0.2%	0.3%	0.3%	0.4%
Domestic use	0.2%	0.1%	0.3%	0.2%	0.0%	-0.3%	-0.5%	-0.7%	-1.0%
Producer price	3.2%	1.6%	2.9%	3.6%	3.6%	3.2%	2.8%	2.5%	2.2%
Pig meat									
Production	0.0%	0.0%	0.2%	0.4%	0.4%	0.5%	0.7%	0.6%	0.5%
Domestic use	0.3%	0.1%	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%
Producer price	4.0%	1.9%	3.8%	5.0%	4.8%	3.9%	3.4%	3.1%	2.8%
Poultry meat									
Production	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.2%	0.4%	0.6%	0.8%	1.0%	1.2%
Producer price	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%
Sheep meat									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	2.1%	0.7%	1.7%	2.4%	2.6%	2.6%	2.7%	2.9%	3.0%
Producer price	0.3%	0.4%	0.3%	0.5%	0.6%	0.7%	0.6%	0.7%	0.7%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.4%	0.8%	1.5%	2.0%	2.1%	2.0%	1.9%	1.8%	1.6%
Butter									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.0%	0.5%	1.0%	1.3%	1.3%	1.2%	1.1%	1.0%	0.9%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-2.7%	-1.4%	-2.6%	-2.9%	-2.6%	-2.0%	-1.5%	-0.9%	-0.4%
Whole sale price	2.2%	1.2%	2.3%	2.9%	3.0%	2.8%	2.6%	2.3%	2.1%
WMP									
Production	22.4%	10.9%	37.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-6.5%	-3.5%	-6.2%	-7.4%	-7.3%	-6.5%	-5.7%	-4.9%	-4.1%
Whole sale price	3.7%	1.9%	3.7%	4.8%	4.8%	4.4%	3.9%	3.5%	3.0%
Cheese									
Production	-0.2%	0.0%	-0.1%	-0.1%	0.0%	0.1%	0.2%	0.2%	0.3%
Domestic use	0.0%	-0.3%	-0.4%	-0.5%	-0.6%	-0.6%	-0.5%	-0.4%	-0.3%
Whole sale price	0.0%	1.0%	1.3%	1.9%	2.7%	3.3%	3.6%	3.7%	3.7%

Source: Austrian AGMEMOD Model (2006)

Table 2.8: Austria ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%
Domestic use	0.1%	0.1%	-0.1%	-0.6%	-0.8%	-0.8%	-0.8%	-0.9%	-1.1%
Soft wheat									
Production	-0.1%	-0.4%	-0.5%	-0.4%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Domestic use	0.7%	0.9%	0.5%	0.2%	0.1%	0.0%	-0.1%	-0.2%	-0.3%
Producer price	-2.8%	-4.0%	-3.0%	-2.4%	-2.5%	-2.8%	-3.1%	-3.4%	-3.8%
Durum wheat									
Production	0.0%	0.2%	0.9%	1.2%	1.0%	0.9%	0.9%	0.9%	1.0%
Domestic use	0.1%	0.1%	0.1%	-0.1%	-0.3%	-0.6%	-0.8%	-1.0%	-1.3%
Producer price	-1.0%	-1.2%	-0.5%	-0.3%	-0.4%	-0.6%	-0.7%	-0.8%	-0.8%
Barley									
Production	0.0%	0.1%	0.0%	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	-0.2%	-0.5%	-1.0%	-1.1%	-0.8%	-0.6%	-0.5%	-0.6%
Producer price	-0.8%	-1.4%	-1.4%	-1.2%	-1.2%	-1.3%	-1.4%	-1.6%	-1.7%
Maize									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.1%	-0.1%	-0.3%	-0.7%	-1.0%	-1.1%	-1.1%	-1.3%	-1.6%
Producer price	-0.8%	-1.5%	-1.4%	-1.2%	-1.1%	-1.2%	-1.3%	-1.5%	-1.6%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.6%	0.5%	-0.1%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	-0.3%	-0.4%	-0.3%	-0.4%	-0.5%	-0.7%	-1.0%	-1.3%	-1.5%
Producer price	-3.5%	-4.9%	-3.4%	-2.6%	-2.5%	-2.8%	-3.1%	-3.5%	-3.8%
Pig meat									
Production	0.0%	0.0%	-0.2%	-0.7%	-0.8%	-0.5%	-0.3%	-0.3%	-0.4%
Domestic use	-0.3%	-0.4%	-0.2%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%
Producer price	-4.3%	-6.2%	-4.4%	-2.9%	-2.7%	-3.1%	-3.8%	-4.3%	-4.7%
Poultry meat									
Production	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.0%	0.0%	0.0%	0.2%	0.4%	0.6%	0.8%	1.0%	1.2%
Producer price	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%
Sheep meat									
Production	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Domestic use	-2.3%	-2.8%	-1.7%	-0.9%	-0.5%	-0.3%	-0.1%	0.0%	0.2%
Producer price	-0.3%	-0.7%	-0.6%	-0.4%	-0.2%	-0.1%	-0.1%	0.0%	0.0%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.6%	-2.4%	-1.9%	-1.6%	-1.7%	-1.9%	-2.1%	-2.3%	-2.5%
Butter									
Production	0.1%	0.2%	0.2%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.1%	-1.6%	-1.2%	-1.0%	-1.0%	-1.1%	-1.3%	-1.4%	-1.5%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	3.3%	4.6%	3.4%	2.9%	3.2%	3.7%	4.2%	4.6%	5.0%
Whole sale price	-2.6%	-3.7%	-2.9%	-2.3%	-2.4%	-2.7%	-3.0%	-3.2%	-3.5%
WMP									
Production	-24.4%	-38.1%	-41.3%	58.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	7.1%	11.0%	7.3%	5.3%	5.2%	5.7%	6.2%	6.8%	7.2%
Whole sale price	-4.1%	-6.0%	-4.3%	-3.4%	-3.4%	-3.9%	-4.3%	-4.8%	-5.2%
Cheese									
Production	0.2%	0.3%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.4%	0.8%	1.1%	1.2%	1.4%	1.5%	1.7%	1.9%
Whole sale price	0.0%	-1.1%	-2.5%	-3.0%	-3.1%	-3.2%	-3.4%	-3.7%	-4.0%

Source: Austrian AGMEMOD Model (2006)

Table 2.9: Austria: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.1%	-0.2%	0.0%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.2%	0.1%	-0.2%	-0.7%	-1.0%	-1.0%	-1.0%	-1.1%	-1.3%
Soft wheat									
Production	-0.1%	-0.6%	-0.7%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%
Domestic use	1.0%	1.2%	0.7%	0.4%	0.3%	0.2%	0.2%	0.1%	-0.1%
Producer price	-4.0%	-5.3%	-4.3%	-3.8%	-3.9%	-4.2%	-4.5%	-4.9%	-5.2%
Durum wheat									
Production	0.1%	0.3%	1.2%	1.6%	1.5%	1.4%	1.3%	1.4%	1.4%
Domestic use	0.1%	0.2%	0.2%	0.0%	-0.3%	-0.5%	-0.7%	-1.0%	-1.2%
Producer price	-1.5%	-1.5%	-0.8%	-0.6%	-0.7%	-0.9%	-1.0%	-1.0%	-1.1%
Barley									
Production	0.0%	0.1%	0.0%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.0%	-0.2%	-0.7%	-1.4%	-1.6%	-1.3%	-1.0%	-0.9%	-1.0%
Producer price	-1.1%	-1.9%	-2.0%	-1.9%	-1.8%	-1.9%	-2.1%	-2.3%	-2.5%
Maize									
Production	0.0%	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.1%	-0.2%	-0.4%	-1.0%	-1.3%	-1.3%	-1.4%	-1.5%	-1.8%
Producer price	-1.2%	-2.1%	-2.0%	-1.8%	-1.7%	-1.8%	-2.0%	-2.1%	-2.3%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.8%	0.6%	-0.1%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
Domestic use	-0.4%	-0.5%	-0.4%	-0.5%	-0.6%	-0.8%	-1.1%	-1.4%	-1.6%
Producer price	-5.1%	-6.5%	-5.0%	-4.1%	-4.0%	-4.2%	-4.5%	-4.9%	-5.3%
Pig meat									
Production	0.1%	0.1%	-0.3%	-0.9%	-1.0%	-0.8%	-0.6%	-0.5%	-0.6%
Domestic use	-0.4%	-0.5%	-0.4%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%
Producer price	-6.3%	-8.1%	-6.3%	-4.8%	-4.4%	-4.8%	-5.5%	-6.0%	-6.5%
Poultry meat									
Production	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.0%	0.0%	0.0%	0.2%	0.4%	0.6%	0.8%	1.0%	1.2%
Producer price	-0.1%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%
Sheep meat									
Production	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	-3.3%	-3.7%	-2.5%	-1.7%	-1.2%	-1.0%	-0.8%	-0.7%	-0.5%
Producer price	-0.5%	-1.0%	-0.9%	-0.6%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.3%	-3.2%	-2.8%	-2.5%	-2.6%	-2.8%	-3.0%	-3.2%	-3.5%
Butter									
Production	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.6%	-2.1%	-1.7%	-1.5%	-1.5%	-1.7%	-1.8%	-2.0%	-2.1%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	5.0%	6.2%	4.9%	4.4%	4.6%	5.1%	5.6%	6.0%	6.4%
Whole sale price	-3.9%	-4.9%	-4.1%	-3.6%	-3.7%	-4.0%	-4.3%	-4.6%	-4.9%
WMP									
Production	-35.5%	-50.0%	-60.8%	58.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	10.4%	14.4%	10.5%	8.3%	8.2%	8.7%	9.1%	9.5%	9.8%
Whole sale price	-5.9%	-7.9%	-6.3%	-5.3%	-5.4%	-5.8%	-6.3%	-6.7%	-7.2%
Cheese									
Production	0.4%	0.3%	0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.6%	1.1%	1.5%	1.7%	1.8%	2.0%	2.2%	2.5%
Whole sale price	0.0%	-1.6%	-3.4%	-4.1%	-4.5%	-4.7%	-5.1%	-5.4%	-5.8%

Source: Austria AGMEMOD Model (2006)

3 Belgium and Luxembourg

Bruno Henry de Frahan and Olivier Harmignie, Université catholique de Louvain (UCL), Louvain-la-Neuve

3.1 Baseline

The main assumptions underling the simulation of macroeconomic variables for Belgium and Luxembourg are set out in Table 3.1 and Table 3.2 respectively.

Table 3.1: Assumptions on macroeconomic variables for Belgium

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	10.3	10.3	10.4	10.4	10.4	10.4	10.5	10.5	10.5	10.5	10.5	10.6
GDP	bil. Euro97	214	242	248	280	304	294	290	297	309	322	334	347
GDP per capita	Euro97/cap	28051	23377	23947	26967	29163	28148	27741	28388	29466	30578	31726	32910
Inflation	1997=1	1.09	1.17	1.18	1.20	1.22	1.23	1.25	1.26	1.28	1.30	1.31	1.33

Source: Nationale Bank van België

Table 3.2: Assumptions on macroeconomic variables for Luxembourg

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
GDP	bil. Euro97	17	20	21	24	26	25	25	26	27	28	30	31
GDP per capita	Euro97/cap	38	43	45	50	55	53	52	53	55	57	59	61

Source: STATEC Luxembourg

The contribution the agricultural sector makes to the total GDP of Luxembourg is, at 0.5%, somewhat low (STATEC Luxembourg, 2003). Further, the share of Luxembourg's agriculture output value in the EU and in terms of Belgian agricultural output value is negligible. For that reason, the focus of this section is only on the Belgian agri-food sector.

Belgium implemented the reformed CAP (agreed in 2003) in 2005. With the exception of the sucker cow premium, which will remain fully coupled in both the Flanders and Wallonia administrative regions, almost all other payments have been completely decoupled. There are some exceptions, like payment for seeds or slaughter calves, but these payments are not included in the Belgian AGMEMOD model yet and will thus not generate impacts.

The most important changes due to the 2003 CAP reform in Belgium are:

- payment for cereals and oilseeds are totally decoupled;
- skimmed milk and butter intervention prices will diminish and the payment to compensate for the price decrease is directly allocated to the SFP;
- the suckler cow payment remains coupled;
- the male bovine premium has been totally decoupled.

The payments represented in our model are adjusted by using multipliers (described in detail in Report III - AGMEMOD - Model description) to account for the impact of the decoupled SFP on production decisions made by Belgian farmers.

Multipliers of the SFP scheme

All CAP payments that are linked to production and included in the model are multiplied by a coefficient which takes into account the decoupling rate, the re-allocation of subsidies (in Belgium, 50% of subsidies will be redistributed over land that was not initially subsidised in the reference period 2000-02), the modulation rate (which will be 2.5% in the period 2007-15 in Belgium) and the shift rate representing the part of the payment that remains in the agricultural sector (it is assumed that yearly 2.5% of arable farmers and 5% of livestock farmers will exit the Belgium agricultural sector). Table 3.3 shows the multiplier rates up to

2015 and gives an indication of the amount of the direct payment in the reference period that 'will remain in the mind of the farmer'. For example, the male bovine premium is, under the way the Luxembourg Agreement is implemented in Belgium, fully decoupled. In the AGMEMOD model's representation of the supply-inducing impact of the SPS, Belgian farmers will behave as if they were in receipt of a premium of 61 €/bull (0.29*210 €/bull in 2015).

Table 3.3: Supply-inducing multipliers of agriculture in the Baseline for Belgium

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	0.48	0.47	0.45	0.44	0.43	0.42	0.41	0.40	0.39	0.38	0.37
Oilseeds	index	1.00	0.48	0.47	0.45	0.44	0.43	0.42	0.41	0.40	0.39	0.38	0.37
Suckler cows	index	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Milk	index	1.00	0.59	0.56	0.53	0.50	0.48	0.45	0.43	0.41	0.39	0.37	0.35
Maize	index	1.00	0.48	0.47	0.45	0.44	0.43	0.42	0.41	0.40	0.39	0.38	0.37
Bulls	index	1.00	0.48	0.46	0.43	0.41	0.39	0.37	0.35	0.33	0.32	0.30	0.29

Source: Own calculations Belgian AGMEMOD Model (2006).

Table 3.3 sets out the AGMEMOD Baseline projections for the Belgian agricultural sector. In the following sub-sections the results for grains and oilseeds, livestock and meat, and dairy markets are discussed.

Cereals

The decoupling of direct payments from production is projected, under the Baseline, to lead to higher income from grain production in Belgium. Belgian producer prices of soft wheat are projected to increase due to rising EU key market prices, which are in turn expected to increase as the production of cereals falls across the EU in response to the decoupling of arable aid payments. This likely price development is projected to lead to a 5.8% increase in Belgium's soft wheat area harvested. The productivity per hectare (yield) will also increase due to higher prices for soft wheat and ongoing technical progress. Barley area harvested is projected to decrease over the Baseline projection period by 2.5%, while Belgian maize area harvested is projected to decline marginally. Increases in yields for both barley and maize as projected under the Baseline offset the projected decreases in the harvested area of these crops. The projected increase in the total harvested grain area in Belgium under the Baseline is approximately 4%. The model's results suggest that over the period 2005 to 2015, there will be an increase in soft wheat output of more than 13%, while Belgian barley production is projected to increase by 4.6% and maize production by 8 % over the period 2005 to 2015.

The total domestic use of grains in Belgium is, under the Baseline, projected to grow by 2% despite rising grain prices. As a result of higher grain prices and lower animal numbers, feed use of maize and barley is projected to decrease over the Baseline projection period. Use of maize is likely to decrease less than barley, while soft wheat feed use is projected to increase somewhat over the Baseline projection period. The changes in feed use for the different cereals indicates that more expensive grains are being replaced by grains where the price increase is lower (in relative terms). For example, there is an inverse movement in the aggregate feed uses of soft wheat and maize in Belgium, with soft wheat increasing by 10%, while feed use of maize decreases by 14% over the Baseline projection period.

Due mainly to an increase in demand (reflected in a 16% increase in rapeseed prices), Belgian rapeseed production, under the Baseline, is projected to increase by 21%.

Milk and livestock sector

The introduction of the SFP affects mainly milk and beef production, that received all the subsidies in the animal sector.

Livestock sector
Over the Baseline projection period the size of the Belgian suckler herd remains more or less constant, this being largely due to the fact that in Belgium suckler cow payments remained fully coupled to production. Other bovine herds would, however, be affected by the CAP reform, since male bovine payments have been totally decoupled. As a consequence, Belgian beef meat production is projected to decrease over the Baseline projection period.

Under the Baseline the slaughtering of cattle is projected to decline, with slaughter of suckler cows declining by 5.5% and calf slaughter declining by 14.3%. Increased cattle imports, together with projected growth in bovine slaughter weights of 2.2%, is projected to lead to a decrease in Belgian beef and veal production of 6% over the Baseline projection period. The positive impact of GDP growth alleviates the negative impact of higher producer prices on beef consumption. Belgian beef consumption is projected to decrease by 4% between 2005 and 2015.

Other meat production
The 2003 CAP reform, which is the policy component of the Baseline simulation, does not influence directly the decisions of pig or poultry producers. However, the reforms have effects on these sectors through the markets for meat, for grains and for other feed ingredients. Due to higher prices and higher demand, Belgian pork production is projected to increase by 5% over the period 2005-2015. This increase is driven by projected increases in Belgian pig slaughter weights, up by 9%, and more than offsetting the impact of a 1% decrease in the number of pigs slaughtered over the projection period. Pork production in Belgium is projected to increase (driven by growth in per capita income) while net exports of pork are also expected to grow due to the stronger growth in production compared to domestic use in Belgium.

Belgian poultry production is, under the Baseline, projected to increase by 14%, despite lower poultry prices; in response to lower prices Belgian poultry consumption and exports are projected to increase by 15%. The negative effect of the projected lower output prices on production is offset by lower production costs, due to lower prices of imported feed and ongoing technical progress in the poultry sector.

Milk production
The cut in intervention prices in the Baseline scenario is reflected in the market prices for skimmed milk and butter.

Table 3.4: Baseline results concerning main agricultural commodities of Belgium

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	2133	2255	2299	2346	2401	2294	2509	2510	2517	2529	2544	2561
Domestic use	1,000 ton	4685	4909	4956	4981	5010	5060	5118	5165	5206	5249	5299	5356
Soft wheat													
Production	1,000 ton	1670	1759	1798	1836	1880	1922	1961	1959	1964	1973	1985	1996
Domestic use	1,000 ton	3103	3355	3418	3465	3520	3589	3660	3716	3768	3825	3887	3953
Producer price	euro/ton	102	101	101	103	104	103	102	105	108	110	113	115
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	326	360	365	372	381	390	399	402	406	410	415	421
Domestic use	1,000 ton	698	702	698	694	689	687	684	680	674	668	662	654
Producer price	euro/ton	99	94	96	98	99	100	101	104	108	111	116	121
Maize													
Production	1,000 ton	136	136	137	138	140	144	148	148	147	146	144	143
Domestic use	1,000 ton	884	852	840	822	800	784	773	770	764	756	751	749
Producer price	euro/ton	171	153	152	155	158	158	158	158	158	159	160	161
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	22	26	26	27	28	29	30	30	30	31	31	31
Domestic use	1,000 ton	1902	2045	2055	2067	2076	2074	2067	2056	2042	2027	2009	1990
Rapeseed													
Production	1,000 ton	22	26	26	27	28	29	30	30	30	31	31	31
Domestic use	1,000 ton	454	584	603	628	655	676	695	714	733	754	774	795
Producer price	euro/ton	160	172	174	196	208	195	189	191	193	196	198	200
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	221	220	226	233	240	248	256	263	271	279	287	295
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	1226	1241	1226	1207	1181	1151	1117	1079	1038	994	948	900
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	309	316	315	314	312	310	307	304	301	298	295	292
Domestic use	1,000 ton	235	237	235	232	232	233	233	232	230	230	229	227
Producer price	euro/100 kg	292	259	256	272	275	268	264	266	269	274	281	288
Pig meat													
Production	1,000 ton	1139	1189	1200	1199	1206	1227	1259	1285	1298	1312	1333	1358
Domestic use	1,000 ton	496	519	531	534	528	526	525	531	536	534	533	533
Producer price	euro/100 kg	137	119	110	112	117	119	120	117	115	118	121	123
Poultry meat													
Production	1,000 ton	421	456	462	468	474	481	487	494	499	506	512	519
Domestic use	1,000 ton	196	205	207	210	214	216	220	223	225	229	233	236
Producer price	euro/100 kg	269	261	256	255	256	255	252	249	247	247	247	247
Sheep meat													
Production	1,000 ton	4	4	4	4	4	4	4	4	4	4	4	4
Domestic use	1,000 ton	21	23	23	23	24	24	24	25	25	26	26	27
Producer price	euro/100 kg	170	145	145	144	141	138	135	131	127	124	121	118
Fluid milk													
Production	1,000 ton	3399	3297	3284	3270	3241	3212	3183	3154	3123	3092	3061	3030
Domestic use	1,000 ton	636	678	688	696	702	710	718	726	733	741	748	755
Whole sale price	euro/100 kg	35	32	31	31	31	30	30	30	30	29	29	29
Butter													
Production	1,000 ton	82	81	81	81	81	80	80	79	77	76	74	72
Domestic use	1,000 ton	73	75	76	76	76	76	77	77	77	77	78	78
Whole sale price	euro/100kg	334	304	292	293	295	291	288	291	293	295	297	298
SMP													
Production	1,000 ton	94	84	82	80	77	75	73	70	68	66	63	61
Domestic use	1,000 ton	37	37	37	37	37	37	37	37	37	37	37	37
Whole sale price	euro/100kg	267	240	231	226	225	219	213	209	205	202	199	196
WMP													
Production	1,000 ton	60	59	58	61	63	62	61	61	60	60	60	60
Domestic use	1,000 ton	16	16	16	16	16	16	16	16	16	15	15	15
Whole sale price	euro/100kg	338	323	312	321	330	324	319	320	322	323	324	325
Cheese													
Production	1,000 ton	62	61	62	61	60	60	60	59	58	58	57	57
Domestic use	1,000 ton	182	183	184	184	185	185	186	186	186	187	187	187
Whole sale price	euro/100kg	367	356	353	346	343	343	341	340	340	341	342	344

Source: Belgium AGMEMOD Model (2006)

These projected changes in dairy commodity prices would tend to reduce the transformation of milk into butter and skimmed milk powder in the period 2005-2015. The results for the Belgian butter balance sheet show that butter stocks in 2015 will shrink to three-quarters of

the amount in 2005. Skimmed milk and raw milk prices are expected to decrease after the cut in the butter intervention price. Milk production is still largely determined by the Belgian milk quota level. Belgian dairy cow milk production is projected to continue at the quota level and even show a small increase over the projected period. Due to the decrease in dairy commodity and milk prices, the Baseline results project a slight rise in the consumption of butter and fluid milk, whereas the consumption of cheese is expected to grow by almost 2.5% over the Baseline projection period.

Table 3.4 gives a summary of the projection for the main products in the AGMEMOD model for Belgium.

Agricultural income

Table 3.5 shows the development of agricultural output values, subsidies (remaining direct payments and SFP) to Belgian producers of the commodities under review, and feed costs.

Table 3.5**:** Agricultural output, subsidies, feed cost and gross income in Belgium[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.94	0.91	0.93	0.95	0.95	0.95	0.95	0.94	0.96	0.98	0.99
Subsidies/SFP	2000=1	1.00	1.26	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Feeding costs	2000=1	1.00	0.85	0.83	0.87	0.90	0.87	0.87	0.88	0.89	0.90	0.91	0.92
Gross agric. income	2000=1	1.00	0.97	0.95	0.96	0.97	0.98	0.98	0.98	0.97	0.99	1.00	1.02

1) Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Own calculations

From 2005 to 2015, the value of Belgian agricultural output value is expected to increase, due mainly to the increase in most agricultural output prices (with the obvious exception of milk and dairy products) resulting from decoupling. The total value of Belgian crop production is projected to increase by 25%. The livestock sector accounts for the major part of Belgian agricultural output value. Animal output value is projected under the Baseline to increase and to have a major impact on the projected change in total agricultural production value. Values for livestock and other meat products are projected to increase by 10%, while the value of dairy sector output is projected to decrease by 1%. Overall, under the Baseline, Belgian agricultural output value is projected to increase by 5%.

The projected increase in agricultural output value is offset by an increase in feed costs, which are an important component of overall agricultural production costs in Belgium. These costs are expected to increase by 7% between 2005 and 2015. The total subsidies received by Belgian agriculture are projected to increase over the period 2005 to 2015, due largely to compensation for the decreasing value of milk products. One conclusion might be that the gross income growth over the Baseline projection period is, at 5%, similar to the projected gross output value increase.

3.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU MS. SPS payments in EU15 MS were, above certain amounts, also subject to modulation. The 'Further CAP reform' scenario described in Report III -AGMEMOD - Model description involves effectively strandardising the MS' currently nationally differentiated CAP implementation plans by imposing full decoupling from 2007.

Belgium chose to decouple almost all direct payments except the suckler cow payment and calf slaughter premiums, and to introduce an SPS based strictly on historical entitlements.

Belgian farmers receiving single farm payments (SFP) in excess of €5 000 are, as in other MS, subject to 5% modulation rates from 2007 onwards.

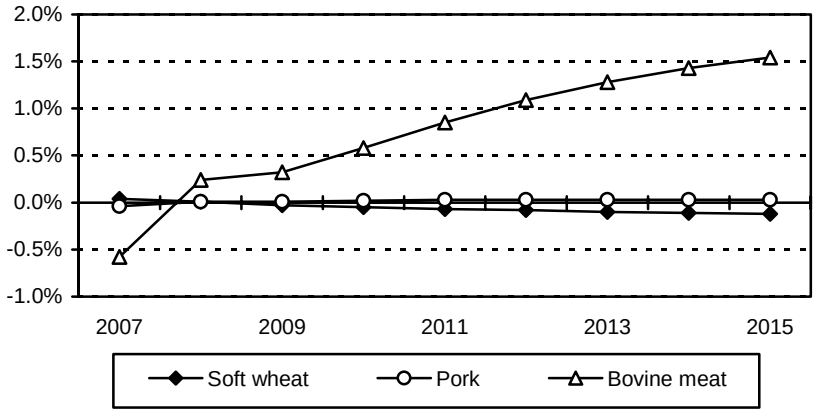
The further CAP reform scenario, involving the "full" decoupling of all CAP direct payments and a doubling of the rates of modulation to 10% from 2007 onwards, would not be expected to have a major impact on the supply and use of most of the agricultural commodities that had already been decoupled. However, it should have a significant impact on beef production in Belgium since suckler cow payments remained coupled to production under the Baseline.

Nevertheless, the full decoupling of CAP payments in all EU MS would be expected to alter the supply and use balance in EU agricultural commodity markets, since many MS have chosen to only partially decouple some direct payments. The altered supply and use balance at EU level would be expected to involve the contraction of indigenous production of agricultural commodities that are still supported by coupled direct payments and to consequently have at least some positive impact on EU market prices for agricultural commodities.

Main Results

The impact of full decoupling on Belgian agricultural commodity markets is reflected in the development of prices, which clear the sub-models of Belgian agricultural commodity markets. However, the implementation of full decoupling across all EU MS leads to somewhat small increases in the supply-inducing prices that are used in the Belgian AGMEMOD sub-model, except for beef and veal. Figure 3.1 presents the percentage changes from the Baseline level projections for the prices of three key commodities in the Belgian AGMEMOD model (soft wheat, pork and bovine meat).

Figure 3.1: Prices for Belgium: FCR Scenario (% Δ from Baseline)



Source: Belgian AGMEMOD Model (2006)

Table 3.6 and Table 3.7 compare the Belgian AGMEMOD model's projections under the FCR scenario with the Baseline projections. The remainder of this section comments on these results.

Grains and oilseed sectors

Under the FCR scenario EU grain prices are projected to increase slightly due to the full decoupling of arable aid direct payments in all MS. This small increase in prices for cereals leads to a slight contraction in the domestic use of cereals in Belgium when compared with the Baseline. The small-scale impact of full decoupling of arable aid payments on the supply

balance for cereals in the EU is due to the fact that, in the Baseline, the maximum rate of coupling of arable aid payments was 25% of the reference amounts. Given that most MS chose to fully decouple arable aid, the impact of "full" decoupling is small.

Livestock and dairy sectors

Compared to the Baseline scenario, the complete decoupling of all direct payments affects mainly suckler cow production in Belgium because these subsidies had, under the Belgian implementation of the Luxembourg Agreement, remained fully coupled. The decoupling of this payment is expected to cause a decrease in production of beef and a fall in agricultural income. Additionally, the introduction of full decoupling in other EU MS could lead to reduced indigenous EU meat supply and give rise to somewhat higher EU prices for the meat. Compared with the Baseline projections, Belgian suckler cow ending stocks are projected to be 2.8% lower by 2015 under the FCR scenario. This impact is smaller than expected. A priori, the relatively modest magnitude of the decline can be mainly explained by the projected increase in beef prices, offsetting the production-reducing impact of decoupling. Due to the small share of beef cows in the overall cow herd, the final effect on Belgian beef production will be a 1.8% decrease by 2015, compared to the Baseline. Beef and veal consumption under the FCR scenario decreases in response to increased prices, though this decline is less than that projected for Belgian production.

The reform of the dairy commodity market organisation is, under the Baseline, largely unaffected by the reforms examined under the further CAP reform (FCR) scenario. The increased rate of modulation of SFP is not projected to lead to any contraction in the total volume of milk produced in Belgium. Belgian milk production is projected to continue to fill the quota. Changes in the rate of modulation are not expected to change the relative prices of different dairy commodities and as a consequence any changes in the supply and use balance in dairy commodity markets and the farm gate milk price, under the FCR scenario, are negligible.

Agricultural income

The FCR scenario has an important effect on the subsidies/SFP received by Belgian farmers, with these projected to decline by 26.6%. The reduction in suckler cow payments, which account for the greatest part of the total payments received in Belgium, explains this projected development. The change from full coupling to full decoupling will for the main part disappear from commodities covered in this study. Feed costs and agricultural output value remain stable. Finally, gross agricultural income is expected to be down by 2%, which is entirely due to the decline in subsidies.

Table 3.6: Belgium: Agricultural output and income in FCR Scenario (% Δ from Baseline)

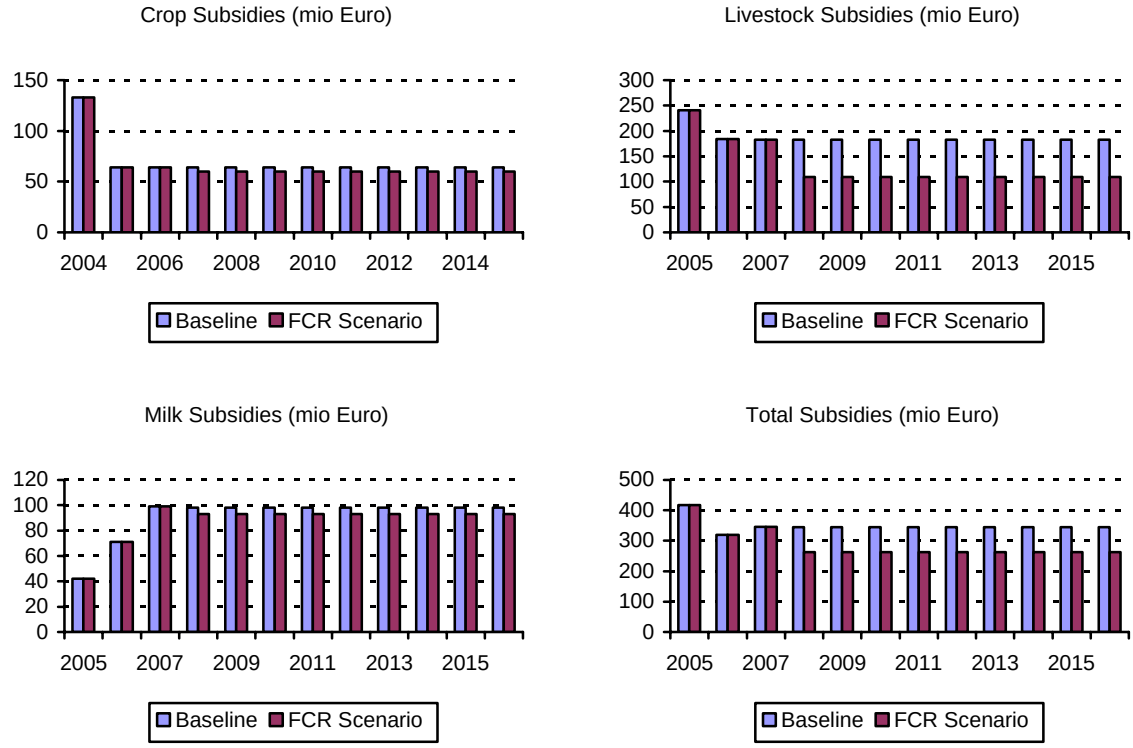
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subsidies/SFP	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%	-26.6%
Feeding costs	0.1%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%
Gross agric. income	-2.1%	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%	-2.0%	-1.9%

Source: Belgian AGMEMOD Model (2006)

As already noted, the reduction in subsidies is largely due to the switch of suckler cow payments from full coupling in the Baseline to full decoupling in the FCR scenario. With full decoupling, the premiums will be lowered by multipliers, in order to estimate a 'synthetic' premium (in other words, to estimate the part of the premium that will be on farmers' minds when they make their production decision). Thus, part of the original suckler cow premium

will go to land that was not subsidised in the reference period, while another part will be used for a regional purposes, funded by the modulated funds.

Figure 3.2 Belgium: Subsidies in Baseline and FCR scenario (€ million)



Source: Belgian AGMEMOD Model (2006)

In comparison with the Baseline, this leads to a 55% reduction in the value of the suckler cow subsidies in the FCR scenario. These subsidies account for 53% of all Belgium agricultural subsidies (only the commodities covered in this study have been considered). Hence, the total value of subsidies is projected to fall by more than a quarter under the FCR scenario. Figure 3.2 shows the development of subsidies in Belgium under the Baseline and the FCR scenario.

Table 3.7: Belgium: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Soft wheat									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%
Producer price	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%
Maize									
Production	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Domestic use	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%
Producer price	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.5%	0.3%	-0.2%	-0.6%	-0.9%	-1.2%	-1.5%	-1.6%	-1.7%
Domestic use	0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%
Producer price	-0.6%	0.2%	0.3%	0.6%	0.9%	1.1%	1.3%	1.4%	1.5%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.1%	0.0%	-0.2%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%
Domestic use	-0.1%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%
Producer price	0.2%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Belgian AGMEMOD Model (2006)

3.3 Exchange Rate Change (ERC)

The exchange rate between the euro and the US dollar is an important factor in determining

the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is € = US$ 1.24 from 2007 onwards. In evaluating the impact of changes in this key macroeconomic assumption, three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro, with the exchange rate moving to rates of € = 1.30US$ and € = 1.40 US$ in 2007. The third projection is for the euro to depreciate versus the dollar to a parity exchange rate of € = 1.00 US$.

Belgian prices for commodities are not key prices in the AGMEMOD model structure. Thus, the importance of the alternative exchange rate paths examined in this scenario lies in the impact the different exchange rates have on the key commodity price projections generated by the AGMEMOD model.

The prices of commodities such as oilseeds and their associated meals and oils are not endogenously modelled in AGMEMOD. Supply-inducing prices for European farmers are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products, any change in the exchange rate will have a direct impact on the national currency prices and on the associated supplies of and demand for the commodity in question. Given that Belgium is not a significant producer of most of agricultural products, the changes in the €/US$ exchange rate will, for most of the agricultural products, be expected to affect the demand in Belgium for these products.

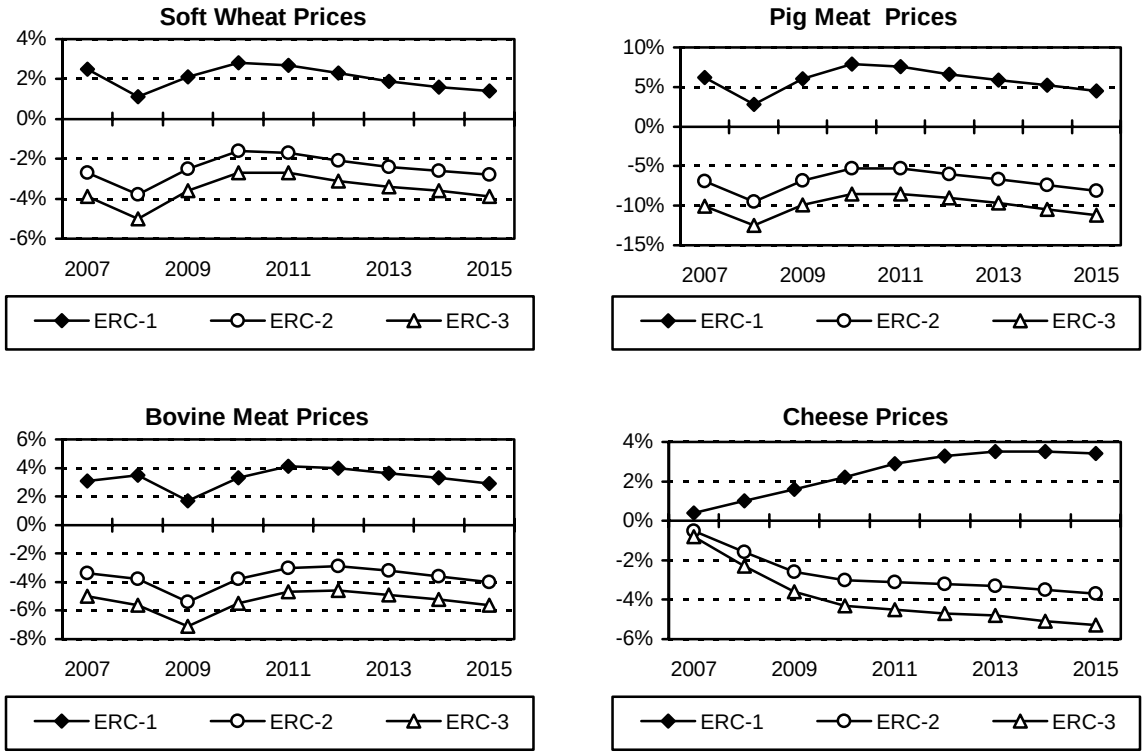
Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for Belgium. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). The scenarios and their rationale are discussed in Report III AGMEMOD - Model description. Table 3.8 to Table 3.10 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

The impact of the three ERC scenarios, when compared with one another and with the Baseline projections, indicates that the AGMEMOD model performs as one would have expected. Belgian market prices under the ECR-1 scenario, where the € = US$1.00 from 2007, are all characterised by increases.

The impact of the changed exchange rate on commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities. Figure 3.2 illustrates the percentage change in four Belgian prices under each of the three ERC scenarios. The commodity prices chosen for Belgium are soft wheat, pork, bovine meat and milk. These prices are all endogenously determined in the AGMEMOD model. Changes in production are small for grain products (1%), but are larger for pigmeat, where production increases by 4.6%, and for derived milk products, where prices of cheese and WMP increase by 3.4% and 2.6% respectively. The impact on prices, supply and use balances is, as expected, greater under ECR-3 than ECR-2.

Figure 3.3: Commodity Prices for Belgium: ERC Scenarios (% Δ from Baseline)



Source: Belgian AGMEMOD Model (2006)

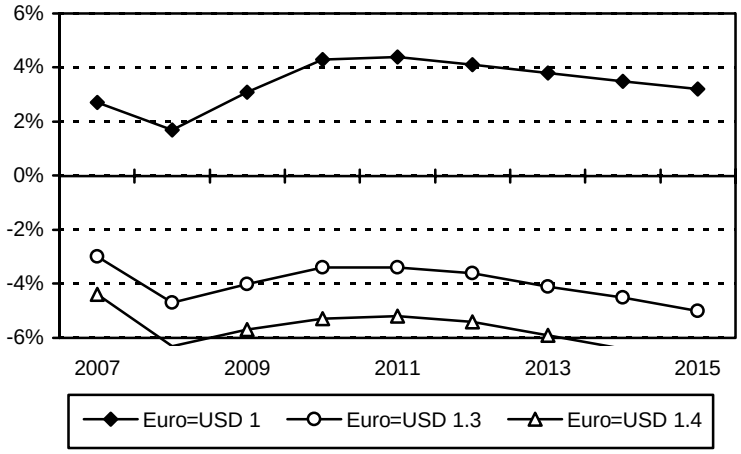
When the projections for Belgian commodity markets under the ECR-1 scenario are compared with those under the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use.

The two exchange rate change scenarios, labelled ECR-2 and ECR-3, involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. As expected, the projections for Belgium under both scenarios are characterised by similar changes in prices, quantities supplied and demanded. As in the ECR-1 scenario the impact of the exchange rate changes are most fully expressed in the prices of commodities exogenous to the AGMEMOD model system. Under each of the euro-dollar exchange rate scenarios, market prices in Belgium are projected to be lower than under the Baseline. These small changes imply reductions in the volume of domestic production and small increases in domestic use. As noted above, summaries of the three ERC scenario projections are presented in Table 3.8 to Table 3.10.

Agricultural income

Total subsidy receipts are not influenced by the exchange rate shocks. The main influence on gross agricultural income arises from agricultural output value and from feed costs. Higher prices and production levels in the ERC-1 scenario are projected to lead to increased agricultural output values, while the opposite holds true for the ERC-2 and ERC-3 scenarios (see Figure 3.3).

Figure 3.4: Belgium: Gross agriculture income under ERC Scenarios (% Δ from Baseline)



Source: Belgian AGMEMOD Model (2006)

Table 3.8: Belgium: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.3%	0.1%	0.5%	0.6%	0.7%	0.7%	0.7%	0.6%
Domestic use	-0.1%	0.1%	0.1%	0.2%	0.3%	0.4%	0.5%	0.5%	0.5%
Soft wheat									
Production	0.0%	0.3%	0.4%	0.5%	0.6%	0.7%	0.7%	0.6%	0.5%
Domestic use	-0.1%	0.2%	0.2%	0.3%	0.4%	0.5%	0.6%	0.6%	0.6%
Producer price	2.5%	1.1%	2.1%	2.8%	2.7%	2.3%	1.9%	1.6%	1.4%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.0%	0.2%	0.4%	0.6%	0.7%	0.9%	1.0%	1.0%
Domestic use	-0.2%	-0.3%	-0.3%	-0.5%	-0.5%	-0.6%	-0.6%	-0.5%	-0.5%
Producer price	1.3%	1.4%	1.9%	2.6%	3.0%	3.0%	2.8%	2.6%	2.4%
Maize									
Production	0.0%	0.2%	0.4%	0.6%	0.9%	1.1%	1.2%	1.2%	1.1%
Domestic use	0.3%	0.0%	0.3%	0.5%	0.6%	0.7%	0.8%	0.8%	0.9%
Producer price	1.7%	1.6%	2.2%	3.0%	3.3%	3.2%	2.9%	2.5%	2.2%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.1%	1.2%	1.3%	2.0%	2.4%	2.7%	2.7%	2.4%	2.2%
Domestic use	0.3%	0.4%	0.5%	0.8%	0.9%	1.0%	1.0%	1.0%	0.9%
Rapeseed									
Production	0.1%	1.2%	1.3%	2.0%	2.4%	2.7%	2.7%	2.4%	2.2%
Domestic use	1.0%	1.1%	1.6%	2.1%	2.4%	2.4%	2.3%	2.2%	2.0%
Producer price	12.2%	5.5%	11.7%	15.1%	15.2%	13.6%	12.2%	10.7%	9.3%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%
Domestic use	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	3.5%	1.7%	3.3%	4.1%	4.0%	3.6%	3.3%	2.9%	2.6%
Pig meat									
Production	0.4%	0.7%	1.1%	1.7%	2.2%	2.4%	2.5%	2.4%	2.3%
Domestic use	-1.4%	-0.6%	-1.3%	-1.8%	-1.7%	-1.4%	-1.3%	-1.1%	-1.0%
Producer price	6.2%	2.8%	6.0%	7.9%	7.6%	6.6%	5.9%	5.2%	4.5%
Poultry meat									
Production	0.0%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.2%	0.2%
Domestic use	0.5%	-0.1%	0.3%	0.3%	0.2%	0.1%	0.1%	0.1%	0.1%
Producer price	1.0%	1.4%	1.5%	2.2%	2.5%	2.4%	2.2%	2.0%	1.8%
Sheep meat									
Production	0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.5%	-0.4%	-0.4%
Domestic use	0.7%	0.4%	0.7%	0.9%	0.9%	0.8%	0.7%	0.7%	0.6%
Producer price	0.2%	0.1%	0.2%	0.3%	0.3%	0.2%	0.2%	0.1%	0.1%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.2%	-0.1%	-0.3%	-0.3%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%
Whole sale price	1.3%	0.8%	1.7%	2.2%	2.4%	2.4%	2.3%	2.1%	2.0%
Butter									
Production	-0.5%	-0.5%	-0.8%	-1.1%	-1.3%	-1.4%	-1.4%	-1.4%	-1.4%
Domestic use	-0.1%	0.0%	-0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%
Whole sale price	0.8%	0.1%	0.4%	0.3%	-0.1%	-0.4%	-0.7%	-1.0%	-1.1%
SMP									
Production	-0.9%	-0.9%	-1.5%	-2.1%	-2.5%	-2.8%	-2.9%	-2.9%	-2.9%
Domestic use	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Whole sale price	1.5%	0.8%	1.6%	2.1%	2.2%	2.2%	2.1%	2.0%	1.8%
WMP									
Production	3.1%	1.5%	3.0%	4.0%	4.0%	3.6%	3.3%	3.0%	2.6%
Domestic use	-0.7%	-0.3%	-0.7%	-0.8%	-0.8%	-0.8%	-0.7%	-0.6%	-0.5%
Whole sale price	3.4%	1.7%	3.3%	4.3%	4.3%	3.9%	3.5%	3.0%	2.6%
Cheese									
Production	-0.7%	0.3%	0.3%	0.5%	1.1%	1.7%	2.0%	2.3%	2.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Whole sale price	0.4%	1.0%	1.6%	2.2%	2.9%	3.3%	3.5%	3.5%	3.4%

Source: Belgian AGMEMOD Model (2006)

Table 3.9: Belgium: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.3%	-0.1%	-0.8%	-0.7%	-0.6%	-0.6%	-0.6%	-0.7%
Domestic use	0.1%	0.0%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%
Soft wheat									
Production	0.0%	-0.4%	-0.7%	-0.8%	-0.6%	-0.5%	-0.5%	-0.6%	-0.7%
Domestic use	0.1%	-0.1%	-0.4%	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%
Producer price	-2.7%	-3.8%	-2.5%	-1.6%	-1.7%	-2.1%	-2.4%	-2.6%	-2.8%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.0%	-0.3%	-0.6%	-0.8%	-0.9%	-0.8%	-0.8%	-0.9%
Domestic use	0.2%	0.5%	0.6%	0.4%	0.4%	0.4%	0.5%	0.6%	0.8%
Producer price	-1.5%	-3.0%	-3.0%	-2.5%	-2.3%	-2.5%	-2.8%	-3.2%	-3.5%
Maize									
Production	0.0%	-0.2%	-0.7%	-1.1%	-1.2%	-1.2%	-1.1%	-1.1%	-1.2%
Domestic use	-0.4%	-0.4%	-0.3%	-0.5%	-0.7%	-0.8%	-0.9%	-1.0%	-1.2%
Producer price	-1.8%	-3.5%	-3.4%	-2.7%	-2.5%	-2.6%	-3.0%	-3.3%	-3.6%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.1%	-1.4%	-2.6%	-2.9%	-2.6%	-2.3%	-2.2%	-2.3%	-2.5%
Domestic use	-0.3%	-0.7%	-0.8%	-0.8%	-0.8%	-0.9%	-1.0%	-1.1%	-1.2%
Rapeseed									
Production	-0.1%	-1.4%	-2.6%	-2.9%	-2.6%	-2.3%	-2.2%	-2.3%	-2.5%
Domestic use	-1.0%	-2.2%	-2.4%	-2.3%	-2.2%	-2.2%	-2.3%	-2.4%	-2.6%
Producer price	-13.3%	-18.0%	-13.5%	-10.9%	-11.0%	-12.3%	-13.4%	-14.6%	-15.7%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	-3.8%	-5.4%	-3.8%	-3.0%	-2.9%	-3.2%	-3.6%	-4.0%	-4.4%
Pig meat									
Production	-0.5%	-1.4%	-2.0%	-2.2%	-2.3%	-2.4%	-2.6%	-2.8%	-3.0%
Domestic use	1.7%	2.3%	1.6%	1.2%	1.3%	1.4%	1.6%	1.8%	2.0%
Producer price	-6.9%	-9.5%	-6.8%	-5.3%	-5.3%	-6.0%	-6.7%	-7.4%	-8.1%
Poultry meat									
Production	0.0%	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%
Domestic use	-0.6%	-0.5%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%
Producer price	-1.2%	-2.7%	-2.7%	-2.1%	-1.9%	-2.0%	-2.3%	-2.5%	-2.8%
Sheep meat									
Production	-0.1%	0.0%	0.3%	0.5%	0.5%	0.4%	0.4%	0.4%	0.4%
Domestic use	-0.8%	-1.1%	-0.9%	-0.7%	-0.7%	-0.7%	-0.8%	-0.9%	-1.0%
Producer price	-0.3%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.3%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%
Whole sale price	-1.6%	-2.5%	-2.2%	-2.1%	-2.1%	-2.3%	-2.5%	-2.7%	-2.9%
Butter									
Production	0.6%	1.2%	1.2%	1.2%	1.3%	1.4%	1.5%	1.7%	1.9%
Domestic use	0.2%	0.2%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Whole sale price	-1.0%	-1.0%	-0.1%	0.5%	0.6%	0.6%	0.6%	0.6%	0.7%
SMP									
Production	1.1%	2.1%	2.3%	2.3%	2.5%	2.7%	3.1%	3.5%	3.9%
Domestic use	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
Whole sale price	-1.9%	-2.6%	-2.1%	-1.8%	-1.9%	-2.1%	-2.3%	-2.6%	-2.9%
WMP									
Production	-3.9%	-5.4%	-4.0%	-3.2%	-3.2%	-3.7%	-4.1%	-4.6%	-5.1%
Domestic use	0.8%	1.2%	0.9%	0.7%	0.7%	0.8%	0.8%	0.9%	1.0%
Whole sale price	-4.1%	-5.8%	-4.2%	-3.4%	-3.4%	-3.8%	-4.1%	-4.5%	-4.9%
Cheese									
Production	0.9%	0.5%	-0.9%	-1.6%	-1.7%	-1.7%	-1.7%	-1.8%	-1.9%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Whole sale price	-0.5%	-1.6%	-2.6%	-3.0%	-3.1%	-3.2%	-3.3%	-3.5%	-3.7%

Source: Belgian AGMEMOD Model (2006)

Table 3.10: Belgium: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.4%	-0.1%	-1.1%	-1.0%	-0.9%	-0.9%	-1.0%	-1.1%
Domestic use	0.1%	-0.1%	-0.4%	-0.6%	-0.6%	-0.6%	-0.7%	-0.7%	-0.8%
Soft wheat									
Production	0.0%	-0.5%	-1.0%	-1.1%	-0.9%	-0.8%	-0.8%	-0.9%	-0.9%
Domestic use	0.2%	-0.1%	-0.6%	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%	-0.9%
Producer price	-3.9%	-5.0%	-3.6%	-2.7%	-2.7%	-3.1%	-3.4%	-3.6%	-3.9%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.0%	-0.4%	-0.9%	-1.2%	-1.2%	-1.2%	-1.2%	-1.4%
Domestic use	0.3%	0.7%	0.8%	0.7%	0.6%	0.7%	0.8%	0.9%	1.0%
Producer price	-2.1%	-4.0%	-4.2%	-3.8%	-3.6%	-3.7%	-4.1%	-4.5%	-4.9%
Maize									
Production	0.0%	-0.3%	-0.9%	-1.5%	-1.8%	-1.7%	-1.6%	-1.6%	-1.7%
Domestic use	-0.5%	-0.5%	-0.5%	-0.7%	-1.0%	-1.2%	-1.3%	-1.5%	-1.7%
Producer price	-2.7%	-4.8%	-4.7%	-4.1%	-3.9%	-4.1%	-4.4%	-4.7%	-5.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.2%	-2.0%	-3.5%	-4.0%	-3.8%	-3.4%	-3.3%	-3.4%	-3.6%
Domestic use	-0.5%	-1.0%	-1.2%	-1.2%	-1.2%	-1.3%	-1.4%	-1.6%	-1.7%
Rapeseed									
Production	-0.2%	-2.0%	-3.5%	-4.0%	-3.8%	-3.4%	-3.3%	-3.4%	-3.6%
Domestic use	-1.5%	-2.9%	-3.3%	-3.3%	-3.3%	-3.3%	-3.4%	-3.5%	-3.6%
Producer price	-19.4%	-23.6%	-19.5%	-17.1%	-17.3%	-18.5%	-19.6%	-20.6%	-21.7%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.6%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.3%	0.3%	0.2%	0.1%	0.1%	0.2%	0.1%	0.2%	0.2%
Producer price	-5.6%	-7.1%	-5.5%	-4.7%	-4.6%	-4.9%	-5.2%	-5.6%	-6.1%
Pig meat									
Production	-0.8%	-2.0%	-2.9%	-3.3%	-3.5%	-3.7%	-3.9%	-4.1%	-4.5%
Domestic use	2.6%	3.1%	2.4%	2.1%	2.1%	2.2%	2.4%	2.6%	2.8%
Producer price	-10.1%	-12.5%	-9.9%	-8.5%	-8.5%	-9.0%	-9.7%	-10.5%	-11.2%
Poultry meat									
Production	0.0%	-0.2%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.4%	-0.4%
Domestic use	-0.9%	-0.6%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%
Producer price	-1.8%	-3.7%	-3.7%	-3.1%	-3.0%	-3.1%	-3.4%	-3.6%	-3.9%
Sheep meat									
Production	-0.2%	0.0%	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Domestic use	-1.1%	-1.5%	-1.2%	-1.1%	-1.1%	-1.1%	-1.2%	-1.3%	-1.4%
Producer price	-0.4%	-0.5%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.4%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Whole sale price	-2.4%	-3.4%	-3.3%	-3.2%	-3.2%	-3.4%	-3.6%	-3.8%	-4.1%
Butter									
Production	0.9%	1.6%	1.7%	1.8%	1.9%	2.1%	2.3%	2.5%	2.7%
Domestic use	0.2%	0.2%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%
Whole sale price	-1.4%	-1.3%	-0.2%	0.5%	0.7%	0.8%	0.9%	1.0%	1.1%
SMP									
Production	1.6%	2.9%	3.3%	3.5%	3.8%	4.2%	4.6%	5.1%	5.7%
Domestic use	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Whole sale price	-2.8%	-3.5%	-3.0%	-2.8%	-2.9%	-3.2%	-3.5%	-3.8%	-4.1%
WMP									
Production	-5.8%	-7.3%	-5.9%	-5.1%	-5.3%	-5.8%	-6.2%	-6.7%	-7.2%
Domestic use	1.3%	1.6%	1.3%	1.1%	1.1%	1.2%	1.3%	1.4%	1.4%
Whole sale price	-6.1%	-7.7%	-6.3%	-5.4%	-5.4%	-5.8%	-6.2%	-6.5%	-6.9%
Cheese									
Production	1.3%	0.5%	-1.1%	-2.0%	-2.3%	-2.4%	-2.5%	-2.6%	-2.8%
Domestic use	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Whole sale price	-0.8%	-2.3%	-3.6%	-4.3%	-4.5%	-4.7%	-4.8%	-5.1%	-5.3%

Source: Belgian AGMEMOD Model (2006)

4 Czech Republic

Jan Kubát, Research Institute of Agricultural Economics (VUZE), Prague

4.1 Baseline

Table 4.1 shows the specific assumptions for the Czech Republic on the macroeconomic variables that underlie the Czech AGMEMOD model's baseline and scenario projections up to 2015.

Table 4.1: Assumptions on macroeconomic variables for the Czech Republic

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	10.3	10.2	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
GDP	bil. Euro97	49	59	57	58	59	61	62	63	65	66	68	69
GDP per capita	Euro97/cap	4771	5742	5557	5673	5792	5913	6037	6165	6295	6429	6565	6704
Inflation	1997=1	1.20	1.36	1.38	1.40	1.41	1.43	1.44	1.45	1.46	1.47	1.48	1.49

Source: Own calculation, Czech Statistical Office

The 2003 CAP reform changed the premiums that apply in the cereals, oilseeds, livestock and dairy sub-sectors of the Czech agricultural economy. From 2013 all premium-payments in the Czech Republic will be independent of the use of land or animals (i.e. they will be fully decoupled). From the start of the accession period direct payments were partially introduced in the Czech Republic at 44% of the EU level in 2004 (20% of these direct payments were financed from the EU budget while the remaining 24% was financed from the Czech national budget and rural redevelopment budget). In 2005 the EU budget financed 26% of the EU level of support, while nationally funded top-ups accounted for 24%. Payments from the EU budget will increase every year to 2013, when they will reach 100% of the level pertaining in the rest of the EU (Table 4.2: SAPS and Top-up envelope development in the Czech Republic).

Table 4.2: SAPS and Top-up envelope development in the Czech Republic

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
SAPS envelope	mio euro	199	249	310	394	492	589	685	781	876	972	972	972
Top-up envelope	mio euro	230	235	288	252	236	221	206	119	36	0	0	0
SAPS + Top-up env.	mio euro	429	484	598	647	728	810	891	900	912	972	972	972

Source: Own calculations

Table 4.3: Supply-inducing multipliers of the Czech agriculture

	SAP scheme	SPS scheme
Decoupled EU support		
- grains	0.97	0.84
- rapeseeds	0.97	0.84
- suckler cows	0.97	0.84
- cattle	0.97	0.84
Coupled national support (CNDP)		
- grains	1.0	1.0
- rapeseeds	1.0	1.0
- suckler cows	1.0	1.0
- cattle	1.0	1.0

Source: Own calculations

Direct payments financed from the EU budget are disbursed under the "Simplified Area Payment Scheme" (SAPS). Under this scheme payments are granted per hectare of utilised agricultural area. Payments financed from the national government and from the rural development programme (top-ups) are split in two parts. The major part of the top-up is paid per hectare of arable land (except for potatoes and sugar beet). The rest of the top-ups are coupled payments and are disbursed per head of suckler cows, ewes and goats, and also to

some special commodities such as hop and poppy production. Table 4.3 shows the multipliers that have been used in the Czech AGMEMOD model.

Grains and oilseed sectors

In the Baseline projections there is an increase in domestic Czech prices as a consequence of increased EU key prices. Over the period 2000 to 2008 growth in Czech cereal production can be put down to direct payments. However the decrease from 2008 onwards occurs as a consequence of decreasing (coupled) direct national top-up payments. Domestic use of cereal in the Czech Republic is projected to increase over the projection period from 5400 to 5900 thousand tonnes. Domestic use of barley is projected to decline slightly from 2005, while soft wheat domestic use increases somewhat, mainly due to increased feed demand.

In the Czech oilseed sector under the Baseline, production is projected to decrease to 2007 and then increase from 2008. This is because oilseeds are not supported by the nationally funded top-up direct payments. As these decrease in value over the period to 2013, the relative margins per tonne of oilseeds when compared with those in the cereals sector improve. Domestic use of oilseeds also increases from 2006, as do Czech producer prices.

Livestock and dairy sectors

Under the Baseline, Czech producer prices for cattle are projected to increase slowly as a consequence of the CZK/€ exchange rate decrease and the projected increase in the EU key price for cattle. Czech production of beef decreases with the decline in the number of cattle. This is evidence of the weak linkage between market prices and numbers of cattle for fattening, which decline in spite of the commodity supports in SAPS (supports for suckler cows and for head of cattle). Note here that the Czech AGMEMOD model has problems with modelling such a decrease (from 1994 to 2005).Under the Baseline, Czech domestic use of beef and veal declines slightly over the projection period.

Under the Baseline, Czech pork prices increase as a consequence of the projected increase in the EU key pork price. Domestic use and production remain stable from 2006 onwards. Poultry meat prices are projected to increase over the Baseline's projection period despite the projected decline in the poultry key price. This is due to projected CZK/€ exchange rate appreciation. Domestic use goes up due to Czech consumers' change in preferences. Under the Baseline, Czech poultry production is projected to increase due to positive development in costs.

Wholesale prices of butter and SMP in the Czech Republic (CR) are projected to increase over the Baseline projection period. However the impressive increase in the period 2000-2005 in the Czech price of cheese is a consequence of the almost 100% higher tariff protection in EU than in CR prior to accession. The producer price of cow's milk as a result of the projected increases in dairy commodity products prices shows mild growth.

Under the Baseline, Czech cow's milk production is projected to be largely determined by the milk production quota (which is derived from the market milk quota with respect to feed milk for calves). Under the Baseline, Czech production of butter, SMP and WMP are projected to stagnate from 2006 onwards. Cheese production is projected to decrease in spite of the impressive market price increases noted above. This projected stagnation in cheese and other dairy commodity production is a direct consequence of the projected absence of growth in raw materials (cow's milk), which is limited by the production quota.

Domestic use of cheese in the Czech Republic is projected under the Baseline to follow a

stable trend as a consequence of rising cheese prices offsetting the positive impact of increased per capita income. The gradual growth in domestic use of cheese despite the large increase in prices is due to shifts in Czech consumer preferences towards the consumption of so-called healthy foods, to which cheeses belong. For the other dairy products under the Baseline, domestic use is projected to stagnate as prices rise. Table 4.5 summarises the Baseline projections for the main agricultural commodities in the Czech Republic.

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities and feedingstuffs as the sole input variable, it is possible to approximate the development of gross agricultural sector income (Table 4.4). This is based on the development of agricultural output value, subsidies (top-up nationally financed direct payments and SAPS/SFP) made to Czech producers of the commodities and feeding costs under consideration, respectively.

Table 4.4: Agricultural output, subsidies, feed cost and gross income in the Czech Republic[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.08	1.23	1.24	1.27	1.29	1.31	1.31	1.32	1.34	1.36	1.39
Subsidies/SFP	2000=1	1.00	2.82	2.96	3.20	3.43	3.63	3.58	3.50	3.71	3.69	3.67	3.65
Feeding costs	2000=1	1.00	0.81	0.94	1.00	1.03	1.02	1.02	1.02	1.04	1.05	1.07	1.09
Gross agric. income	2000=1	1.00	1.36	1.51	1.53	1.59	1.63	1.65	1.65	1.68	1.69	1.71	1.73

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Czech AGMEMOD Model (2006)

The share of subsidies/SFP in the agricultural output value under consideration is projected to increase from 8% in 2000 to 19% in 2005 and from then on to remain stable, due to accession to the EU and the increase in total SFP payments to the full amount for the Czech Republic in 2013. From 2005 to 2015, the Baseline projection indicates that agricultural output value in the Czech Republic will increase by 39%, with most of this growth due to the projected increase in prices. Czech gross agricultural income over the Baseline projection period is expected to increase – ceteris paribus - by almost 73% .

Table 4.5: Baseline results concerning main agricultural commodities in the Czech Republic

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	6017	7043	7729	7764	7791	7849	7814	7769	7798	7764	7742	7726
Domestic use	1,000 ton	5869	5457	5603	5621	5620	5659	5662	5684	5669	5692	5686	5714
Soft wheat													
Production	1,000 ton	4084	4145	4619	4687	4716	4756	4734	4710	4729	4705	4693	4683
Domestic use	1,000 ton	3661	3075	3340	3344	3356	3376	3390	3395	3393	3398	3407	3415
Producer price	euro/ton	87	83	97	100	101	101	102	103	103	104	105	106
Durum wheat													
Production	1,000 ton												
Domestic use	1,000 ton												
Producer price	euro/ton												
Barley													
Production	1,000 ton	1629	2195	2639	2602	2599	2620	2613	2591	2594	2587	2576	2570
Domestic use	1,000 ton	1865	1905	1837	1851	1837	1853	1838	1853	1837	1854	1837	1854
Producer price	euro/ton	85	89	93	95	98	98	99	100	102	103	105	106
Maize													
Production	1,000 ton	304	703	471	475	475	473	467	469	475	472	472	472
Domestic use	1,000 ton	343	477	425	426	427	430	433	436	438	440	442	445
Producer price	euro/ton	106	92	115	117	120	121	122	124	125	127	129	131
Rye													
Production	1000 tons												
Domestic use	1000 tons												
Producer price	euro/ton												
Other grains													
Production	1000 tons												
Domestic use	1000 tons												
Producer price	euro/ton												
Total oilseeds													
Production	1,000 ton	910	864	789	725	753	770	812	856	875	890	901	919
Domestic use	1,000 ton	624	737	752	768	777	784	791	794	796	797	798	798
Rapeseed													
Production	1,000 ton	844	769	711	655	681	696	734	774	791	804	813	829
Domestic use	1,000 ton	580	702	709	723	733	741	746	749	751	752	752	752
Producer price	euro/ton	171	189	207	220	229	225	224	227	230	233	237	240
Sunflower													
Production	1,000 ton	65	95	78	69	72	74	78	82	85	86	87	89
Domestic use	1,000 ton	44	35	43	45	44	44	44	45	45	46	46	46
Producer price	euro/ton	206	215	247	258	265	266	268	272	277	282	287	291
Soybeans													
Production	1,000 ton												
Domestic use	1,000 ton												
Producer price	euro/ton												
Beef and veal													
Production	1,000 ton	208	149	308	300	294	291	287	283	278	274	270	267
Domestic use	1,000 ton	242	170	191	184	178	172	166	163	161	159	157	155
Producer price	euro/100 kg	99	115	102	105	106	107	108	109	111	113	115	117
Pig meat													
Production	1,000 ton	584	472	518	518	520	524	527	526	521	520	522	523
Domestic use	1,000 ton	596	585	648	648	645	642	640	642	645	643	642	641
Producer price	euro/100 kg	100	109	106	107	112	114	117	116	116	119	122	125
Poultry meat													
Production	1,000 ton	294	322	347	362	363	362	362	362	363	364	364	364
Domestic use	1,000 ton	305	356	370	370	371	371	372	372	373	373	373	374
Producer price	euro/100 kg	61	71	79	79	80	82	82	83	84	86	87	88
Sheep meat													
Production	1,000 ton												
Domestic use	1,000 ton												
Producer price	euro/100 kg												
Fluid milk													
Production	1,000 ton	2708	2602	2720	2720	2720	2720	2720	2720	2720	2720	2720	2720
Domestic use	1,000 ton	594	613	629	639	644	647	650	652	655	657	658	660
Whole sale price	euro/100 kg	21	28	24	24	25	25	25	26	26	26	27	27
Butter													
Production	1,000 ton	66	66	65	68	69	69	69	69	69	70	70	70
Domestic use	1,000 ton	42	42	41	41	41	41	41	41	41	41	41	41
Whole sale price	euro/100kg	199	306	250	251	255	258	261	264	268	272	277	281
SMP													
Production	1,000 ton	36	37	43	45	46	45	45	46	46	46	46	46
Domestic use	1,000 ton	8	10	9	9	9	9	9	9	10	10	10	10
Whole sale price	euro/100kg	184	182	163	163	166	167	169	171	173	176	178	181
WMP													
Production	1,000 ton	20	20	18	18	18	17	17	17	17	17	17	16
Domestic use	1,000 ton	3	4	7	7	7	7	7	7	7	7	7	7
Whole sale price	euro/100kg	186	213	204	211	217	219	222	226	230	235	240	244
Cheese													
Production	1,000 ton	116	130	94	85	84	85	85	86	86	86	86	86
Domestic use	1,000 ton	108	107	100	101	102	102	104	104	104	105	105	105
Whole sale price	euro/100kg	244	321	303	303	306	311	314	317	321	325	329	334

Source: Czech AGMEMOD Model (2006)

4.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU MS.

The projection for macroeconomic indicators, world prices and intervention prices are the same as in the Baseline. Assumptions on agricultural policies differ from the Baseline in two respects: (1) full decoupling is assumed from 2007, so all nationally financed top-up payments from 2007 on are assumed to be fully decoupled from production and paid at the same rate for each hectare of agricultural land; and (2) modulation is assumed in the Czech Republic as follows. The SAPS envelope does not reach the full 100% amount but peaks at 95%, i.e. 5% modulation. In the Czech Republic the modulation of SFP will mean decreased support from 2012 onwards.

Main Results

The impact of full decoupling in other EU MS on Czech agricultural commodity markets is reflected in the development of prices which clear the sub-models of the Czech agricultural commodity markets. However, the implementation of full decoupling across all EU MS leads to somewhat small increases in the supply-inducing prices that are used in the Czech AGMEMOD sub-model.

Table 4.6 and Table 4.7 compare the Czech AGMEMOD model's projections under the FCR scenario with the Baseline projections. The remainder of this section comments on these results.

Grains and oilseed sectors

The impact of the FCR scenario on Czech grain markets, compared to the Baseline projections, are, as expected, quite modest. Under the FCR scenario EU grain prices are projected to increase slightly due to the full decoupling of arable aid direct payments in all EU MS. The projected consequence of these price increases on Czech grain prices is negligible compared to Baseline levels. The impact of the decoupled "top-up" payments are relatively small and have only a minor effect on production.

Normally, a modest increase in prices would be expected (ceteris paribus) to reduce the domestic use of cereals somewhat compared with the Baseline. This expected contraction of domestic use is almost invisible in the Czech case, due to the very modest scale of the price changes projected under the FCR scenario.

Livestock and dairy sectors

The impact of the FCR scenario on Czech livestock markets compared to the Baseline projections is again quite small. This is a consequence of the already decoupled nature of EU funded direct payments under the Baseline.

Agricultural income

It was expected that the somewhat higher agricultural commodity prices under the FCR scenario and the modest increases in the levels of production in response to the projected price increases would lead to an increase in Czech agricultural income. Compared to the Baseline, however, Czech agricultural incomes decrease over the period to 2009 under the FCR scenario (see Table 4.6). This projected development is due to lower subsidy receipts in Czech agriculture under the FCR scenario. The reduction in direct payments more than offsets the small increase in agricultural output value as these were hardly affected by

changed price and production levels. From 2009 onwards, projected agricultural income is set to rise in line with increasing subsidies and is projected to increase until 2011 and to decline from that point onwards due to modulation of the decoupled SFP.

Table 4.6: Czech Republic agricultural output and income FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-0.1%	0.0%	-0.1%	0.0%	0.0%	-0.2%	-0.1%	-0.1%	-0.1%
Subsidies/SFP	-7.4%	-3.5%	-0.2%	2.6%	5.7%	-5.0%	-5.0%	-5.0%	-5.0%
Feeding costs	0.0%	0.0%	0.5%	0.5%	0.5%	0.3%	0.2%	0.0%	0.0%
Gross agric. income	-1.8%	-0.8%	-0.3%	0.5%	1.2%	-1.5%	-1.4%	-1.3%	-1.2%

Source: Czech AGMEMOD Model (2006)

Table 4.7: Czech Republic: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.64%	-0.35%	-7.86%	0.28%	0.68%	-0.79%	-0.70%	-0.67%	-0.64%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Soft wheat									
Production	-0.64%	-0.29%	-0.11%	0.30%	0.65%	-0.87%	-0.62%	-0.59%	-0.56%
Domestic use	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Producer price	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Durum wheat									
Production									
Domestic use									
Producer price									
Barley									
Production	-0.64%	-0.57%	-0.27%	0.23%	0.78%	-0.54%	-0.97%	-0.94%	-0.90%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.01%	-0.01%
Producer price	0.02%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%
Maize									
Production	-0.64%	0.16%	0.15%	0.39%	0.41%	-1.42%	-0.04%	-0.03%	-0.03%
Domestic use	-0.01%	-0.01%	-0.01%	-0.02%	-0.02%	-0.02%	-0.02%	-0.02%	-0.02%
Producer price	0.03%	0.04%	0.05%	0.05%	0.05%	0.05%	0.06%	0.06%	0.06%
Rye									
Production									
Domestic use									
Producer price									
Other grains									
Production									
Domestic use									
Producer price									
Total oilseeds									
Production	0.74%	0.43%	-1.78%	-2.11%	-2.45%	-0.32%	0.23%	0.81%	0.79%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Rapeseed									
Production	0.76%	0.46%	-1.75%	-2.11%	-2.48%	-0.30%	0.28%	0.87%	0.85%
Domestic use	0.00%	0.00%	0.00%	0.00%	-0.01%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sunflower									
Production	0.47%	0.14%	-1.99%	-2.10%	-2.14%	-0.53%	-0.23%	0.22%	0.15%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Soybeans									
Production									
Domestic use									
Producer price									
Beef and veal									
Production	0.45%	0.22%	0.03%	-0.10%	-0.23%	0.14%	0.13%	0.14%	0.14%
Domestic use	0.00%	0.02%	0.04%	0.06%	0.07%	0.08%	0.08%	0.09%	0.09%
Producer price	0.00%	0.10%	0.09%	0.09%	0.09%	0.09%	0.08%	0.08%	0.07%
Pig meat									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.01%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Poultry meat									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sheep meat									
Production									
Domestic use									
Producer price									
Fluid milk									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Butter									
Production	0.00%	-0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SMP									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WMP									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cheese									
Production	-0.03%	-0.05%	-0.01%	0.01%	0.03%	0.01%	-0.03%	-0.02%	-0.02%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Source: Czech AGMEMOD Model (2006)

4.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the

competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is € = US$ 1.24 from 2007 onwards. In evaluating the impact of changes in this key macroeconomic assumption on Czech agricultural markets three alternative paths of the US dollar versus the euro (and hence US dollar versus the Czech florin) exchange rate were analysed. Two of these involve a depreciation of the US dollar versus the euro (and florin), with the exchange rate moving to rates of US$ 1.30 and US$ 1.40 in 2007. The third projection is for the euro (and florin) to depreciate versus the dollar to an exchange rate of € = US$ 1.00.

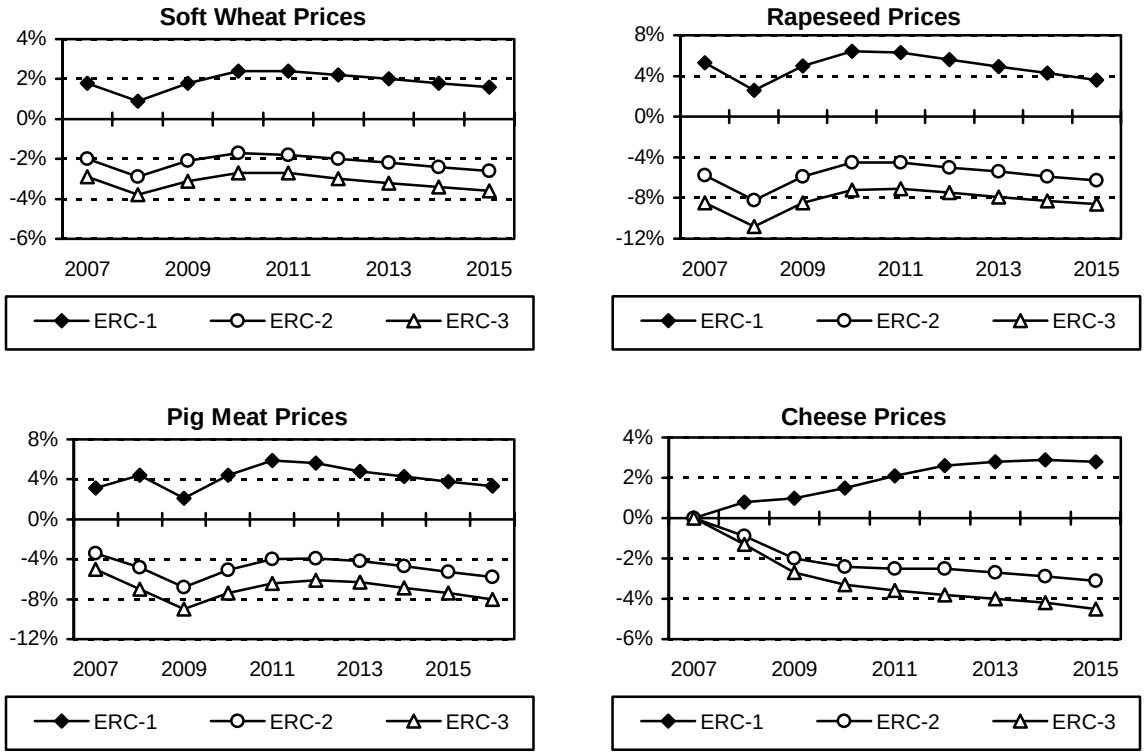
Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for the Czech Republic. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 4.8 to Table 4.10 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

The impact of the three ERC scenarios when compared with one another and with the Baseline projections indicate that the AGMEMOD model performs as one would have expected. Key prices under the ECR-1 scenario, where the €/US dollar exchange rate is 1.0 from 2007, are characterised by increases. When compared with Baseline price projections, prices under both the ERC-2 and ERC-3 scenarios, where the euro appreciates against the dollar, decline as expected. The size of the increase in the key prices that are endogenously determined within the AGMEMOD modelling system is in general smaller than the percentage changes in prices that are determined exogenously to the AGMEMOD model. For these prices the percentage change in the exchange rate from Baseline levels is fully reflected in the euro prices for these commodities (oilseeds and oil seed meals and oils).

The impact of the changed exchange rate on commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities. Figure 4.1 illustrates the percentage change in four Czech prices under each of the three ERC scenarios. The commodity prices chosen are soft wheat, rapeseed, pork and cheese. The prices, with the exception of for rapeseed, are endogenously determined in the AGMEMOD model.

Figure 4.1: Czech Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: Czech AGMEMOD Model (2006)

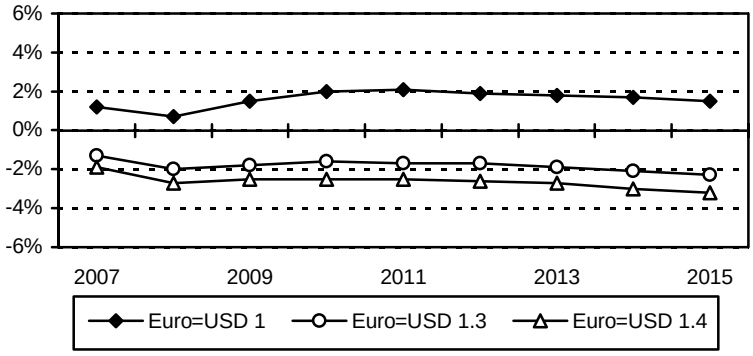
When the projections for Czech commodity markets under the ECR-1 scenario are compared with the Baseline, market clearing prices are generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use.

The two exchange rate change scenarios, labelled ECR-2 and ECR-3, involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under the ECR-2, the € = $ 1.30, while under ECR-3 the exchange rate is assumed to be 1.40 from 2007. As expected, the projections for the Czech Republic under both scenarios are characterised by similar changes in prices, quantities supplied and demanded. Under each of the € / US dollar exchange rate scenarios, market prices in the Czech Republic are projected to be lower than under the Baseline, with an often concomitant increase in the volume of domestic production and small increases in domestic use. The scale of the impact on prices and supply and use balances is, as expected, greater under ECR-3 than ECR-2.

Agricultural income

Total subsidy receipts are influenced by the exchange rate shocks. The main effect follows from the impact of exchange rate changes on gross agricultural income (ceteris paribus) projected to occur due to changes in agricultural output value. Higher prices in the ERC-1 scenario would lead to increased values for these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 4.2).

Figure 4.2: Czech Republic: Gross agriculture income in ERC Scenarios (% Δ from Baseline)



Source: Czech AGMEMOD Model (2006)

Table 4.8: Czech Republic: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.3%	-7.8%	0.0%	0.0%	0.2%	0.3%	0.4%	0.4%
Domestic use	-0.1%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Soft wheat									
Production	0.0%	-0.4%	0.1%	-0.1%	0.0%	0.1%	0.2%	0.3%	0.3%
Domestic use	-0.1%	0.2%	0.0%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%
Producer price	1.8%	0.9%	1.8%	2.4%	2.4%	2.2%	2.0%	1.8%	1.6%
Durum wheat									
Production									
Domestic use									
Producer price									
Barley									
Production	0.0%	-0.2%	0.2%	0.2%	0.3%	0.6%	0.8%	0.9%	0.9%
Domestic use	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%
Producer price	1.3%	1.2%	1.8%	2.4%	2.7%	2.7%	2.5%	2.3%	2.0%
Maize									
Production	0.0%	-0.3%	-0.7%	-0.8%	-1.1%	-1.4%	-1.4%	-1.3%	-1.2%
Domestic use	-0.5%	-0.3%	-0.5%	-0.6%	-0.6%	-0.6%	-0.5%	-0.4%	-0.4%
Producer price	0.8%	0.7%	1.0%	1.3%	1.4%	1.4%	1.2%	1.1%	1.0%
Rye									
Production									
Domestic use									
Producer price									
Other grains									
Production									
Domestic use									
Producer price									
Total oilseeds									
Production	0.0%	-1.0%	-0.5%	-0.9%	-1.1%	-1.1%	-0.9%	-0.8%	-0.7%
Domestic use	0.0%	0.0%	0.2%	0.3%	0.4%	0.6%	0.7%	0.8%	0.8%
Rapeseed									
Production	0.0%	-1.1%	-0.6%	-1.0%	-1.2%	-1.2%	-1.1%	-1.0%	-0.8%
Domestic use	0.0%	0.2%	0.3%	0.5%	0.6%	0.8%	0.9%	1.0%	1.0%
Producer price	5.3%	2.6%	5.0%	6.4%	6.3%	5.6%	4.9%	4.3%	3.6%
Sunflower									
Production	0.0%	-0.3%	0.2%	0.1%	0.3%	0.4%	0.5%	0.6%	0.6%
Domestic use	0.0%	-2.9%	-1.8%	-2.8%	-3.6%	-3.7%	-3.3%	-3.0%	-2.6%
Producer price	2.4%	1.2%	2.3%	2.8%	2.8%	2.5%	2.2%	1.9%	1.6%
Soybeans									
Production									
Domestic use									
Producer price									
Beef and veal									
Production	-0.2%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%
Domestic use	-0.8%	-1.0%	-1.7%	-2.5%	-3.2%	-3.6%	-3.8%	-3.9%	-3.9%
Producer price	1.2%	0.6%	1.0%	1.3%	1.2%	1.1%	0.9%	0.8%	0.7%
Pig meat									
Production	0.8%	1.1%	1.1%	1.7%	1.9%	1.6%	1.4%	1.2%	1.1%
Domestic use	-0.7%	-0.4%	-0.7%	-1.0%	-0.9%	-0.8%	-0.7%	-0.6%	-0.5%
Producer price	4.4%	2.1%	4.4%	5.9%	5.6%	4.8%	4.3%	3.8%	3.3%
Poultry meat									
Production	0.0%	-0.5%	-0.2%	-0.4%	-0.5%	-0.5%	-0.4%	-0.4%	-0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%
Sheep meat									
Production									
Domestic use									
Producer price									
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%
Whole sale price	0.3%	0.7%	0.9%	1.3%	1.7%	2.0%	2.1%	2.1%	2.0%
Butter									
Production	0.4%	0.2%	0.4%	0.5%	0.4%	0.4%	0.3%	0.3%	0.2%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.5%	0.3%	0.5%	0.6%	0.6%	0.6%	0.5%	0.5%	0.4%
SMP									
Production	1.7%	0.9%	1.6%	2.0%	1.9%	1.7%	1.5%	1.3%	1.1%
Domestic use	0.2%	-0.5%	-0.6%	-0.9%	-1.3%	-1.6%	-1.8%	-1.8%	-1.8%
Whole sale price	0.7%	0.4%	0.7%	0.9%	0.9%	0.8%	0.8%	0.7%	0.6%
WMP									
Production	0.3%	0.2%	0.3%	0.4%	0.5%	0.4%	0.4%	0.3%	0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.7%	0.9%	1.7%	2.1%	2.1%	1.9%	1.6%	1.4%	1.2%
Cheese									
Production	-1.1%	-0.5%	-1.0%	-1.1%	-1.1%	-0.9%	-0.7%	-0.5%	-0.4%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Whole sale price	0.0%	0.8%	1.0%	1.5%	2.1%	2.6%	2.8%	2.9%	2.8%

Source: Czech AGMEMOD Model (2006)

Table 4.9: Czech Republic: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.4%	-7.7%	-0.2%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Soft wheat									
Production	0.0%	0.4%	0.3%	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%
Domestic use	0.1%	-0.1%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	-2.0%	-2.9%	-2.1%	-1.7%	-1.8%	-2.0%	-2.2%	-2.4%	-2.6%
Durum wheat									
Production									
Domestic use									
Producer price									
Barley									
Production	0.0%	0.3%	0.1%	-0.5%	-0.8%	-0.8%	-0.7%	-0.7%	-0.8%
Domestic use	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%
Producer price	-1.5%	-2.7%	-2.6%	-2.3%	-2.2%	-2.3%	-2.5%	-2.8%	-3.1%
Maize									
Production	0.0%	0.3%	1.1%	1.5%	1.3%	1.2%	1.1%	1.2%	1.4%
Domestic use	0.5%	0.8%	0.6%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%
Producer price	-0.9%	-1.6%	-1.4%	-1.2%	-1.1%	-1.2%	-1.3%	-1.4%	-1.5%
Rye									
Production									
Domestic use									
Producer price									
Other grains									
Production									
Domestic use									
Producer price									
Total oilseeds									
Production	0.0%	1.1%	1.6%	1.1%	0.8%	0.8%	0.8%	0.9%	0.9%
Domestic use	0.0%	0.0%	-0.2%	-0.5%	-0.6%	-0.7%	-0.7%	-0.8%	-0.8%
Rapeseed									
Production	0.0%	1.2%	1.8%	1.3%	0.9%	0.9%	1.0%	1.1%	1.1%
Domestic use	0.0%	-0.2%	-0.5%	-0.7%	-0.9%	-0.9%	-1.0%	-1.0%	-1.0%
Producer price	-5.8%	-8.2%	-5.9%	-4.5%	-4.5%	-5.0%	-5.4%	-5.9%	-6.3%
Sunflower									
Production	0.0%	0.3%	0.0%	-0.5%	-0.6%	-0.6%	-0.5%	-0.5%	-0.6%
Domestic use	0.0%	3.2%	5.1%	4.0%	3.0%	2.8%	3.1%	3.3%	3.6%
Producer price	-2.6%	-3.7%	-2.6%	-2.0%	-2.0%	-2.2%	-2.4%	-2.6%	-2.7%
Soybeans									
Production									
Domestic use									
Producer price									
Beef and veal									
Production	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	0.9%	2.1%	2.8%	3.2%	3.5%	3.8%	4.2%	4.6%	5.2%
Producer price	-1.3%	-1.8%	-1.2%	-0.9%	-0.9%	-0.9%	-1.0%	-1.1%	-1.2%
Pig meat									
Production	-0.8%	-2.0%	-2.0%	-1.5%	-1.3%	-1.3%	-1.4%	-1.6%	-1.8%
Domestic use	0.8%	1.1%	0.9%	0.7%	0.6%	0.7%	0.8%	0.9%	1.0%
Producer price	-4.8%	-6.8%	-5.1%	-4.0%	-3.9%	-4.2%	-4.7%	-5.3%	-5.8%
Poultry meat									
Production	0.0%	0.5%	0.7%	0.5%	0.4%	0.4%	0.4%	0.5%	0.5%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.2%	-0.5%	-0.5%	-0.4%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%
Sheep meat									
Production									
Domestic use									
Producer price									
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%
Whole sale price	-0.4%	-1.1%	-1.6%	-1.8%	-1.8%	-1.9%	-2.0%	-2.2%	-2.3%
Butter									
Production	-0.5%	-0.7%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Domestic use	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%
Whole sale price	-0.5%	-0.8%	-0.6%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%
SMP									
Production	-1.8%	-2.7%	-1.8%	-1.3%	-1.3%	-1.5%	-1.6%	-1.7%	-1.8%
Domestic use	-0.3%	0.4%	1.3%	1.6%	1.6%	1.6%	1.7%	1.7%	1.8%
Whole sale price	-0.8%	-1.2%	-0.9%	-0.7%	-0.7%	-0.8%	-0.9%	-1.0%	-1.0%
WMP									
Production	-0.4%	-0.6%	-0.4%	-0.3%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.8%	-2.7%	-1.9%	-1.5%	-1.5%	-1.6%	-1.8%	-2.0%	-2.1%
Cheese									
Production	1.2%	1.7%	1.0%	0.6%	0.6%	0.7%	0.8%	0.8%	0.9%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
Whole sale price	0.0%	-0.9%	-2.0%	-2.4%	-2.5%	-2.5%	-2.7%	-2.9%	-3.1%

Source: Czech AGMEMOD Model (2006)

Table 4.10: Czech Republic: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.5%	-7.7%	-0.3%	-0.5%	-0.5%	-0.4%	-0.4%	-0.5%
Domestic use	0.2%	0.0%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%
Soft wheat									
Production	0.0%	0.6%	0.3%	-0.3%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%
Domestic use	0.2%	-0.2%	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	-0.2%	-0.2%
Producer price	-2.9%	-3.8%	-3.1%	-2.7%	-2.7%	-3.0%	-3.2%	-3.4%	-3.6%
Durum wheat									
Production									
Domestic use									
Producer price									
Barley									
Production	0.0%	0.4%	0.0%	-0.7%	-1.1%	-1.1%	-1.1%	-1.1%	-1.2%
Domestic use	0.0%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	-0.5%
Producer price	-2.1%	-3.6%	-3.7%	-3.4%	-3.3%	-3.5%	-3.7%	-4.0%	-4.3%
Maize									
Production	0.0%	0.5%	1.6%	2.1%	1.9%	1.8%	1.8%	1.9%	2.0%
Domestic use	0.8%	1.1%	0.9%	0.8%	0.7%	0.7%	0.8%	0.8%	0.8%
Producer price	-1.3%	-2.1%	-2.0%	-1.8%	-1.7%	-1.8%	-1.9%	-2.0%	-2.1%
Rye									
Production									
Domestic use									
Producer price									
Other grains									
Production									
Domestic use									
Producer price									
Total oilseeds									
Production	0.0%	1.6%	2.1%	1.6%	1.2%	1.2%	1.3%	1.3%	1.3%
Domestic use	0.0%	0.0%	-0.3%	-0.6%	-0.9%	-1.0%	-1.1%	-1.1%	-1.1%
Rapeseed									
Production	0.0%	1.8%	2.3%	1.8%	1.5%	1.4%	1.5%	1.5%	1.6%
Domestic use	0.0%	-0.3%	-0.7%	-1.0%	-1.2%	-1.3%	-1.4%	-1.5%	-1.5%
Producer price	-8.5%	-10.8%	-8.5%	-7.2%	-7.1%	-7.5%	-7.9%	-8.3%	-8.6%
Sunflower									
Production	0.0%	0.4%	-0.1%	-0.7%	-0.9%	-0.9%	-0.8%	-0.9%	-1.0%
Domestic use	0.0%	4.7%	6.8%	5.7%	4.8%	4.5%	4.7%	5.0%	5.2%
Producer price	-3.8%	-4.9%	-3.8%	-3.2%	-3.1%	-3.3%	-3.5%	-3.6%	-3.7%
Soybeans									
Production									
Domestic use									
Producer price									
Beef and veal									
Production	0.3%	0.4%	0.3%	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%
Domestic use	1.4%	3.0%	4.0%	4.7%	5.3%	5.7%	6.3%	6.9%	7.6%
Producer price	-1.8%	-2.3%	-1.7%	-1.4%	-1.3%	-1.4%	-1.5%	-1.6%	-1.7%
Pig meat									
Production	-1.2%	-2.7%	-2.7%	-2.2%	-2.0%	-2.0%	-2.1%	-2.3%	-2.4%
Domestic use	1.1%	1.5%	1.2%	1.1%	1.0%	1.0%	1.1%	1.2%	1.3%
Producer price	-7.0%	-9.0%	-7.4%	-6.4%	-6.1%	-6.3%	-6.9%	-7.4%	-8.0%
Poultry meat									
Production	0.0%	0.8%	1.0%	0.7%	0.6%	0.6%	0.6%	0.7%	0.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.4%	-0.8%	-0.8%	-0.6%	-0.5%	-0.5%	-0.6%	-0.6%	-0.6%
Sheep meat									
Production									
Domestic use									
Producer price									
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.1%	0.2%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%
Whole sale price	-0.5%	-1.5%	-2.2%	-2.5%	-2.7%	-2.8%	-3.0%	-3.2%	-3.4%
Butter									
Production	-0.7%	-0.9%	-0.6%	-0.5%	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%
Domestic use	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Whole sale price	-0.8%	-1.0%	-0.8%	-0.7%	-0.7%	-0.8%	-0.8%	-0.9%	-0.9%
SMP									
Production	-2.6%	-3.5%	-2.6%	-2.1%	-2.1%	-2.2%	-2.3%	-2.4%	-2.5%
Domestic use	-0.4%	0.6%	1.7%	2.2%	2.3%	2.4%	2.5%	2.6%	2.7%
Whole sale price	-1.2%	-1.6%	-1.3%	-1.1%	-1.1%	-1.2%	-1.3%	-1.4%	-1.4%
WMP									
Production	-0.5%	-0.8%	-0.6%	-0.5%	-0.5%	-0.6%	-0.6%	-0.6%	-0.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.7%	-3.6%	-2.8%	-2.3%	-2.3%	-2.5%	-2.6%	-2.8%	-2.9%
Cheese									
Production	1.7%	2.3%	1.5%	1.0%	1.0%	1.0%	1.1%	1.2%	1.2%
Domestic use	0.0%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Whole sale price	0.0%	-1.3%	-2.7%	-3.3%	-3.6%	-3.8%	-4.0%	-4.2%	-4.5%

Source: Czech AGMEMOD Model (2006)

5 Denmark

Jorgen Dejgaard Jensen, Institute of Food and Resource Economics (FOI), Royal Veterinary and Agricultural University, Copenhagen

5.1 Baseline

Table 5.1 provides a summary of the specific assumptions for Denmark on the macroeconomic and policy variables that underlie the model's baseline projections up to 2015.

Table 5.1: Assumptions on macroeconomic variables for Denmark

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	5.3	5.4	5.4	5.4	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
GDP	bil. Euro97	133	146	148	151	153	156	159	161	164	167	170	173
GDP per capita	Euro97/cap	24949	26896	27297	27708	28122	28543	28971	29404	29845	30292	30745	31206
Inflation	1997=1	1.07	1.18	1.20	1.22	1.24	1.26	1.28	1.30	1.33	1.35	1.37	1.39

Source: Statistics Denmark

Due to the Luxembourg Agreement of 2003, most premiums have been decoupled in Denmark from 2006 onward, the year that the SFP was introduced. In spite of this independence, the decoupled payments could still be expected to retain some supply-inducing impact on the Danish agricultural sector. AGMEMOD assumes that these impacts will depend on the distributional effects of payments to other sectors in comparison with entitled hectares and animals in the reference years (in Denmark, 18% of CAP payments in the reference period will be re-distributed to land that was initially not subsidised), on (compulsory) modulation effects (which will amount to 4% in 2015) and on shift rate effects (it is assumed that each year 2.5% of arable farmers and 5% of livestock farmers will leave the agricultural sector in Denmark). These effects are represented by the supply-inducing multipliers in Table 5.2; the derivation and use of these multipliers is discussed in Report III - AGMEMOD - Model description.

Table 5.2: Supply-inducing multipliers of support to Danish agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	1.00	0.78	0.75	0.73	0.71	0.69	0.68	0.66	0.64	0.63	0.61
Oilseeds	index	1.00	1.00	0.78	0.75	0.73	0.71	0.69	0.68	0.66	0.64	0.63	0.61
Suckler cows	index	1.00	1.00	0.76	0.71	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.47
Milk	index	1.00	1.00	0.57	0.54	0.51	0.49	0.46	0.44	0.42	0.40	0.38	0.36
Maize	index	1.00	1.00	0.78	0.75	0.73	0.71	0.69	0.68	0.66	0.64	0.63	0.61
Ewes	index	1.00	1.00	0.88	0.86	0.84	0.82	0.80	0.79	0.78	0.76	0.75	0.74
Sheep	index	1.00	1.00	0.76	0.71	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.47
Bulls	index	1.00	1.00	0.76	0.71	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.47

Source: Own calculations

The 2003 CAP reform changed the direct payments that apply in the Danish AGMEMOD cereal, oilseed, livestock and dairy sub-sector models. From 2006, premiums for suckler cows and bulls are fully decoupled from livestock production, and premiums for adult cattle slaughtering and ewes are partially decoupled from production. In the cereals and oilseeds regime, arable aid payments are fully decoupled from production. In the dairy sector, the intervention prices of butter and skimmed milk powder will be reduced by 25% and 15% compared to their levels in 2004. The dairy compensation premiums introduced as part of the Agenda 2000 CAP reform are further increased and are expected to compensate for 64% of the reduction in the intervention price for butter. These dairy compensation payments will be fully decoupled from 2007 onwards. The milk quota system is assumed to continue until 2015 under the Luxembourg Agreement, and the Danish milk quota will be increased by 1%

from 2005 to 2007.

AGMEMOD simulates the effect of the SFP by reducing the amounts of direct payments (as used under the old scheme) to the estimated 'synthetic' premium levels in the MS. Based on the coupling and decoupling rates in the key price countries, the EU combined model has generated a new set of projections for (key) prices, production and utilisation for each year up to 2015 for these key markets, and these key prices are the drivers of Danish commodity prices via the key price linkage equations in the Danish AGMEMOD model.

Grain sectors
By 2015 grain prices on the French key market are projected to decrease slightly in comparison with 2004, and hence the projections under the Baseline scenario show a similar development for Danish prices. The decoupling of direct payments from production is projected to lead to lower receipts from grain production. Nevertheless, under the Baseline, Danish soft wheat and barley areas harvested are projected to remain fairly constant through the projection period (2005 to 2015). As a result of projected increasing yields per hectare, total grain production in Denmark is projected to increase over the Baseline period. The use of grains in Denmark is expected to decrease slightly, most of the decline in domestic use being related to reductions in the use of barley, as the price of barley increases relative to that of soft wheat.

Livestock and dairy sectors
Under the Baseline the Danish suckler cow herd is projected to decrease, leading to a 9% reduction in the production of beef and veal between 2005 and 2015. In Denmark domestic use of beef and veal is projected under the Baseline to follow a rising trend, so that by 2015 domestic use of beef is projected to be 5% higher than in 2005. This projected increase in consumption and decline in indigenous production leads to projections of higher net imports of beef into Denmark over the Baseline period.

The 2003 CAP reform will not bear directly on pig or poultry producers, but will affect them through the markets for meat and supplies of grains and other feed ingredients. Pork production is projected to grow at a moderate rate (4%) over the Baseline period 2005-2015, resulting from a combination of moderately growing pork price, increasing feed prices and a growth in productivity in the pig sector. The Danish AGMEMOD model's Baseline results project a slight increase in Danish pigmeat domestic use. Under the Baseline the production of poultrymeat in Denmark, as well as its consumption, are projected to continue a rising trend, leading to a projected increase in the net export of poultrymeat from Denmark over the period 2005-2015.

The cuts in butter intervention prices (25% from 2004) in the Baseline scenario are reflected in market prices, which decrease by 8% from 2005 to 2015. By 2008 the prices on the German key market are likely to be 25% below the 2004 levels and remain there. Projections of the impact of the Luxembourg CAP reform scenario on Denmark show a similar – albeit more moderate – cut in the butter price. Despite this, Danish butter production is projected to increase by 6% from 2005 to 2015. Dairy cow milk production, however, will continue at the quota level and is projected to grow by a very small amount over the projection period (thus filling the marginally expanded quota). The demand for butter in Denmark under the Baseline increases as a result of the lower butter price and positive trend developments. Baseline projections for the Danish cheese market indicate that consumption of cheese will grow by some 20% between 2005 and 2015. Table 5.3 summarises the baseline projections for the

main agricultural commodities in Denmark.

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities and only include feedstuffs when modelling input expenditure, it is possible to approximate the development of gross agricultural sector income. This is based on the developments of agricultural output value, subsidies (direct payments and SFP) and the feed costs, respectively. The projected development in these figures is set out in Table 5.4.

Table 5.3: Agricultural output, subsidies, feed cost and gross income in Denmark[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.93	0.89	0.91	0.95	0.97	0.98	0.97	0.96	0.98	1.00	1.02
Subsidies/SFP	2000=1	1.00	1.28	1.15	1.23	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29
Feeding costs	2000=1	1.00	0.80	0.78	0.84	0.88	0.85	0.83	0.82	0.83	0.84	0.84	0.84
Gross agric. income	2000=1	1.00	1.04	0.98	0.99	1.04	1.06	1.09	1.07	1.06	1.08	1.11	1.13

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Danish AGMEMOD Model (2006)

The Baseline projection for Danish agricultural output value is that total output value will decline over the period 2005 to 2007, followed by an increase from 2007 onwards. Subsidies (including SFP) to Danish farmers are projected to decrease from 2005 to 2007, in part due to modulation of the SFP. Due particularly to lower prices for oilseed meals, projected feed costs in Danish agriculture will decrease from 2000 to 2006, followed thereafter by moderate increases to the end of the projection period. As a consequence of these developments, the Baseline projection for Danish gross agricultural income is for it to decrease by 6% or 7% in the first two years of the reform, and thereafter to recover (assuming that the output value of commodities not modelled in AGMEMOD, as well as inputs other than feeds, remain constant).

5.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU Member States. Single Payment Scheme (SPS) payments in EU15 MS are, above certain amounts, also subject to modulation. The FCR scenario, described in Report III AGMEMOD - Model description, involves effectively standardising the MS' currently nationally differentiated CAP implementation plans by imposing full decoupling from 2007, while the rates of compulsory modulation associated with the current SPS are increased to 10% from 2007 onwards. Denmark chose to decouple most direct payments from production (with the above exceptions involving the only partial decoupling of the adult cattle slaughtering premium, and the ewes and starch potatoes premiums) and to base payments on a hybrid model with equal payments per hectare for all farmers, but with additional payments per hectare for cattle farmers depending on the milk quota owned by the farm and cattle premiums received by the farm in 2000-2002.

Table 5.4: Baseline results concerning main agricultural commodities, Denmark

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	8052	8371	8433	8497	8571	8469	8705	8764	8824	8876	8940	9003
Domestic use	1,000 ton	5078	4972	4662	4681	4803	4795	4737	4704	4679	4675	4647	4600
Soft wheat													
Production	1,000 ton	4482	4718	4798	4841	4876	4891	4901	4908	4922	4933	4949	4962
Domestic use	1,000 ton	2800	2566	2490	2507	2582	2614	2607	2606	2611	2630	2642	2648
Producer price	euro/ton	112	108	108	110	112	112	111	112	112	113	113	114
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	3570	3653	3635	3655	3695	3751	3805	3855	3902	3943	3991	4041
Domestic use	1,000 ton	2264	2394	2160	2164	2209	2170	2119	2088	2058	2034	1995	1943
Producer price	euro/ton	112	100	102	104	107	107	107	108	108	110	111	112
Maize													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	14	12	11	11	11	11	11	10	10	10	10	9
Producer price	euro/ton	122	105	105	108	111	111	110	110	110	111	111	111
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	404	480	457	451	471	490	498	498	495	495	497	498
Domestic use	1,000 ton	583	676	694	706	723	744	763	782	799	815	830	843
Rapeseed													
Production	1,000 ton	404	480	457	451	471	490	498	498	495	495	497	498
Domestic use	1,000 ton	367	399	402	401	402	405	407	408	409	410	411	412
Producer price	euro/ton	206	213	214	243	259	244	235	235	233	232	230	228
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	79	79	79	79	79	79	79	79	79	79	79	79
Producer price	euro/ton	237	227	234	270	289	274	265	265	264	262	259	256
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	136	198	213	226	243	260	276	294	310	325	340	352
Producer price	euro/ton	216	199	192	220	240	228	221	224	224	223	222	221
Beef and veal													
Production	1,000 ton	196	191	191	188	186	184	182	180	178	177	175	174
Domestic use	1,000 ton	101	102	102	102	103	104	106	106	106	106	107	108
Producer price	euro/100 kg	142	132	131	136	138	135	133	133	133	135	137	139
Pig meat													
Production	1,000 ton	1686	1733	1740	1747	1754	1762	1770	1776	1782	1788	1795	1801
Domestic use	1,000 ton	355	372	381	385	381	378	376	380	385	384	384	384
Producer price	euro/100 kg	116	101	92	93	99	102	104	101	98	101	104	107
Poultry meat													
Production	1,000 ton	178	188	190	192	194	196	198	200	202	204	206	208
Domestic use	1,000 ton	69	71	72	73	73	74	75	75	76	76	77	78
Producer price	euro/100 kg	69	65	63	62	62	62	61	59	58	58	57	56
Sheep meat													
Production	1,000 ton	2	2	2	2	2	2	2	2	2	2	2	2
Domestic use	1,000 ton	6	6	6	6	6	6	6	6	7	7	7	7
Producer price	euro/100 kg	134	140	139	139	139	139	139	138	138	138	137	137
Fluid milk													
Production	1,000 ton	4794	4802	4803	4804	4805	4807	4809	4810	4812	4814	4815	4817
Domestic use	1,000 ton	4646	4654	4655	4656	4657	4659	4661	4662	4664	4666	4667	4669
Farm gate price	euro/100 kg	4	4	4	3	3	3	3	3	3	4	4	4
Butter													
Production	1,000 ton	76	82	82	84	84	84	85	85	86	86	87	87
Domestic use	1,000 ton	51	60	62	64	66	68	70	73	75	77	80	82
Whole sale price	euro/100kg	384	349	325	317	320	318	317	318	319	320	321	322
SMP													
Production	1,000 ton	27	23	20	21	22	22	22	23	24	25	25	26
Domestic use	1,000 ton	14	19	20	20	20	20	20	20	19	19	19	19
Whole sale price	euro/100kg	22	17	16	16	16	16	16	16	16	16	16	16
WMP													
Production	1,000 ton	94	84	81	79	78	77	75	74	73	72	71	69
Domestic use	1,000 ton	16	15	15	15	15	15	15	15	15	15	14	14
Whole sale price	euro/100kg	274	218	204	199	202	201	200	200	201	202	203	203
Cheese													
Production	1,000 ton	337	334	337	336	336	338	339	339	339	340	341	342
Domestic use	1,000 ton	86	99	101	106	108	109	111	113	116	117	119	120
Whole sale price	euro/100kg	461	464	468	453	454	464	466	464	465	468	473	479

Source: Danish AGMEMOD Model (2006)

Danish farmers receiving single farm payments (SFP) in excess of € 5 000 were, like other farmers in the EU15 MS, subject to modulation at rates that from 2007 will be 5%.

Due to the extensive decoupling of agricultural support in Denmark in the Baseline, the further CAP reform scenario, involving the "full" decoupling of all CAP direct payments and increased rates of modulation, is not expected, a priori, to have any major effect on the supply and use of agricultural commodities in Denmark, but some minor effects could be expected – due to the direct impact of further decoupling and modulation in Denmark, and indirect impacts due to the price effects of further reform on agriculture in the EU as a whole. Full decoupling of CAP payments in all EU MS could be expected to alter the supply and use balance in EU agricultural commodity markets since many MS have chosen to only partially decouple some direct payments. The further CAP reform scenario results presented below in Table 5.5 however indicate that the impact on Danish agricultural commodity markets of introducing full decoupling in other MS and the increased rates of compulsory modulation is somewhat limited.

Main Results

The impact of full decoupling in other EU MS on Danish agricultural commodity markets is reflected in the development of EU key prices, which feed back to Danish commodity prices. However, the implementation of full decoupling across all EU MS leads to rather small increases in supply-inducing prices in Denmark. Table 5.5 and Table 5.6 compare the Danish AGMEMOD model's projections under the FCR scenario with the Baseline projections. The remainder of this section comments on these results.

Grains and oilseed sectors

The impact of the FCR scenario on Danish grain markets is projected to be small when compared with the Baseline projections. under ht further CAP reform scenario only a small decrease in the domestic use of wheat is detected as a result of the lower feed demand from the beef and sheep sectors. An important reason for the modest effect is that the AGMEMOD crop commodities in the analysis were already fully decoupled in the Baseline and hence the main effect of decoupling of direct payments was already projected under the Baseline described in Section 5.1.

Livestock and dairy sectors

The Baseline projection discussed earlier showed that beef and veal production decreased, over the projection period 2005 to 2015, by around 9% in Denmark due to the decoupling of animal premiums. The impact of the FCR scenario on Danish livestock markets is, as was the case with the arable sector, also rather small compared to the Baseline projection. The further decoupling of premiums for cattle slaughtering and sheep means a small further decrease in the production of beef, veal and lamb meat in the FCR scenario. As the economic conditions for pig and poultry production are not affected by the further CAP reform scenario, the FCR scenario does not change the pattern of development for these commodities – neither for production nor for domestic use.

The FCR scenario seems to have no impact on the Danish prices of butter, SMP and WMP, and hence on the composition of dairy products.

Table 5.5: Denmark: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soft wheat									
Production	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	5.2%	-12.8%	-17.2%	-11.7%	1.9%	9.5%	4.6%	2.3%	3.5%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.0%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.4%	0.3%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	-0.2%	-0.3%	-0.5%	-0.7%	-0.8%	-0.9%	-1.1%	-1.2%	-1.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Farm gate price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale pric	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale pric	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale pric	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale pric	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Danish AGMEMOD Model (2006)

Agricultural income

Compared to the Baseline, Danish agricultural incomes decrease under the FCR scenario (Table 5.6) due to lower subsidy receipts (due to the increase in the rate of modulation). This

reduction more than offsets the small projected decrease in feed costs caused by the projected fall in animal numbers as a result of full decoupling, thus leading to a projected reduction in gross agricultural income in Danish agriculture of approximately 1%.

Table 5.6 : Denmark: Agricultural output and income under FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subsidies/SFP	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%
Feeding costs	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Gross agric. incom	-1.2%	-1.1%	-1.1%	-1.1%	-1.1%	-1.1%	-1.1%	-1.1%	-1.0%

Source: Danish AGMEMOD Model (2006)

5.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is important in terms of the impact of world agricultural commodity prices on EU agricultural markets and for the competitiveness of EU agricultural commodities on world markets. Under the Baseline, the exchange rate projection is € = US$ 1.24 from 2007 onwards. In order to assess the sensitivity of the results with respect to this exchange rate assumption, three alternative assumptions about the US €/US$ exchange rate have been analysed. In one scenario, the euro is assumed to depreciate versus the dollar with an exchange rate of € = 1 US$ from 2007 and onwards (ERC-1). The other two projections involve a depreciation of the US dollar against the euro, with the exchange rate moving to $1.30 (ERC-2) and $1.40 dollar (ERC-3) in 2007.

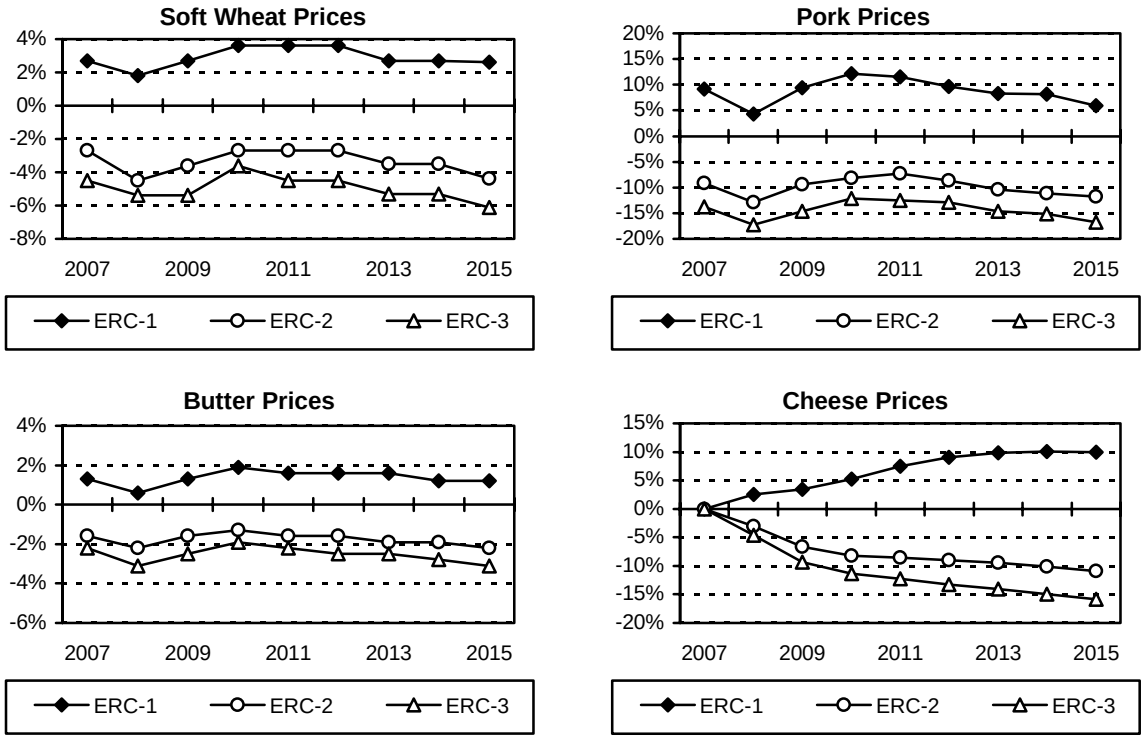
For most agricultural commodities, exchange rate changes operate by impacting on the key price projections generated by the AGMEMOD model. However, prices of a number of commodities, such as oilseeds and their associated meals and oils, are not determined endogenously in the model, as the supply-inducing prices for European farmers are assumed to be world prices (in dollars), converted into national currency equivalents. For such products, any change in the exchange rate will have a direct impact on national currency prices and on the associated supplies of and demands for the commodity in question.

Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario results for Denmark. Table 5.7 to Table 5.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage deviations from the Baseline.

The impact of the three ERC scenarios when compared with each other and with the Baseline projections indicate that the AGMEMOD model performs as was expected a priori. Hence, projected key prices increase under the ECR-1 scenario, where the € = US$ 1.00 from 2007, whereas they decrease in both the ERC-2 and ERC-3 scenarios, where the euro appreciates against the dollar. Figure 5.1 charts the percentage change in four of the most important Danish prices under each of the three ERC scenarios: soft wheat, pork, butter and cheese. These prices are all determined endogenously in the AGMEMOD model.

Figure 5.1 : Danish Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: Danish AGMEMOD Model (2006)

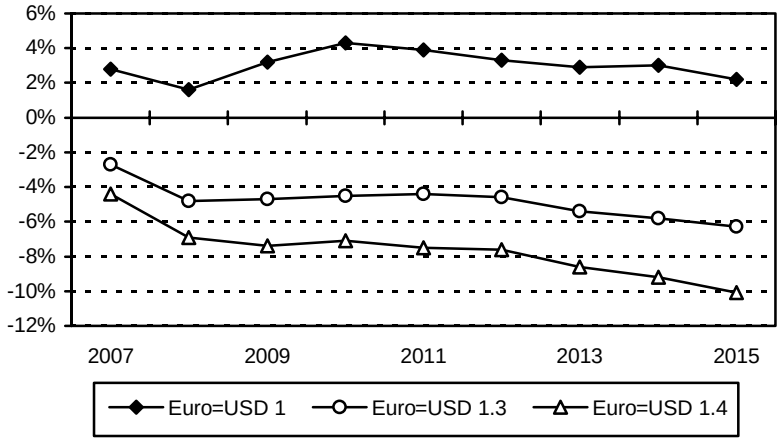
When the projections for Danish commodity markets under the ECR-1 scenario are compared with the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use.

In contrast to the ECR-1 scenario, the two other exchange rate change scenarios (ECR-2 and ECR-3) involve increases in the value of the euro versus the dollar compared to the Baseline exchange rate assumptions. As expected, the projections for Denmark under both these scenarios exhibit similar changes in prices, quantities supplied and demanded, compared with the Baseline. Hence, in both these scenarios, Danish market prices are projected to be lower than under the Baseline. In most cases the projected reductions in prices are accompanied by reductions in the volume of domestic production and small increases in domestic use. As expected, the magnitude of the impacts on prices and supply and use balances are greater under ECR-3 than ECR-2.

Agricultural income

Total subsidy receipts are not influenced by the exchange rate shocks since most direct payments in Danish agriculture are decoupled from production. The main influence on gross agricultural income (ceteris paribus) results from exchange rate changes affecting the value of Danish agricultural output. Higher prices and production levels in the ERC-1 scenario would lead to increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (see Figure 5.2).

Figure 5.2 : Denmark: Gross agriculture income in ERC Scenarios (% Δ from Baseline)



Source: Danish AGMEMOD Model (2006)

Table 5.7 : Denmark: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.2%	0.1%	0.2%	0.2%	0.1%	0.2%	0.2%	0.2%
Domestic use	-0.5%	-0.4%	-0.7%	-1.0%	-1.2%	-1.3%	-1.3%	-1.3%	-1.2%
Soft wheat									
Production	0.0%	0.4%	0.1%	0.2%	0.2%	0.0%	-0.1%	-0.2%	-0.3%
Domestic use	-1.3%	0.1%	-0.7%	-0.8%	-0.5%	-0.2%	-0.2%	-0.2%	-0.2%
Producer price	2.8%	1.4%	2.8%	3.7%	3.7%	3.4%	3.1%	2.7%	2.4%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.0%	0.1%	0.2%	0.3%	0.3%	0.6%	0.7%	0.7%
Domestic use	0.4%	-1.1%	-0.8%	-1.4%	-2.2%	-2.7%	-2.8%	-2.8%	-2.7%
Producer price	2.1%	1.9%	2.8%	3.8%	4.3%	4.3%	4.0%	3.6%	3.3%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.7%	-0.2%	-0.7%	-1.0%	-1.0%	-1.1%	-1.1%	-1.2%	-1.2%
Producer price	-1.1%	-1.7%	-0.6%	0.8%	1.9%	2.9%	3.1%	3.5%	4.2%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	-0.5%	-0.6%	-0.9%	-1.2%	-1.5%	-1.6%	-1.6%	-1.5%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	-0.5%	-0.6%	-0.9%	-1.2%	-1.5%	-1.6%	-1.6%	-1.5%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	3.6%	1.7%	3.4%	4.5%	4.4%	4.0%	3.5%	3.1%	2.7%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.1%	0.3%	0.2%	0.3%	0.3%	0.2%	0.1%	0.1%	0.0%
Domestic use	1.0%	0.2%	0.9%	1.2%	1.0%	0.8%	0.7%	0.6%	0.5%
Producer price	4.2%	2.1%	3.8%	4.8%	4.7%	4.1%	3.7%	3.3%	2.9%
Pig meat									
Production	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%
Domestic use	-1.1%	-0.6%	-1.3%	-1.9%	-1.7%	-1.4%	-1.2%	-1.1%	-1.0%
Producer price	8.5%	4.0%	8.3%	11.0%	10.8%	9.4%	8.4%	7.3%	6.3%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.4%	-0.1%	0.3%	0.3%	0.2%	0.1%	0.1%	0.1%	0.1%
Producer price	0.8%	1.3%	1.2%	1.8%	2.1%	2.1%	1.9%	1.7%	1.5%
Sheep meat									
Production	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.7%	-0.1%	0.6%	0.7%	0.5%	0.3%	0.3%	0.3%	0.2%
Producer price	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Farm gate price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	-0.7%	-0.9%	-1.4%	-1.9%	-2.3%	-2.5%	-2.6%	-2.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.4%	0.7%	1.3%	1.7%	1.7%	1.6%	1.4%	1.3%	1.1%
SMP									
Production	3.6%	-2.7%	-2.3%	-4.3%	-7.4%	-9.9%	-11.3%	-11.9%	-12.0%
Domestic use	-2.0%	-1.3%	-2.3%	-3.0%	-3.2%	-3.1%	-3.0%	-2.8%	-2.5%
Whole sale price	2.2%	1.2%	2.2%	2.9%	3.0%	2.7%	2.5%	2.2%	2.0%
WMP									
Production	0.5%	-0.4%	-0.4%	-0.7%	-1.3%	-1.8%	-2.1%	-2.3%	-2.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	2.2%	1.2%	2.2%	2.9%	3.0%	2.8%	2.5%	2.2%	2.0%
Cheese									
Production	-0.1%	0.6%	0.7%	1.0%	1.5%	1.9%	2.1%	2.1%	2.1%
Domestic use	0.0%	-2.5%	-3.1%	-4.6%	-6.1%	-7.2%	-7.7%	-7.8%	-7.6%
Whole sale price	0.0%	2.8%	3.5%	5.3%	7.4%	9.1%	9.9%	10.2%	10.0%

Source: Danish AGMEMOD Model (2006)

Table 5.8: Denmark: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.2%	0.0%	-0.3%	-0.2%	-0.2%	-0.1%	-0.2%	-0.2%
Domestic use	0.5%	1.0%	1.0%	1.0%	1.1%	1.2%	1.3%	1.4%	1.6%
Soft wheat									
Production	0.0%	-0.4%	-0.5%	-0.2%	0.1%	0.2%	0.3%	0.1%	0.1%
Domestic use	1.5%	1.2%	0.0%	-0.2%	0.1%	0.4%	0.5%	0.5%	0.5%
Producer price	-3.1%	-4.5%	-3.3%	-2.6%	-2.7%	-3.0%	-3.4%	-3.7%	-4.1%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.1%	-0.1%	-0.4%	-0.6%	-0.7%	-0.5%	-0.6%	-0.6%
Domestic use	-0.6%	0.6%	2.3%	2.5%	2.3%	2.2%	2.4%	2.7%	3.2%
Producer price	-2.3%	-4.2%	-4.1%	-3.6%	-3.4%	-3.6%	-4.0%	-4.4%	-4.9%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.8%	1.0%	0.6%	0.7%	0.9%	1.1%	1.2%	1.4%	1.6%
Producer price	-2.5%	-4.6%	-4.2%	-3.5%	-3.3%	-3.6%	-3.9%	-4.3%	-4.7%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.5%	1.1%	1.4%	1.4%	1.3%	1.3%	1.4%	1.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.5%	1.1%	1.4%	1.4%	1.3%	1.3%	1.4%	1.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-4.4%	-6.0%	-4.4%	-3.3%	-3.4%	-3.8%	-4.3%	-4.7%	-5.1%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.1%	-0.4%	-0.4%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-1.0%	-1.2%	-0.7%	-0.7%	-0.7%	-0.7%	-0.8%	-0.9%	-1.1%
Producer price	-4.6%	-6.4%	-4.5%	-3.4%	-3.3%	-3.7%	-4.1%	-4.5%	-5.0%
Pig meat									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	1.2%	1.9%	1.5%	1.2%	1.1%	1.2%	1.4%	1.6%	1.7%
Producer price	-9.2%	-12.9%	-9.6%	-7.5%	-7.4%	-8.2%	-9.3%	-10.3%	-11.3%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.4%	-0.3%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Producer price	-1.0%	-2.4%	-2.5%	-1.8%	-1.6%	-1.7%	-1.9%	-2.2%	-2.4%
Sheep meat									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.7%	-0.6%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.5%	-0.5%
Producer price	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-0.5%	-2.9%	-5.2%	-6.1%	-6.4%	-6.7%	-7.1%	-7.7%	-8.3%
Butter									
Production	0.1%	0.9%	1.9%	2.3%	2.3%	2.4%	2.5%	2.7%	2.9%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.5%	-2.2%	-1.5%	-1.2%	-1.2%	-1.4%	-1.6%	-1.7%	-1.9%
SMP									
Production	-4.3%	-0.8%	7.1%	10.4%	10.5%	10.2%	10.4%	11.0%	11.8%
Domestic use	2.4%	3.8%	3.3%	2.9%	2.9%	3.1%	3.4%	3.6%	3.9%
Whole sale price	-2.7%	-3.9%	-3.0%	-2.5%	-2.5%	-2.7%	-3.0%	-3.3%	-3.5%
WMP									
Production	-0.6%	-0.1%	1.1%	1.7%	1.8%	1.8%	2.0%	2.1%	2.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.7%	-3.9%	-3.0%	-2.5%	-2.5%	-2.7%	-3.0%	-3.3%	-3.5%
Cheese									
Production	0.1%	-0.5%	-1.4%	-1.8%	-1.8%	-1.9%	-2.0%	-2.1%	-2.3%
Domestic use	0.0%	2.7%	5.9%	7.0%	7.0%	7.1%	7.3%	7.7%	8.3%
Whole sale price	0.0%	-3.1%	-6.7%	-8.2%	-8.6%	-8.9%	-9.4%	-10.1%	-10.9%

Source: Danish AGMEMOD Model (2006)

Table 5.9 : Denmark: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.3%	-0.1%	-0.4%	-0.3%	-0.3%	-0.2%	-0.2%	-0.3%
Domestic use	0.8%	1.3%	1.4%	1.5%	1.6%	1.8%	1.9%	2.1%	2.3%
Soft wheat									
Production	0.0%	-0.6%	-0.7%	-0.3%	0.1%	0.3%	0.4%	0.3%	0.2%
Domestic use	2.2%	1.5%	0.2%	0.0%	0.2%	0.5%	0.6%	0.6%	0.6%
Producer price	-4.5%	-5.9%	-4.8%	-4.1%	-4.2%	-4.5%	-4.9%	-5.3%	-5.6%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.1%	-0.1%	-0.5%	-0.8%	-0.9%	-0.8%	-0.8%	-1.0%
Domestic use	-0.8%	1.0%	3.0%	3.5%	3.4%	3.4%	3.7%	4.1%	4.7%
Producer price	-3.3%	-5.6%	-5.7%	-5.3%	-5.2%	-5.4%	-5.9%	-6.3%	-6.9%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.2%	1.2%	0.9%	1.0%	1.3%	1.5%	1.7%	1.9%	2.2%
Producer price	-3.7%	-6.1%	-5.9%	-5.3%	-5.1%	-5.4%	-5.8%	-6.2%	-6.6%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.7%	1.5%	2.0%	2.1%	2.0%	2.0%	2.1%	2.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.7%	1.5%	2.0%	2.1%	2.0%	2.0%	2.1%	2.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-6.5%	-8.1%	-6.4%	-5.4%	-5.4%	-5.9%	-6.3%	-6.8%	-7.2%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.1%	-0.6%	-0.6%	-0.4%	-0.2%	-0.2%	-0.1%	-0.2%	-0.2%
Domestic use	-1.5%	-1.5%	-1.1%	-1.1%	-1.0%	-1.0%	-1.2%	-1.3%	-1.4%
Producer price	-6.7%	-8.5%	-6.5%	-5.3%	-5.2%	-5.5%	-5.9%	-6.4%	-6.9%
Pig meat									
Production	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	1.8%	2.4%	2.2%	2.0%	1.8%	1.8%	2.0%	2.2%	2.4%
Producer price	-13.4%	-16.9%	-13.8%	-11.9%	-11.7%	-12.4%	-13.4%	-14.5%	-15.5%
Poultry meat									
Production	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.6%	-0.4%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
Producer price	-1.5%	-3.4%	-3.4%	-2.8%	-2.5%	-2.7%	-2.9%	-3.2%	-3.4%
Sheep meat									
Production	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	-1.1%	-0.7%	-0.3%	-0.4%	-0.4%	-0.4%	-0.5%	-0.6%	-0.7%
Producer price	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Farm gate price	-0.8%	-4.1%	-7.2%	-8.6%	-9.3%	-9.9%	-10.6%	-11.3%	-12.1%
Butter									
Production	0.1%	1.3%	2.6%	3.2%	3.4%	3.6%	3.8%	4.0%	4.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.2%	-2.9%	-2.2%	-1.9%	-1.9%	-2.1%	-2.3%	-2.5%	-2.6%
SMP									
Production	-6.3%	-0.4%	9.4%	13.9%	14.8%	15.1%	15.8%	16.6%	17.7%
Domestic use	3.6%	5.2%	4.8%	4.4%	4.5%	4.7%	5.0%	5.3%	5.6%
Whole sale price	-4.1%	-5.3%	-4.4%	-3.9%	-3.9%	-4.2%	-4.5%	-4.7%	-5.0%
WMP									
Production	-0.9%	-0.1%	1.5%	2.2%	2.5%	2.7%	3.0%	3.2%	3.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-4.1%	-5.3%	-4.4%	-3.9%	-3.9%	-4.2%	-4.5%	-4.7%	-5.0%
Cheese									
Production	0.1%	-0.8%	-1.9%	-2.5%	-2.7%	-2.8%	-3.0%	-3.2%	-3.4%
Domestic use	0.0%	3.9%	8.1%	9.8%	10.2%	10.5%	10.9%	11.4%	12.0%
Whole sale price	0.0%	-4.5%	-9.1%	-11.4%	-12.4%	-13.1%	-14.0%	-14.9%	-15.9%

Source: Danish AGMEMOD Model (2006)

6 Estonia

Tõnu Akkel and Mati Sepp, Estonian University of Life Sciences, Institute of Economics and Social Sciences

6.1 Baseline

Table 6.1 and Table 6.2 of this section provide a summary of the specific assumptions for Estonia on the macroeconomic and policy variables that underlie the model's Baseline projections up to 2015. Real GDP is assumed to grow by 3 to 4% per year from 2000-2015. The projected inflation rate is 3% per year.

Table 6.1: Assumptions on macroeconomic variables for Estonia

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
GDP	bil. Euro97	4	5	6	6	6	6	6	6	7	7	7	7
GDP per capita	Euro97/cap	3317	4198	4335	4468	4596	4717	4830	4935	5031	5206	5334	5461
GDP deflator	1997=1	1.29	1.58	1.64	1.70	1.75	1.81	1.87	1.92	1.98	2.03	2.09	2.15

Sources: Estonian Statistical Office, Eurostat

Under the Luxembourg Agreement most premiums have been decoupled in Estonia from 2004. Estonia will maintain the SAPS system until 2009, when the SFP system will be introduced. The decoupled direct payments will be introduced in accordance with the following schedule of increments, expressed as a percentage of the level of such payments in the European Union's "older" Member States: 25% in 2004, 30% in 2005, 35% in 2006, 40% in 2007, 50% in 2008, 60% in 2009, 70% in 2010, 80% in 2011, 90% in 2012 and 100% in 2013. The total direct support to the farmer that can be granted after accession in Estonia, under the relevant EU scheme, and including all complementary national direct payments, cannot exceed the level of direct support allowable on expiry of the transition period.

Table 6.2 : Assumptions on national policy variables for Estonia

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Cereal reference yield	tonne/ha	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Oilseed reference yield	tonne/ha	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Milk quota *	1,000 tonne		624	646	646	646	646	646	646	646	646	646	646
Animal density threshold	LU/ha	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

Source: Eesti ühinemisleping Euroopa Liiduga, Tallinn, 2004

* From 2006, the additional milk quota amounts to 21 885 t per year

The Estonian reference yield for grain and oilseed is 2.4 t/ha. The reference yield forms the basis for calculating area payments for agricultural crops. Average observed yield in recent years (2004-2005) are close to the reference yield. The Estonian base area for grain agreed during the accession negotiations is 362 827 ha.

Table 6.3 shows the derived multipliers that are used to cover the assumed supply-inducing impact of decoupled direct payments on agricultural production in Estonia. These multipliers are used to simulate the effect of the SFP (starting 2009) by reducing the amounts of direct payments (as used under the SAPS) to 'synthetic' premium levels. In the Estonian AGMEMOD model, these 'synthetic' premium values are modelled as being paid on a per hectare or per animal basis in the period 2004-2015.

Table 6.3 : Supply-inducing multipliers of Estonian agriculture

	SAP scheme	SPS scheme

Decoupled EU support		
- grains	1.0	0.84
- rapeseeds	1.0	0.84
- suckler cows	1.0	0.84
- cattle	1.0	0.84
Coupled national support (CNDP)		
- grains	1.0	0.84
- rapeseeds	1.0	0,84
- suckler cows	1.0	0.84
- cattle	1.0	0.84

Source: Own calculations

For the purposes of modelling the introduction of direct payments in the Estonian dairy sector, the approach is the same as for modelling other direct payments (SAPS and CNDP). The dairy compensation premiums will therefore be introduced in the same way as direct payments in general, i.e. starting at 30% of the EU level in 2005 plus Complementary National Direct Payments (CNDP). Full decoupling of these payments will start from 2010.

The 2003 CAP reform changes the premiums applicable to the cereals, oilseeds, livestock and dairy sub-sectors in Estonia. Since 1 May 2004, the start year of the SAPS scheme in Estonia, premiums for suckler cows, bulls and adult slaughtering have been decoupled from livestock production. In the cereals and oilseeds regime, arable aid payments are also decoupled from production. The dairy compensation premiums are boosted and will make up for 60% of the reduction in the intervention price for butter. These compensation payments will be fully decoupled from 2010. Under the Baseline, the milk quota is assumed to continue until 2015 under the Luxembourg Agreement and will stabilise at the amounts agreed in the course of the Accession Negotiations. .

Grains and oilseed sectors

Under the Baseline, Estonian grain prices by 2015 are projected to have increased slightly compared with the levels observed in 2005. Estonian oilseed production grows under the Baseline in response to higher prices, with total production of rapeseed projected to more than double between 2005 and 2015.

The projected reduction in total grains area harvested under the Baseline is not reflected in a contraction in total grains production. Higher productivity per hectare by the end of the Baseline projection period partially offsets the decline in total area harvested, with total grains production by 2015 projected to be approximately 5% lower than in 2005.

The domestic use of grains in Estonia under the Baseline is projected to decline over the period 2005 to 2015 due to increasing grain prices.

For rapeseed, the maximum application of the reforms under the Luxembourg Agreement would gradually increase oilseed area harvested to a greater degree than for grains. The Baseline shows that this expansion will be over 130% in 2015 compared to 2005. The impact on yields over the projection period is likely to be less than 1%, meaning thus production would increase by approximately the same amount as areas harvested.

Livestock and dairy sectors

Under the Baseline, significant changes are projected for the Estonian dairy sector. The producer price for milk is projected to increase by almost 14% between 2005 and 2015. The main milk products are butter and cheese, and production of these is projected to increase by 7.3% and 9.8% (2005-2015). Over the Baseline projection period, wholesale prices for butter and cheese are projected to increase by 22% and 9% respectively. The wholesale price for SMP is projected to decline over the Baseline projection period by 8% between 2005 and

2015.

Estonian beef production is projected to decline over the Baseline projection period, with production in 2015 projected to be 16% below the level in 2005. The reform will not bear directly on pig or poultry producers, but will affect them through the markets for meat and supplies of grains and other feed ingredients. Pork production is, under the Baseline, projected to increase by 4.8%. Poultry meat production is also projected to increase to a level in 2015 over 16% higher than in 2005.

The most important sub-sector of Estonian agriculture is dairying. With the milk quota set at 626 000t, and rapidly increasing yields over the Baseline projection period, the number of dairy cows is projected to decline under the Baseline to 100 000 head. Since 2006 an additional milk quota of 21 885t per year is included. The total milk quota in Estonia from 2006 amounts 646 000 tonnes per year. Table 6.4 shows that the projected milk production does not exceed the milk quota level for Estonia in the period 2004-2015.

Table 6.4 : Milk production and milk quota in Estonia

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Milk production	1,000 ton	570	626	668	682	670	668	666	657	645	631	628	621
Milk quota	1,000 ton	626	646	646	646	646	646	646	646	646	646	646	646

Source: own calculations

Table 6.5 sets out the results for the main agricultural commodities in Estonia under the Baseline.

Agricultural income

Under the Baseline, Estonian agricultural output value is, by 2015, projected to increase by 48%, while feed costs are projected to increase by 32% (Table 6.5). Agricultural subsidies will rapidly increase in the projected period.

Table 6.5 : Agricultural output value, subsidies and feed costs in the Baseline, Estonia[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.25	1.37	1.40	1.41	1.44	1.46	1.45	1.44	1.45	1.46	1.48
Subsidies/SFP	2000=1	1.00	2.58	2.80	3.01	3.44	3.87	4.24	4.30	4.30	4.30	4.30	4.30
Feeding costs	2000=1	1.00	1.18	1.22	1.24	1.26	1.27	1.29	1.30	1.30	1.30	1.31	1.32
Gross agric. income	2000=1	1.00	1.39	1.55	1.60	1.64	1.72	1.69	1.76	1.74	1.75	1.76	1.78

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.

Source: Estonian AGMEMOD Model (2006)

Table 6.6: Baseline results concerning main agricultural commodities of Estonia

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	555	489	489	488	490	499	512	497	490	482	474	465
Domestic use	1,000 ton	634	548	554	557	557	557	557	547	538	536	535	538
Soft wheat													
Production	1,000 ton	147	183	184	185	186	194	195	194	192	189	186	183
Domestic use	1,000 ton	239	216	224	226	223	222	221	215	210	207	205	205
Producer price	euro/ton	90	98	98	99	100	100	100	100	100	100	100	101
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	348	280	280	278	279	289	290	278	274	269	264	258
Domestic use	1,000 ton	325	274	273	274	278	279	280	277	275	275	277	281
Producer price	euro/ton	81	87	88	88	88	88	88	88	88	88	88	89
Maize													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Rye													
Production	1000 tons	61	25	25	25	25	26	26	25	25	24	24	24
Domestic use	1000 tons	70	57	57	57	57	56	56	55	54	53	53	52
Producer price	euro/ton	76	87	87	88	88	89	89	89	89	89	90	90
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	39	75	83	93	102	111	121	132	143	155	166	179
Domestic use	1,000 ton	55	122	129	132	135	139	144	149	152	154	156	157
Rapeseed													
Production	1,000 ton	39	75	83	93	102	111	121	132	143	155	166	179
Domestic use	1,000 ton	55	122	129	132	135	139	144	149	152	154	156	157
Producer price	euro/ton	199	209	209	221	228	221	218	218	219	219	220	220
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	15	15	14	14	14	14	14	13	13	13	13	13
Domestic use	1,000 ton	18	16	16	16	16	16	17	17	17	17	17	17
Producer price	euro/100 kg	106	119	118	122	123	121	120	119	120	121	122	123
Pig meat													
Production	1,000 ton	30	39	38	39	39	40	41	40	41	41	42	42
Domestic use	1,000 ton	43	40	41	42	43	44	44	45	46	47	48	48
Producer price	euro/100 kg	155	142	138	138	141	143	144	143	141	142	144	146
Poultry meat													
Production	1,000 ton	7	16	16	16	17	17	17	18	18	18	18	18
Domestic use	1,000 ton	18	26	27	28	30	31	32	32	33	34	35	36
Producer price	euro/100 kg	89	124	124	124	124	124	124	123	123	123	123	123
Sheep meat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/100 kg	0	0	0	0	0	0	0	0	0	0	0	0
Fluid milk													
Production-quota	1,000 ton	630	626	668	682	670	668	666	657	645	635	628	621
Domestic use	1,000 ton	74	74	73	74	75	76	77	81	82	82	82	82
Whole sale price	euro/100 kg	17	22	25	25	24	25	25	25	25	25	25	25
Butter													
Production	1,000 ton	9	8	8	9	9	9	9	9	9	9	9	9
Domestic use	1,000 ton	6	5	4	4	4	4	4	4	4	4	4	4
Whole sale price	euro/100kg	184	242	288	303	298	301	303	302	300	298	296	295
SMP													
Production	1,000 ton	12	21	22	22	23	23	24	24	25	25	26	26
Domestic use	1,000 ton	7	6	6	7	7	8	8	9	9	10	10	11
Whole sale price	euro/100kg	199	179	167	165	166	166	164	164	165	165	165	165
WMP													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Whole sale price	euro/100kg	0	0	0	0	0	0	0	0	0	0	0	0
Cheese													
Production	1,000 ton	9	11	10	10	11	11	11	11	11	11	11	11
Domestic use	1,000 ton	6	7	8	8	8	9	9	9	9	10	10	10
Whole sale price	euro/100kg	248	269	275	252	253	268	271	269	269	274	282	292

Source: Estonian AGMEMOD Model (2006)

6.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU MS. SPS payments in EU15 MS were, above certain amounts, also subject to modulation. The 'Further CAP reform' scenario, described in Report III AGMEMOD - Model description, involves effectively standardising the MS' currently nationally differentiated CAP implementation plans by imposing full decoupling from 2007.

The Estonian Baseline was established on the basis of the Luxembourg Agreement and the accession agreements and takes into account the full decoupling of direct payments in Estonia. For that reason, the FCR scenario results are quite similar to the Baseline results.

Small changes under the CAP reform scenario are expected in the beef sector (Table 6.7). But no significant differences between the Baseline and the CAP reform scenario are likely.

Table 6.7: Estonia: CAP Reform (% Δ from Baseline).

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Produ	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dome	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Produ	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dome	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Produ	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%
Dome	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Produ	0.0%	0.3%	0.2%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%
Produ	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Produ	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dome	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Produ	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dome	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Produ	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dome	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Produ	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dome	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Produ	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Dome	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Estonian AGMEMOD Model (2006)

Agricultural income

It was expected that the somewhat higher agricultural commodity prices under the CAP scenario and the modest increases in the levels of production in response to the projected price would lead to a fall in agricultural income. Compared to the Baseline, Estonian agricultural incomes and subsidies decrease under the CAP scenario, due entirely to lower subsidy receipts (Table 6.8).

Table 6.8: Estonia agricultural output and income: FCR Scenario (% Δ from Baseline)

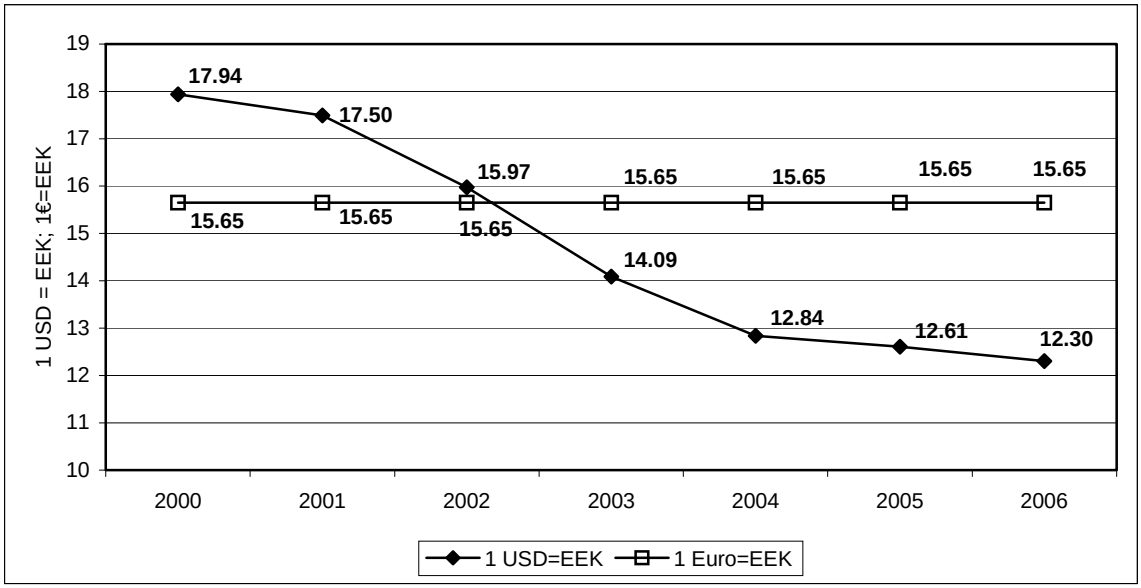
	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subsidies/SFP	-5.8%	-6.0%	-6.2%	-5.9%	-6.1%	-6.2%	-6.4%	-6.5%	-6.7%
Feeding costs	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross agric. income	-1.0%	-1.1%	-1.2%	-1.0%	-1.3%	-1.3%	-1.3%	-1.4%	-1.4%

Source: Estonian AGMEMOD Model (2006)

6.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets (Figure 6.1). Under the Baseline, the exchange rate projection is € = US$ 1.24 from 2007 onwards. In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro, with the exchange rate moving to rates of $1.30 and $1.40 in 2007. The third projection is for the euro to depreciate versus the dollar to a parity exchange rate of € = US$ 1.00.

Figure 6.1: Exchange rate between US$, € and Estonian Crown 2000-2006



Sources: Estonian Bank Electronic database

Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection

results for Estonia. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 6.9 to Table 6.11 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes. The assumptions in the Estonian model (2007-2015) are:

ERC-1: 1 € = 1.00 US$ = 15.65 EEK
ERC-2: 1 € = 1.30 US$ = 15.65 EEK
ERC-3: 1 € = 1.40 US$ = 15.65 EEK

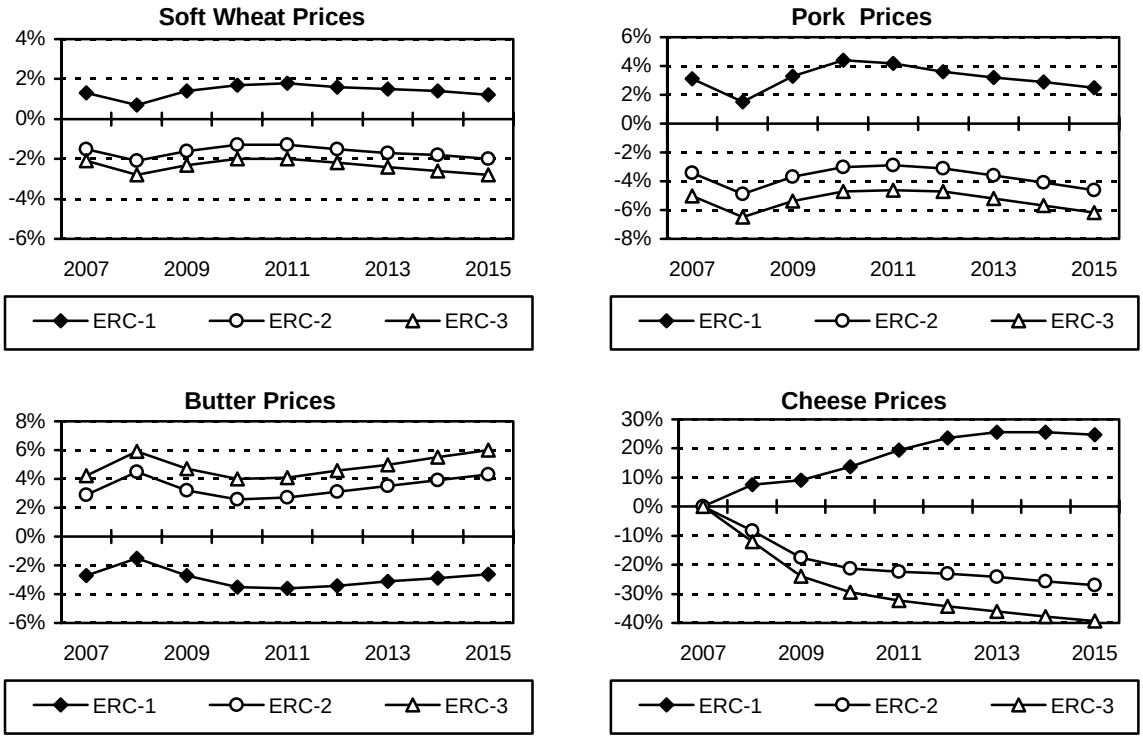
Significant differences between Baseline and ERC-1 scenario are projected for the Estonian dairy sector, where milk production is projected to increase by 6.6% and the wholesale price by 8% (Table 6.5.9). Consequently, the milk production level will determine the milk quota level. This is because milk production is not featured in the Estonian model as a quota variable. Future development work will have to introduce the milk quota level as a binding variable.

Cheese production under the ERC-1 scenario is, by 2015, projected to increase over the Baseline levels by 4%, while the wholesale price is projected to increase by 25% over the Baseline level by 2015.

For a number of commodities, such as oilseeds and their associated meals and oils, the AGMEMOD model does not endogenously model their prices. Supply-inducing prices for European farmers are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products, any change in the exchange rate will have a direct impact on the national currency prices and on the associated supplies of and demands for the commodity in question. Given that oilseed and milk production in Estonia are rapidly developing sectors, the impact of changes in the €/US dollar exchange rate will depend on export demand for these products.

The impact of the changed exchange rate on commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities. Figure 6.2 charts the percentage change in four Estonian prices under each of the three ERC scenarios.

Figure 6.2: Estonian Commodity Prices: ERC Scenarios (% Δ from Baseline)

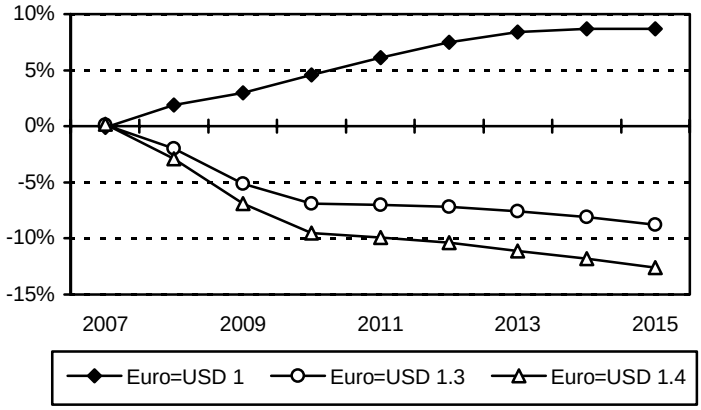


Source: Estonian AGMEMOD Model (2006)

Agricultural income

Taking into account the US$ inflation scenario, the purchasing power of the EEK in ERC-2 and the ERC-3 is higher compared to the ERC-1 scenario. Therefore the income and output values of different commodities are projected to be negatively affected by comparison with the Baseline. Total subsidy receipts are not really influenced by the exchange rate shocks. The main influence on gross agricultural income (ceteris paribus) arises from the projected changes in the value of Estonian agricultural output. Higher prices and production levels in the ERC-1 scenario would lead to increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 Scenarios (Figure 6.3).

Figure 6.3 : Estonia: Gross agriculture income in ERC Scenarios (% Δ from Baseline)



Source: Estonian AGMEMOD Model (2006)

Table 6.9: Estonia: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.0%	-0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.9%	1.2%	2.1%	2.9%	3.6%	4.0%	4.2%	4.2%	4.0%
Soft wheat									
Production	0.3%	0.2%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.3%
Domestic use	0.3%	1.3%	2.5%	3.5%	4.8%	5.9%	6.6%	6.8%	6.8%
Producer price	1.3%	0.7%	1.4%	1.7%	1.8%	1.6%	1.5%	1.4%	1.2%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-0.2%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	1.4%	1.2%	2.0%	2.7%	3.0%	3.0%	2.9%	2.7%	2.4%
Producer price	0.2%	0.2%	0.3%	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%
Domestic use	0.3%	0.4%	0.9%	1.2%	1.5%	1.8%	2.0%	2.0%	2.0%
Producer price	0.6%	0.6%	0.9%	1.2%	1.4%	1.3%	1.3%	1.2%	1.1%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.2%	0.1%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%
Domestic use	-1.4%	-1.4%	-1.7%	-2.0%	-2.1%	-1.9%	-1.7%	-1.4%	-1.2%
Rapeseed									
Production	0.2%	0.1%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%
Domestic use	-1.4%	-1.4%	-1.7%	-2.0%	-2.1%	-1.9%	-1.7%	-1.4%	-1.2%
Producer price	5.6%	2.8%	5.4%	7.0%	6.9%	6.2%	5.5%	4.9%	4.2%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	1.3%	1.1%	1.5%	1.9%	2.1%	1.9%	1.8%	1.6%	1.4%
Domestic use	-0.5%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%
Producer price	3.1%	1.5%	2.8%	3.5%	3.4%	3.0%	2.7%	2.4%	2.1%
Pig meat									
Production	1.0%	0.9%	1.3%	1.8%	2.0%	1.8%	1.7%	1.5%	1.3%
Domestic use	-0.1%	-0.1%	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%
Producer price	3.1%	1.5%	3.3%	4.4%	4.2%	3.6%	3.2%	2.9%	2.5%
Poultry meat									
Production	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%
Domestic use	0.6%	0.2%	0.4%	0.5%	0.5%	0.4%	0.3%	0.3%	0.2%
Producer price	0.1%	0.2%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production-quota	-0.8%	0.3%	1.3%	1.9%	3.3%	4.7%	5.8%	6.4%	6.6%
Domestic use	0.3%	-0.3%	-0.3%	-0.5%	-0.8%	-1.0%	-1.1%	-1.2%	-1.1%
Whole sale price	-1.7%	1.8%	1.6%	2.9%	4.9%	6.6%	7.7%	8.1%	8.2%
Butter									
Production	-0.8%	-2.5%	-3.0%	-4.2%	-5.3%	-6.0%	-6.1%	-5.9%	-5.5%
Domestic use	3.1%	1.6%	2.9%	3.6%	3.5%	3.2%	2.8%	2.5%	2.2%
Whole sale price	-2.7%	-1.5%	-2.7%	-3.5%	-3.6%	-3.4%	-3.1%	-2.9%	-2.6%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-0.6%	0.0%	0.0%	1.2%	1.2%	0.6%	0.6%	0.6%	0.6%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.3%	1.1%	1.4%	2.1%	2.8%	3.2%	3.5%	3.5%	3.5%
Domestic use	0.0%	-2.7%	-3.3%	-4.8%	-6.2%	-7.1%	-7.5%	-7.5%	-7.2%
Whole sale price	0.0%	7.6%	9.1%	13.7%	19.4%	23.6%	25.5%	25.7%	24.8%

Source: Estonian AGMEMOD Model (2006)

Table 6.10: Estonia: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.1%	0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.9%	-2.2%	-3.1%	-3.6%	-3.8%	-3.8%	-4.0%	-4.3%	-4.7%
Soft wheat									
Production	-0.4%	-0.5%	-0.4%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.5%
Domestic use	-0.4%	-1.8%	-4.0%	-5.3%	-5.7%	-5.9%	-6.2%	-6.6%	-7.2%
Producer price	-1.5%	-2.1%	-1.6%	-1.3%	-1.3%	-1.5%	-1.7%	-1.8%	-2.0%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
Domestic use	-1.5%	-2.8%	-2.9%	-2.7%	-2.6%	-2.6%	-2.8%	-3.0%	-3.3%
Producer price	-0.3%	-0.5%	-0.5%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%	-0.6%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
Domestic use	-0.3%	-0.8%	-1.3%	-1.6%	-1.8%	-1.8%	-1.9%	-2.1%	-2.2%
Producer price	-0.7%	-1.3%	-1.3%	-1.1%	-1.1%	-1.1%	-1.3%	-1.4%	-1.6%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.2%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Domestic use	1.5%	2.7%	2.6%	2.2%	1.9%	1.7%	1.7%	1.6%	1.5%
Rapeseed									
Production	-0.2%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Domestic use	1.5%	2.7%	2.6%	2.2%	1.9%	1.7%	1.7%	1.6%	1.5%
Producer price	-6.1%	-8.7%	-6.3%	-4.9%	-4.9%	-5.5%	-6.1%	-6.7%	-7.2%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-1.4%	-2.5%	-2.2%	-1.8%	-1.6%	-1.6%	-1.8%	-1.9%	-2.1%
Domestic use	0.6%	0.7%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%
Producer price	-3.4%	-4.8%	-3.3%	-2.5%	-2.4%	-2.7%	-3.0%	-3.3%	-3.7%
Pig meat									
Production	-1.1%	-2.0%	-2.0%	-1.7%	-1.6%	-1.5%	-1.6%	-1.8%	-1.9%
Domestic use	0.1%	0.2%	0.2%	0.2%	0.1%	0.1%	0.2%	0.2%	0.2%
Producer price	-3.4%	-4.9%	-3.7%	-3.0%	-2.9%	-3.1%	-3.6%	-4.1%	-4.6%
Poultry meat									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	-0.6%	-0.8%	-0.5%	-0.4%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%
Producer price	-0.1%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production-quota	0.9%	0.5%	-2.2%	-4.3%	-5.0%	-5.2%	-5.4%	-5.7%	-6.2%
Domestic use	-0.4%	0.0%	0.8%	1.1%	1.0%	1.0%	1.0%	1.1%	1.1%
Whole sale price	1.9%	-0.1%	-4.4%	-6.2%	-6.6%	-6.7%	-7.0%	-7.5%	-8.1%
Butter									
Production	0.9%	4.1%	7.1%	8.4%	8.9%	9.3%	9.7%	10.2%	10.7%
Domestic use	-3.4%	-4.8%	-3.4%	-2.7%	-2.6%	-2.8%	-3.1%	-3.4%	-3.6%
Whole sale price	2.9%	4.5%	3.2%	2.6%	2.7%	3.1%	3.5%	3.9%	4.3%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-4.2%	-4.8%	-4.8%	-3.7%	-3.7%	-4.2%	-4.2%	-4.2%	-4.2%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	-0.3%	-1.4%	-2.4%	-2.7%	-2.8%	-2.9%	-3.1%	-3.4%	-3.7%
Domestic use	0.0%	3.0%	6.4%	7.4%	7.1%	7.0%	7.1%	7.4%	7.8%
Whole sale price	0.0%	-8.3%	-17.6%	-21.2%	-22.3%	-23.1%	-24.2%	-25.6%	-27.1%

Source: Estonian AGMEMOD Model (2006)

Table 6.11: Estonia: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.1%	-0.1%	0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%
Domestic use	-1.3%	-3.0%	-4.4%	-5.2%	-5.5%	-5.6%	-5.9%	-6.3%	-6.7%
Soft wheat									
Production	-0.5%	-0.7%	-0.6%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%
Domestic use	-0.5%	-2.5%	-5.5%	-7.4%	-8.2%	-8.6%	-9.1%	-9.8%	-10.5%
Producer price	-2.1%	-2.8%	-2.3%	-2.0%	-2.0%	-2.2%	-2.4%	-2.6%	-2.8%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	-2.2%	-3.7%	-4.0%	-4.0%	-3.9%	-4.0%	-4.1%	-4.4%	-4.6%
Producer price	-0.4%	-0.7%	-0.7%	-0.6%	-0.6%	-0.7%	-0.7%	-0.8%	-0.9%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	-0.1%	-0.3%	-0.4%	-0.4%	-0.4%	-0.3%	-0.4%	-0.4%	-0.4%
Domestic use	-0.5%	-1.1%	-1.8%	-2.3%	-2.5%	-2.7%	-2.8%	-3.0%	-3.2%
Producer price	-1.0%	-1.8%	-1.8%	-1.7%	-1.7%	-1.7%	-1.9%	-2.1%	-2.2%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.3%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	2.2%	3.7%	3.7%	3.2%	2.8%	2.6%	2.5%	2.4%	2.2%
Rapeseed									
Production	-0.3%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	2.2%	3.7%	3.7%	3.2%	2.8%	2.6%	2.5%	2.4%	2.2%
Producer price	-9.0%	-11.4%	-9.1%	-7.8%	-7.8%	-8.3%	-8.9%	-9.4%	-9.9%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-2.0%	-3.3%	-3.1%	-2.7%	-2.5%	-2.5%	-2.6%	-2.8%	-3.0%
Domestic use	0.8%	0.9%	0.5%	0.3%	0.3%	0.4%	0.3%	0.3%	0.3%
Producer price	-5.0%	-6.3%	-4.8%	-3.9%	-3.8%	-4.1%	-4.4%	-4.7%	-5.1%
Pig meat									
Production	-1.5%	-2.6%	-2.7%	-2.5%	-2.4%	-2.3%	-2.4%	-2.5%	-2.7%
Domestic use	0.2%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.3%	0.3%
Producer price	-5.0%	-6.5%	-5.4%	-4.7%	-4.6%	-4.7%	-5.2%	-5.7%	-6.2%
Poultry meat									
Production	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.4%
Domestic use	-0.9%	-1.0%	-0.7%	-0.6%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%
Producer price	-0.2%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production-quota	1.3%	0.5%	-3.0%	-5.8%	-7.0%	-7.5%	-8.0%	-8.6%	-9.2%
Domestic use	-0.5%	0.1%	1.0%	1.4%	1.5%	1.5%	1.5%	1.6%	1.7%
Whole sale price	2.7%	-0.5%	-5.9%	-8.4%	-9.3%	-9.8%	-10.5%	-11.2%	-11.9%
Butter									
Production	1.3%	6.0%	10.5%	13.2%	14.9%	16.1%	17.1%	18.0%	18.6%
Domestic use	-4.9%	-6.3%	-4.9%	-4.2%	-4.0%	-4.3%	-4.5%	-4.8%	-5.0%
Whole sale price	4.2%	5.9%	4.7%	4.0%	4.1%	4.6%	5.0%	5.5%	6.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-5.5%	-6.0%	-6.0%	-4.9%	-4.9%	-5.5%	-5.5%	-5.5%	-5.5%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	-0.5%	-1.9%	-3.2%	-3.8%	-4.1%	-4.3%	-4.6%	-4.9%	-5.3%
Domestic use	0.0%	4.3%	8.7%	10.3%	10.3%	10.3%	10.6%	11.0%	11.4%
Whole sale price	0.0%	-12.1%	-23.9%	-29.5%	-32.3%	-34.2%	-36.1%	-37.8%	-39.4%

Source: Estonian AGMEMOD Model (2006)

7 Finland

Jyrki Niemi and Lauri Kettunen, MTT Agrifood Research Finland, Economic Research

7.1 Baseline

Table 7.1 shows the specific assumptions for Finland on the macroeconomic variables that underlie the Finnish model's baseline and scenario projections up to 2015. Population projection shows a growth of 0.2% per year. Real GDP is assumed to grow by 2% per year from 2004, which generates a slightly slower growth rate than the linear trend from years 1995-2004. The inflation rate is projected to average 2% per year over the Baseline projection period of 2005 to 2015.

Table 7.1 : Assumptions on macroeconomic variables for Finland

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	5.2	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.4
GDP	bil. Euro97	131	146	149	152	155	158	162	165	168	171	175	178
GDP per capita	Euro97/cap	25270	27867	28365	28880	29394	29943	30472	31017	31579	32158	32734	33327
Inflation	1997=1	1.06	1.13	1.16	1.18	1.20	1.22	1.26	1.28	1.30	1.33	1.35	1.38

Source: Finnish Statistical Office, own calculations

The single payment scheme was introduced in Finland in 2006. The CAP support for arable crops is almost completely decoupled from production. For potato starch, 60% of the premium will, however, remain coupled. In Finland the male bovine premium will remain coupled at 70%, and Finland will be able to withhold 10% of the overall national aid ceiling for the sector to boost suckler cow production (the '10% rule'). Therefore, 90% of the suckler cow premium remains dependent on production. The slaughtering premium and the ewe premium will remain coupled at 50%.

Multipliers of the SFP scheme

All CAP payments that are linked to production and included in the model are multiplied by a coefficient which takes into account the decoupling rate, the re-allocation of subsidies (in Finland, 30% of subsidies will be redistributed over land that was not initially subsidised in the reference period 2000-02), the modulation rate (which will be 2% in the period 2007-15 in Finland and the shift rate, representing the part of the payment that remains in the agricultural sector (it is assumed that yearly 2.5% of arable farmers and 5% of livestock farmers will exit the Finnish agricultural sector). Table 7.2 shows the multiplier rates up to 2015, giving an indication of the amount of the direct payment in the reference period that 'will remain in the farmer's mind'. For example, the grain compensation payment is, under the Luxembourg Agreement implementation scheme in Finland, fully decoupled. However, in the AGMEMOD model's representation of the supply-inducing impact of the SPS, Finnish farmers will behave as if they were in receipt of a premium of 33,4 €/tonne (0.53*63 €/tonne in 2015).

Table 7.2 : Supply-inducing multipliers of Finnish agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	1.00	0.67	0.65	0.63	0.62	0.60	0.59	0.57	0.56	0.54	0.53
Oilseeds	index	1.00	1.00	0.67	0.65	0.63	0.62	0.60	0.59	0.57	0.56	0.54	0.53
Suckler cows	index	1.00	1.00	0.82	0.76	0.71	0.66	0.61	0.56	0.52	0.48	0.45	0.42
Milk	index	1.00	1.00	0.56	0.53	0.51	0.48	0.46	0.43	0.41	0.39	0.37	0.35
Ewes	index	1.00	1.00	0.83	0.81	0.79	0.78	0.76	0.75	0.74	0.73	0.72	0.70
Bulls	index	1.00	1.00	0.90	0.88	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.59

Source: Own calculations

Grains and oilseed sectors

Under the Baseline, Finnish grain production is projected in 2015 to have increased by 6% compared with the level in 2005 (Table 7.3). This is despite the fact that decoupling of direct payments from production would, ceteris paribus, lead to lower receipts from grain production. Increasing Finnish producer prices for grains, due to rising EU and world market prices, are the key drivers in the projected growth under the Baseline. The production of soft wheat in Finland under the Baseline increases by 11% and the production of barley by 13%. Cereals areas harvested in Finland are projected to fall under the Baseline, but with yields increasing, an increase in production is projected over the Baseline period 2005 to 2015.

The feed use of grains (both barley and oats) in Finland is projected to decrease under the Baseline due to declining animal production, with the result that the total domestic use of grains in Finland is projected to decrease by 11% from 2000 to 2015. Human consumption of grains over the projection period is fairly stable in Finland.

The producer price of rapeseeds under the Baseline fluctuates from year to year, and these fluctuations are reflected in the projected development of Finnish rapeseed production and consumption. Over the full Baseline projection period, only small changes in production and use are projected.

Livestock and dairy sectors

The volume of activity associated with the Finnish cattle sector has been decreasing in recent years and this trend is projected, under the Baseline, to continue. The projected changes in Finnish beef and veal production are strongly determined by developments in the dairy sector, since over 90% of slaughtered cattle are dairy cows. As the number of dairy cows is projected to decline as dairy cow productivity improves, fewer calves and cattle will be sent for slaughtering. The decoupling of CAP support from production under the Baseline reduces the incentives for specialised beef production in Finland. Under the Baseline this is projected to also lead to reduced supplies of beef and veal.

The total Finnish cow herd is projected to decline by 25% over the Baseline projection period 2005 to 2015, with cattle slaughter also declining as a result. As a consequence, Finnish beef and veal production is projected to decline by 21% between 2005 and 2015. Lower beef supply combined with projected stable demand for beef and veal in Finland is projected to lead to a 45% increase in Finnish imports of beef over the years 2005 to 2015.

Under the Baseline, the most important aspect of the CAP reform in terms of its impact on the dairy sector is that intervention prices for skim milk powder (SMP) and butter will gradually decrease by 15% and 25% respectively by 2007. Following the projected decreases in the EU key market prices under the Baseline, the Finnish butter price is projected to decline by 7% and the farm gate milk price by 4% between 2005 and 2015.

The projected decline in the milk price and the projected sharp drop in the ending stock of dairy cows results in a projected decrease in Finnish milk production under the Baseline from 2 462 thousand tonnes in 2005 to 2 134 thousand tonnes by 2015. The production of butter and SMP in Finland is projected to decrease by 36% and 41% over the Baseline projection period.

The pork and poultry meat sectors are generally not heavily regulated by the EU and so markets will not be significantly affected by the CAP reform of 2003. Under the Baseline, steady and rapid growth is projected in Finnish pork production and consumption over the

period from 2005 to 2015. Finnish pork production is projected under the Baseline to increase by 3%, and to approach 208 000 tonnes by 2015. Similarly, pork consumption is, under the Baseline, projected to increase by more than 8% between 2005 and 2015. Finnish poultry production and consumption are projected to increase by 41% and 37% respectively over the Baseline projection period 2005 to 2015.

The Baseline projections are in accordance with the results of the Finnish sector model applied by MMT institute and the opinions of Finnish experts.

Table 7.3 : Baseline results concerning main agricultural commodities of Finland

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	3418	3616	3510	3556	3607	3643	3675	3710	3748	3787	3828	3869
Domestic use	1,000 ton	3058	3133	3123	3060	3016	2937	2909	2913	2888	2847	2819	2790
Soft wheat													
Production	1,000 ton	472	508	491	497	503	507	511	515	520	525	529	534
Domestic use	1,000 ton	616	629	632	628	628	628	631	634	635	635	636	638
Producer price	euro/ton	132	128	127	129	131	130	130	130	130	131	131	131
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	1690	1811	1760	1782	1806	1827	1845	1864	1884	1905	1926	1948
Domestic use	1,000 ton	1545	1575	1573	1545	1526	1482	1467	1471	1460	1440	1427	1413
Producer price	euro/ton	114	108	108	110	111	111	111	112	112	113	113	114
Maize													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Rye													
Production	1000 tons	61	74	73	76	79	81	83	85	88	90	93	95
Domestic use	1000 tons	108	109	109	109	109	109	109	109	109	109	110	110
Producer price	euro/ton	132	124	124	127	129	128	128	128	129	129	130	131
Other grains													
Production	1000 tons	1195	1222	1186	1201	1219	1229	1236	1245	1256	1267	1280	1293
Domestic use	1000 tons	790	820	809	778	754	718	703	699	684	663	647	630
Producer price	euro/ton	114	101	102	105	108	109	109	109	110	112	113	115
Total oilseeds													
Production	1,000 ton	90	89	88	89	89	88	88	88	88	88	88	88
Domestic use	1,000 ton	108	177	167	166	169	167	166	167	165	154	153	152
Rapeseed													
Production	1,000 ton	90	89	88	89	89	88	88	88	88	88	88	88
Domestic use	1,000 ton	108	177	167	166	169	167	166	167	165	154	153	152
Producer price	euro/ton	199	202	203	216	223	216	212	212	213	214	215	215
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	99	95	95	93	91	87	84	83	82	80	78	76
Domestic use	1,000 ton	98	98	98	99	99	99	99	99	99	100	100	100
Producer price	euro/100 kg	206	210	211	209	208	209	210	210	210	209	208	208
Pig meat													
Production	1,000 ton	184	194	198	196	194	195	198	201	201	200	200	202
Domestic use	1,000 ton	171	184	188	189	189	191	192	194	197	198	199	200
Producer price	euro/100 kg	132	126	122	123	125	126	128	126	125	126	128	129
Poultry meat													
Production	1,000 ton	69	89	93	96	100	103	107	111	115	118	122	125
Domestic use	1,000 ton	69	85	87	90	94	97	100	103	106	110	113	116
Producer price	euro/100 kg	115	116	116	116	116	117	117	117	117	117	117	118
Sheep meat													
Production	1,000 ton	1	1	1	1	1	1	1	1	1	1	1	1
Domestic use	1,000 ton	2	2	2	2	2	2	2	2	2	2	2	2
Producer price	euro/100 kg	167	165	165	165	165	165	165	165	166	166	166	166
Fluid milk													
Production	1,000 ton	2438	2390	2313	2233	2221	2228	2219	2201	2185	2172	2159	2146
Domestic use	1,000 ton	945	935	936	935	931	928	925	922	919	915	911	907
Whole sale price	euro/100 kg	32	30	29	28	28	29	29	29	29	29	29	29
Butter													
Production	1,000 ton	62	57	51	49	50	49	48	47	47	46	46	45
Domestic use	1,000 ton	20	16	15	14	13	11	10	9	8	7	6	5
Whole sale price	euro/100kg	464	424	396	387	390	388	387	388	389	390	391	392
SMP													
Production	1,000 ton	19	11	2	2	4	2	1	0	0	0	0	0
Domestic use	1,000 ton	8	7	7	6	6	6	6	6	5	5	5	5
Whole sale price	euro/100kg	204	177	160	182	198	190	185	186	189	192	195	198
WMP													
Production	1,000 ton	2	1	1	1	1	1	0	0	0	0	0	0
Domestic use	1,000 ton	2	2	2	2	2	2	2	2	2	2	2	2
Whole sale price	euro/100kg	204	177	160	182	198	190	185	186	189	192	195	198
Cheese													
Production	1,000 ton	99	106	111	107	105	108	109	109	109	110	110	111
Domestic use	1,000 ton	85	98	100	103	106	108	111	113	116	119	121	124
Whole sale price	euro/100kg	814	818	825	799	800	817	821	818	819	824	833	844

Source: Finnish AGMEMOD Model (2006)

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities and cover feedstuffs as the sole input variable, it is possible to approximate the development of gross agricultural sector income. This is based on the development of agricultural output value, subsidies (direct payments and SFP) and feed costs respectively. This calculation is only an approximation of the true developments in agricultural sector output, input and incomes. The values of agricultural output and subsidies are relatively accurate, whereas feed costs cover only the use of grains. Thus, gross agricultural income is obviously only an approximate estimate of the likely future development of these variables, given the limited coverage of input expenditure.

Table 7.4 : Baseline Agricultural output value, subsidies, feed costs & income in Finland[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.98	0.95	0.93	0.94	0.94	0.95	0.95	0.95	0.96	0.96	0.97
Subsidies/SFP	2000=1	1.00	1.12	0.91	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.89
Feeding costs	2000=1	1.00	0.95	0.94	0.93	0.93	0.89	0.87	0.87	0.86	0.85	0.84	0.82
Gross agric. income	2000=1	1.00	1.01	0.94	0.92	0.93	0.94	0.94	0.94	0.95	0.95	0.96	0.96

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: own calculations

7.2 Further CAP Reform (FCR)

Full decoupling under the further CAP reform (FCR) scenario is projected to have only a limited impact in Finland for those markets where premiums were fully decoupled or where no direct payments were made under Agenda 2000. Under the FCR scenario, coupling rates of animal premiums for suckler cows, ewes, bulls and adult slaughtering will decrease from non-zero values to zero. Changes in the key prices are small, and so are the changes in Finnish producer prices. A few examples are given in Table 7.5. Supply and demand changes are accordingly very small (Table 7.6).

Table 7.5 : Finnish Prices: FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Soft wheat	0.01%	0.01%	0.01%	0.01%	0.02%	0.02%	0.02%	0.02%	0.02%
Pork	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%
Poultry	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cheese	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Source: Finnish AGMEMOD Model (2006)

The impact of full decoupling in other EU MS on Finnish agricultural commodity markets is reflected in the development of prices which clear the sub-models of Finnish agricultural commodity markets. However, the implementation of full decoupling across all EU MS is projected to lead to quite small increases in the supply-inducing prices that are used in the AGMEMOD sub-models. Changes in key prices are less than 0.5%, and consequently the projected changes in agricultural output prices are even less in Finland.

Table 7.6 : Finland projections under FCR scenario: (% Δ from the Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	-1.0%	0.9%	-0.8%	-1.0%	-1.1%	-1.1%	-1.2%	-1.3%	-0.7%
Soft wheat									
Production	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	-0.2%	0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%
Domestic use	-1.1%	1.0%	-0.9%	-1.1%	-1.2%	-1.3%	-1.4%	-1.4%	-0.8%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%
Domestic use	-0.1%	0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	-1.5%	1.3%	-1.2%	-1.6%	-1.7%	-1.8%	-2.0%	-2.1%	-1.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.3%	0.3%	-0.2%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.2%
Rapeseed									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.3%	0.3%	-0.2%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-1.7%	1.5%	-1.4%	-1.8%	-2.0%	-2.1%	-2.2%	-2.3%	-1.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	-5.8%	-7.7%	-8.5%	-8.9%	-9.3%	-9.7%	-10.0%	-10.3%	-10.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	-0.1%	-0.1%	-0.1%	-0.4%	-2.9%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Finnish AGMEMOD Model (2006)

The full decoupling of support under the FCR scenario is projected to have an effect on the stock of suckler cows and sheep. The ending stock of suckler cows in Finland is projected

under the FCR scenario to decreases by about 20% compared with the Baseline projection. However, since the share of beef cows in the total cows number in Finland is relatively small, the production of beef and veal under the FCR scenario is projected to fall by only about 2% compared with the Baseline. The effect of full decoupling on production is clearly evident in the Finnish sheep sector, where production of lamb meat, under the FCR scenario, is projected to fall by approximately 10% compared with the Baseline. The associated changes in Finnish agricultural income under the FCR scenario are set out in Table 7.7.

Table 7.7 : Finnish Agricultural output and income under FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-0.3%	0.1%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%
Subsidies/SFP	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-4.0%	-2.6%
Feeding costs	-1.4%	1.4%	-1.1%	-1.4%	-1.5%	-1.7%	-1.8%	-1.9%	-1.0%
Gross agric. income	-1.0%	-0.9%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%	-0.6%

Source: Finnish AGMEMOD Model (2006)

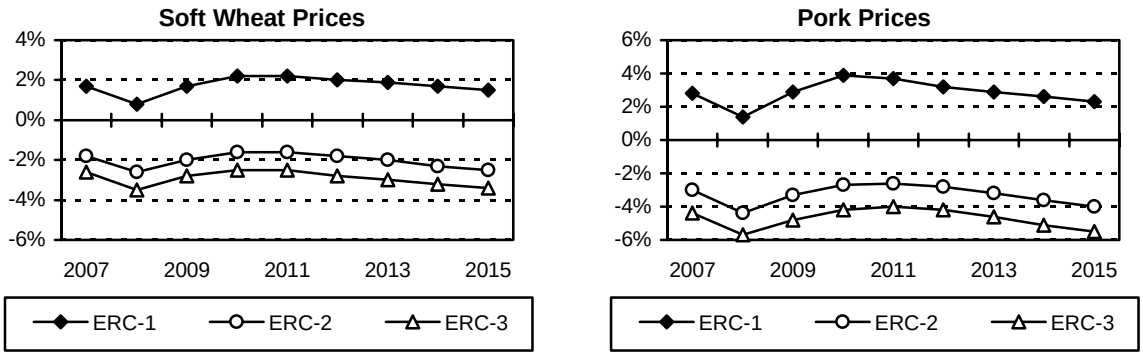
7.3 Exchange Rate Change (ERC)

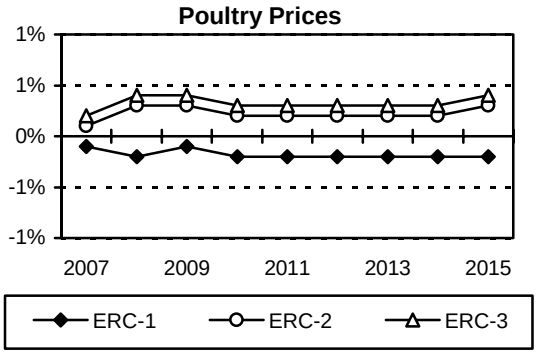
Key prices are the driving forces of the AGMEMOD model. As the key prices are determined by the interaction of EU and world markets, the exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Three scenarios are analysed with a view to studying the influence of the dollar/euro rate on Finnish agriculture.

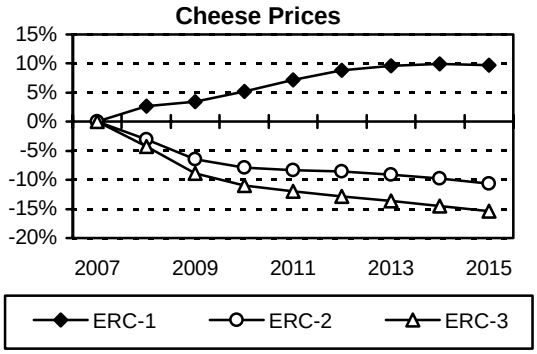
The US dollar versus the euro exchange rate applied in the Baseline and CAP reform is about 1.1. In evaluating the impact of changes in the exchange rate, three alternative paths were analysed. Two of these projections involve a depreciation of the US dollar to 1.30 and 1.4 US dollar per euro in 2007. The present exchange rate (November 2006) is slightly below US$ 1.30. The third alternative is for the euro to depreciate against the dollar tof US$ 1 per euro.

When the exchange rate € /US$ falls from 1.1 in the baseline to US$ 1 per euro, key prices and national prices increase, whereas an increase in the exchange rate from 1.00 to 1.30 and 1.40 means lower key and national prices (Table 7.8 and Figure 7.1).

Figure 7.1 : Finnish Commodity Prices: ERC Scenarios (% Δ from Baseline)







Source: Finnish AGMEMOD Model (2006)

The differences in the price levels for the five scenarios are, however, quite large. The effect in various countries, however, depends on the parameters of the price linkage equations. For example the French wheat (key) price varies from 104 to 112 euro/tonne, even though the variation in the world market price is 40% due to the variation in the exchange rate, if the dollar price of wheat is kept constant.

Table 7.8: French wheat (key) price in various scenarios, €/tonne

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Baseline	106.9	108.6	107.9	107.5	107.8	108.3	108.8	109.2	109.6
Cap reform	106.9	108.6	107.9	107.5	107.9	108.3	108.8	109.3	109.7
Xrate1	109.7	110.0	110.8	111.2	111.6	111.8	112.0	112.1	112.2
Xrate1.3	103.8	104.0	104.5	104.8	105.1	105.1	105.2	105.3	105.3
Xrate1.4	102.4	102.6	103.0	103.3	103.5	103.5	103.6	103.7	103.7

Source: Finnish AGMEMOD Model (2006)

The Finnish producer price of wheat is determined by the French (key) price, and the variation from one scenario to another is even smaller than for the French price. This is the result of the elasticity of the linkage, which is somewhat smaller than one. The result may seem a little questionable, but there are many frictions in market behaviour which lessen the effect of fluctuations in world market prices.

Table 7.9: Finnish wheat price in the various scenarios, €/tonne

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Baseline	129.3	130.5	130.0	129.7	130.0	130.3	130.7	131.0	131.3
Cap reform	129.3	130.5	130.0	129.7	130.0	130.3	130.7	131.1	131.4
Xrate1	131.4	131.6	132.2	132.5	132.8	133.0	133.1	133.2	133.3
Xrate1.3	126.9	127.1	127.5	127.7	127.9	127.9	128.0	128.1	128.1
Xrate1.4	125.8	126.0	126.3	126.5	126.7	126.7	126.8	126.8	126.8

Source: Finnish AGMEMOD Model (2006)

Since supply and demand patterns are usually inelastic, production and consumption tend to vary even less than do prices. The difference in wheat production is only 1.7% at most in 2015. This raises the question whether we have built too conservative a model, i.e. that the elasticities are too small. This refers equally to the national model as to the key price country model. However, the dollar/euro exchange rate has recently varied from 0.9 to1.3 US dollars per euro, but a similar fluctuation in the wheat price has not been seen.

Table 7.10: Finnish wheat production in various scenarios, 1000 tonnes

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Baseline	497	503	507	511	515	520	525	529	534
Cap reform	495	501	505	509	513	518	523	528	532
Xrate1	499	504	509	514	519	523	528	532	537
Xrate1.3	495	499	504	508	513	517	521	526	530
Xrate1.4	494	498	503	507	511	516	520	524	528

Source: Finnish AGMEMOD Model (2006)

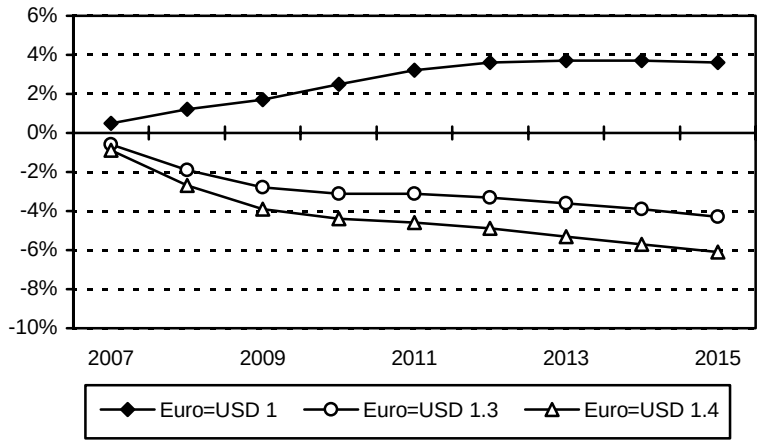
Agricultural income

The main influence on gross agricultural income (ceteris paribus) under the exchange rate scenario arises from the impact on Finnish agricultural output value. Finnish prices and production costs are highest in the ERC-1 scenario, which leads to increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 7.2).

Conclusion

It can be concluded on the whole that the model works as it should. The changes between the two extremes in the exercise, Baseline and ECR-3, are in the right direction, but in the Finnish case the changes in supply and use of agricultural commodities are rather limited. This is, however, in accordance with the historic data. The Finnish market tends to follow European movements, albeit not strictly.

Figure 7.2 : Finland: Gross agriculture income in ERC Scenarios. (% Δ from Baseline)



Source: Finnish AGMEMOD Model (2006)

Table 7.11 to Table 7.13 show the impact of the Exchange Rate Change Scenarios in comparison with the Baseline. It must be remarked that the strange developments of SMP and WMP productions is due to the very small absolute levels for these products in Finland (see Table 7.3).

Table 7.11: Finland: ERC -1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.4%	0.4%	0.6%	0.9%	1.0%	1.0%	1.0%	0.9%	0.8%
Domestic use	0.8%	2.0%	1.6%	3.6%	4.4%	4.8%	5.1%	5.2%	5.2%
Soft wheat									
Production	0.4%	0.2%	0.5%	0.6%	0.7%	0.6%	0.6%	0.6%	0.5%
Domestic use	-0.1%	0.6%	0.4%	0.9%	1.3%	1.5%	1.6%	1.6%	1.6%
Producer price	1.7%	0.8%	1.7%	2.2%	2.2%	2.0%	1.9%	1.7%	1.5%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.2%	0.3%	0.4%	0.6%	0.7%	0.8%	0.7%	0.7%	0.6%
Domestic use	1.2%	2.4%	2.1%	4.5%	5.3%	5.8%	6.0%	6.1%	6.1%
Producer price	1.0%	0.9%	1.4%	1.9%	2.1%	2.1%	2.0%	1.8%	1.6%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.9%	0.4%	0.9%	1.2%	1.2%	1.1%	1.1%	1.0%	0.9%
Domestic use	0.0%	0.2%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%
Producer price	2.9%	1.5%	3.0%	3.8%	3.9%	3.6%	3.3%	2.9%	2.6%
Other grains									
Production	0.6%	0.7%	1.0%	1.4%	1.6%	1.6%	1.5%	1.4%	1.3%
Domestic use	0.8%	2.7%	1.9%	4.9%	6.0%	6.7%	7.3%	7.7%	7.9%
Producer price	2.3%	2.0%	3.1%	4.2%	4.7%	4.6%	4.4%	4.0%	3.5%
Total oilseeds									
Production	0.6%	0.3%	0.5%	0.6%	0.6%	0.5%	0.4%	0.3%	0.3%
Domestic use	0.9%	1.9%	2.4%	3.8%	4.7%	5.1%	4.8%	4.8%	4.7%
Rapeseed									
Production	0.6%	0.3%	0.5%	0.6%	0.6%	0.5%	0.4%	0.3%	0.3%
Domestic use	0.9%	1.9%	2.4%	3.8%	4.7%	5.1%	4.8%	4.8%	4.7%
Producer price	6.4%	3.1%	6.1%	7.9%	7.9%	7.1%	6.3%	5.5%	4.7%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.6%	1.0%	-1.3%	0.5%	0.3%	0.4%	0.8%	1.2%	1.6%
Domestic use	0.4%	0.2%	0.4%	0.5%	0.5%	0.4%	0.4%	0.3%	0.3%
Producer price	-1.2%	-0.6%	-1.1%	-1.3%	-1.3%	-1.1%	-1.0%	-0.9%	-0.8%
Pig meat									
Production	0.6%	1.3%	2.0%	2.9%	3.8%	4.2%	4.2%	4.0%	3.8%
Domestic use	-1.3%	-0.6%	-1.3%	-1.7%	-1.6%	-1.3%	-1.1%	-1.0%	-0.9%
Producer price	2.8%	1.4%	2.9%	3.9%	3.7%	3.2%	2.9%	2.6%	2.3%
Poultry meat									
Production	-0.5%	-0.4%	-0.5%	-0.6%	-0.7%	-0.6%	-0.5%	-0.4%	-0.4%
Domestic use	0.1%	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%
Producer price	-0.1%	-0.2%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Sheep meat									
Production	-0.9%	-0.6%	-1.0%	-1.3%	-1.4%	-1.3%	-1.2%	-1.0%	-0.9%
Domestic use	0.2%	0.1%	0.3%	0.4%	0.3%	0.2%	0.2%	0.2%	0.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	-0.3%	0.8%	0.9%	1.5%	2.2%	2.9%	3.2%	3.4%	3.4%
Domestic use	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%
Whole sale price	0.7%	1.6%	2.2%	3.2%	4.2%	4.8%	5.1%	5.2%	5.1%
Butter									
Production	2.8%	2.8%	4.5%	6.4%	7.6%	8.2%	8.4%	8.3%	8.0%
Domestic use	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Whole sale price	1.3%	0.7%	1.3%	1.6%	1.7%	1.6%	1.4%	1.3%	1.2%
SMP									
Production	175.6%	63.1%	165.3%	569.1%	4630.9%	4630.9%	4630.9%	4630.9%	4630.9%
Domestic use	-3.4%	-1.9%	-3.6%	-4.6%	-4.7%	-4.4%	-4.1%	-3.7%	-3.4%
Whole sale price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
WMP									
Production	48.7%	27.6%	56.2%	94.4%	120.8%	131.7%	141.9%	151.6%	162.4%
Domestic use	-3.2%	-1.7%	-3.3%	-4.1%	-4.1%	-3.8%	-3.4%	-3.1%	-2.7%
Whole sale price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Cheese									
Production	-2.4%	0.0%	-0.9%	-0.8%	0.1%	1.0%	1.7%	2.1%	2.3%
Domestic use	0.0%	-0.6%	-0.7%	-1.0%	-1.4%	-1.6%	-1.7%	-1.7%	-1.6%
Whole sale price	0.0%	2.7%	3.4%	5.2%	7.2%	8.8%	9.6%	9.9%	9.7%

Source: Finnish AGMEMOD Model (2006)

Table 7.12: Finland: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.4%	-0.9%	-1.0%	-0.9%	-0.8%	-0.9%	-1.0%	-1.1%	-1.2%
Domestic use	-0.8%	-3.1%	-3.6%	-3.6%	-4.3%	-4.8%	-5.2%	-5.6%	-6.2%
Soft wheat									
Production	-0.4%	-0.7%	-0.6%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%	-0.8%
Domestic use	0.1%	-0.5%	-1.1%	-1.2%	-1.3%	-1.4%	-1.5%	-1.6%	-1.8%
Producer price	-1.8%	-2.6%	-2.0%	-1.6%	-1.6%	-1.8%	-2.0%	-2.3%	-2.5%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-0.3%	-0.6%	-0.7%	-0.6%	-0.6%	-0.6%	-0.7%	-0.8%	-0.9%
Domestic use	-1.3%	-3.9%	-4.4%	-4.3%	-5.1%	-5.7%	-6.1%	-6.6%	-7.4%
Producer price	-1.1%	-2.0%	-2.0%	-1.7%	-1.7%	-1.8%	-2.0%	-2.2%	-2.5%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	-0.9%	-1.4%	-1.1%	-0.9%	-0.9%	-1.0%	-1.2%	-1.3%	-1.4%
Domestic use	0.0%	-0.1%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%
Producer price	-3.2%	-4.6%	-3.4%	-2.8%	-2.8%	-3.2%	-3.6%	-4.0%	-4.3%
Other grains									
Production	-0.7%	-1.4%	-1.5%	-1.3%	-1.3%	-1.3%	-1.5%	-1.7%	-1.9%
Domestic use	-0.9%	-3.9%	-4.6%	-4.7%	-5.9%	-6.8%	-7.4%	-8.2%	-9.2%
Producer price	-2.5%	-4.6%	-4.5%	-3.9%	-3.7%	-3.9%	-4.3%	-4.8%	-5.3%
Total oilseeds									
Production	-0.7%	-0.9%	-0.6%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%
Domestic use	-1.0%	-3.3%	-4.1%	-4.2%	-4.5%	-4.7%	-4.6%	-5.0%	-5.6%
Rapeseed									
Production	-0.7%	-0.9%	-0.6%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%
Domestic use	-1.0%	-3.3%	-4.1%	-4.2%	-4.5%	-4.7%	-4.6%	-5.0%	-5.6%
Producer price	-7.0%	-9.8%	-7.2%	-5.6%	-5.6%	-6.3%	-6.9%	-7.6%	-8.2%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.6%	-0.6%	0.1%	0.7%	-0.4%	-1.2%	-1.4%	-1.4%	-1.6%
Domestic use	-0.5%	-0.7%	-0.5%	-0.4%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%
Producer price	1.3%	1.9%	1.3%	0.9%	0.9%	1.0%	1.1%	1.3%	1.4%
Pig meat									
Production	-0.6%	-2.1%	-3.3%	-3.7%	-3.7%	-3.6%	-3.8%	-4.1%	-4.6%
Domestic use	1.4%	2.0%	1.5%	1.2%	1.1%	1.1%	1.3%	1.4%	1.6%
Producer price	-3.0%	-4.4%	-3.3%	-2.7%	-2.6%	-2.8%	-3.2%	-3.6%	-4.0%
Poultry meat									
Production	0.5%	0.9%	0.8%	0.6%	0.5%	0.5%	0.5%	0.6%	0.6%
Domestic use	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%
Producer price	0.1%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%
Sheep meat									
Production	1.1%	1.7%	1.4%	1.1%	1.1%	1.1%	1.2%	1.3%	1.4%
Domestic use	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.3%	-0.6%	-2.0%	-2.6%	-2.8%	-2.9%	-3.1%	-3.3%	-3.7%
Domestic use	0.1%	0.2%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%
Whole sale price	-0.8%	-2.5%	-3.8%	-4.2%	-4.4%	-4.6%	-5.0%	-5.4%	-5.9%
Butter									
Production	-3.5%	-6.4%	-7.0%	-7.0%	-7.3%	-7.9%	-8.6%	-9.5%	-10.5%
Domestic use	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.3%	0.4%	0.5%
Whole sale price	-1.4%	-2.1%	-1.5%	-1.2%	-1.2%	-1.4%	-1.6%	-1.8%	-1.9%
SMP									
Production	-100.0%	-100.0%	-100.0%	-100.0%	-99.9%	0.0%	0.0%	0.0%	0.0%
Domestic use	3.7%	5.8%	4.2%	3.3%	3.4%	3.9%	4.5%	5.1%	5.8%
Whole sale price	-13.5%	-18.5%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
WMP									
Production	-58.2%	-73.6%	-78.4%	-89.7%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%
Domestic use	3.5%	5.3%	3.8%	2.9%	2.9%	3.4%	3.8%	4.2%	4.7%
Whole sale price	-13.5%	-18.5%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Cheese									
Production	3.4%	3.2%	0.2%	-1.1%	-1.3%	-1.1%	-1.1%	-1.1%	-1.2%
Domestic use	0.0%	0.6%	1.3%	1.6%	1.6%	1.6%	1.6%	1.7%	1.8%
Whole sale price	0.0%	-3.0%	-6.5%	-7.9%	-8.3%	-8.6%	-9.1%	-9.8%	-10.6%

Source: Finnish AGMEMOD Model (2006)

Table 7.13: Finland: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.6%	-1.2%	-1.3%	-1.3%	-1.2%	-1.3%	-1.4%	-1.6%	-1.7%
Domestic use	-1.2%	-4.3%	-4.8%	-5.3%	-6.4%	-7.1%	-7.6%	-8.2%	-9.0%
Soft wheat									
Production	-0.6%	-0.9%	-0.8%	-0.7%	-0.8%	-0.8%	-0.9%	-1.0%	-1.1%
Domestic use	0.1%	-0.8%	-1.4%	-1.7%	-2.0%	-2.1%	-2.2%	-2.3%	-2.6%
Producer price	-2.6%	-3.5%	-2.8%	-2.5%	-2.5%	-2.8%	-3.0%	-3.2%	-3.4%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-0.4%	-0.8%	-1.0%	-0.9%	-0.9%	-1.0%	-1.0%	-1.2%	-1.3%
Domestic use	-1.8%	-5.5%	-6.0%	-6.4%	-7.5%	-8.4%	-9.0%	-9.7%	-10.6%
Producer price	-1.6%	-2.8%	-2.8%	-2.6%	-2.6%	-2.7%	-2.9%	-3.2%	-3.4%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	-1.4%	-1.9%	-1.6%	-1.4%	-1.4%	-1.6%	-1.7%	-1.8%	-2.0%
Domestic use	0.0%	-0.2%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%	-0.6%
Producer price	-4.6%	-6.1%	-4.9%	-4.3%	-4.4%	-4.8%	-5.2%	-5.6%	-6.0%
Other grains									
Production	-1.0%	-1.9%	-2.1%	-2.0%	-1.9%	-2.0%	-2.2%	-2.4%	-2.6%
Domestic use	-1.3%	-5.5%	-6.2%	-7.0%	-8.8%	-10.0%	-11.0%	-12.0%	-13.3%
Producer price	-3.6%	-6.2%	-6.3%	-5.8%	-5.7%	-6.0%	-6.4%	-6.9%	-7.5%
Total oilseeds									
Production	-1.0%	-1.2%	-0.8%	-0.6%	-0.6%	-0.7%	-0.7%	-0.7%	-0.7%
Domestic use	-1.4%	-4.5%	-5.6%	-6.1%	-6.7%	-7.1%	-6.8%	-7.4%	-8.0%
Rapeseed									
Production	-1.0%	-1.2%	-0.8%	-0.6%	-0.6%	-0.7%	-0.7%	-0.7%	-0.7%
Domestic use	-1.4%	-4.5%	-5.6%	-6.1%	-6.7%	-7.1%	-6.8%	-7.4%	-8.0%
Producer price	-10.1%	-12.9%	-10.3%	-8.8%	-8.8%	-9.5%	-10.1%	-10.7%	-11.3%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.9%	-1.0%	0.4%	0.8%	-0.6%	-1.5%	-1.9%	-2.1%	-2.3%
Domestic use	-0.7%	-0.9%	-0.7%	-0.6%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%
Producer price	1.9%	2.4%	1.8%	1.5%	1.4%	1.5%	1.7%	1.8%	2.0%
Pig meat									
Production	-0.9%	-2.9%	-4.6%	-5.3%	-5.5%	-5.5%	-5.7%	-6.0%	-6.6%
Domestic use	2.0%	2.6%	2.1%	1.8%	1.7%	1.7%	1.8%	2.0%	2.1%
Producer price	-4.4%	-5.7%	-4.8%	-4.2%	-4.0%	-4.2%	-4.6%	-5.1%	-5.5%
Poultry meat									
Production	0.8%	1.2%	1.1%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%
Domestic use	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Producer price	0.2%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%
Sheep meat									
Production	1.5%	2.3%	2.0%	1.7%	1.7%	1.7%	1.8%	1.9%	2.0%
Domestic use	-0.3%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.5%	-0.9%	-2.7%	-3.6%	-4.0%	-4.2%	-4.6%	-4.9%	-5.4%
Domestic use	0.1%	0.3%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%
Whole sale price	-1.1%	-3.4%	-5.2%	-6.0%	-6.5%	-6.9%	-7.4%	-7.9%	-8.5%
Butter									
Production	-5.4%	-8.9%	-9.9%	-10.4%	-11.0%	-11.9%	-12.8%	-13.8%	-15.0%
Domestic use	0.2%	0.3%	0.3%	0.3%	0.3%	0.4%	0.5%	0.6%	0.7%
Whole sale price	-2.0%	-2.7%	-2.2%	-1.9%	-1.9%	-2.1%	-2.3%	-2.5%	-2.7%
SMP									
Production	-100.0%	-100.0%	-100.0%	-100.0%	-99.9%	0.0%	0.0%	0.0%	0.0%
Domestic use	5.5%	7.7%	6.1%	5.2%	5.3%	5.9%	6.5%	7.2%	8.0%
Whole sale price	-19.7%	-24.4%	-20.0%	-17.4%	-17.4%	-18.6%	-19.8%	-20.9%	-22.0%
WMP									
Production	-87.3%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%	-100.0%
Domestic use	5.0%	7.0%	5.5%	4.6%	4.6%	5.1%	5.5%	6.0%	6.4%
Whole sale price	-19.7%	-24.4%	-20.0%	-17.4%	-17.4%	-18.6%	-19.8%	-20.9%	-22.0%
Cheese									
Production	5.4%	4.3%	0.8%	-1.0%	-1.4%	-1.5%	-1.6%	-1.8%	-1.9%
Domestic use	0.0%	0.9%	1.8%	2.2%	2.3%	2.3%	2.4%	2.5%	2.6%
Whole sale price	0.0%	-4.3%	-8.9%	-11.0%	-12.0%	-12.8%	-13.6%	-14.5%	-15.4%

Source: Finnish AGMEMOD Model (2006)

8 France

Frédéric Chantreuil and Fabrice Levert, Institut National de la Recherche Agronomique (INRA), Rennes

8.1 Baseline

Table 8.1 shows the specific assumptions for France on the macroeconomic variables that underlie the model's baseline and scenario projections up to 2015.

Table 8.1 : Assumptions on macroeconomic variables for France

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	59.4	60.5	60.7	61.0	61.2	61.5	61.7	62.0	62.2	62.4	62.6	62.8
GDP	bil. Euro97	1363	1547	1578	1610	1642	1675	1708	1743	1777	1813	1849	1886
GDP per capita	Euro97/cap	22963	25594	25991	26398	26814	27241	27678	28125	28583	29052	29533	30026
Inflation	1997=1	1.03	1.10	1.12	1.14	1.16	1.18	1.20	1.21	1.23	1.25	1.27	1.29

Source: INSEE, IMF-IFS

As part of the measures to implement the 2003 Luxembourg Agreement in France, few premiums have been totally decoupled. The Agenda 2000 production subsidies for the production of milk, bulls and steers were totally decoupled in 2006 with the introduction of the SFP in France. Two direct payments (suckler cow and calf slaughtering premiums) remain totally coupled, while all direct payments other than those already referred to are partially coupled. In the French AGMEMOD model decoupled payments are assumed to retain some supply-inducing impact on the agricultural sector, with the magnitude of the impact of decoupled direct payments depending on the distribution effects of payments to other sectors compared with entitled hectares and animals in the reference years (in France, only 8% of the CAP payments will shift to land that was not subsidised in the reference years), on (compulsory) modulation effects (which will reach 15% of subsidies in 2015) and on shift rate effects (it is assumed that annually 2.5% of arable farmers and 5% of livestock farmers will exit agriculture). For further details of the way the SFP are implemented in the AGMEMOD model, see Report III - AGMEMOD - Model description.

Table 8.2 shows the derived multipliers that reflect these supply-inducing effects in the French agricultural sectors.

Table 8.2 : Supply-inducing multipliers of French agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	1.00	0.89	0.87	0.84	0.82	0.80	0.78	0.76	0.74	0.72	0.70
Oilseeds	index	1.00	1.00	0.89	0.87	0.84	0.82	0.80	0.78	0.76	0.74	0.72	0.70
Suckler cows	index	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Milk	index	1.00	1.00	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31
Maize	index	1.00	1.00	0.89	0.87	0.84	0.82	0.80	0.78	0.76	0.74	0.72	0.70
Ewes	index	1.00	1.00	0.92	0.89	0.87	0.84	0.82	0.80	0.79	0.77	0.75	0.73
Sheep	index	1.00	1.00	0.92	0.89	0.87	0.84	0.82	0.80	0.79	0.77	0.75	0.73
Bulls	index	1.00	1.00	0.84	0.78	0.73	0.69	0.65	0.61	0.57	0.53	0.50	0.47
Adult slaughtering	index	1.00	1.00	0.90	0.87	0.84	0.81	0.79	0.76	0.74	0.72	0.70	0.68
Calves slaughtering	index	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Own calculations

These multipliers are used to simulate the effect of the SFP by reducing the amounts of direct payments (as used under the old scheme) to 'synthetic' premium levels. The French multipliers are relatively high because most premiums remain (partly) coupled under the Baseline. Another reason for the high level is the limited degree to which the SFP is

redistributed to land other than land on which the entitlements were established.

Grains and oilseed sectors

Under the Baseline, French grain and oilseed prices are projected to increase over the period 2005 to 2015. With the exception of prices of rapeseed and sunflower seed, which are projected to increase by 1% and 0.8% over the Baseline period, the projected increases for crop prices are large. Soft wheat, durum wheat, barley, maize and soybean prices are projected under the Baseline to increase by 4.6%, 19.4%, 12.7%, 6.4% and 17.5% respectively. This is projected to lead to an increase in the area harvested for grains (+2.8%). Under the Baseline, French soft wheat area is projected to increase by 6.3%, while barley area is projected to decline by 14.7%, and the maize area should remain constant. Productivity per hectare under the Baseline is projected to increase due to higher prices and ongoing technical change and improved farming practices.

The effect of the policy changes on grain yields is projected to be slight. The production impact over the period 2005 to 2015 in France indicates that the 2003 CAP reform is should increase soft wheat production by 11.2%, while barley production is projected to decrease by more than 6% over the same period. Under the Baseline, total domestic use of grains is projected to increase by 3% despite the projected rise in grain prices. This projection is driven by the increase in non-feed uses of grains, since maize and barley feed uses are both projected to decrease by 0.3% and 10% respectively. On the other hand, soft wheat and durum wheat non-feed uses are projected to grow by up to 5% over the Baseline projection period, while barley non-feed uses are projected to decline over. French soft wheat net exports are, under the Baseline, projected to increase significantly, while barley net exports are projected to decline.

Under the Baseline, French oilseeds harvested area is projected to increase by 7.9% over the period 2005-2015. Rapeseed area is expected to increase to more than 1250 thousand hectares in 2015 while sunflower seed area is projected to decrease by more than 7%, and soybean area increases by 6.3%. Productivity per hectare is, under the Baseline, projected to grow so that production of rapeseed, sunflower seed and soybean would increase by 35%, 7%, 3% respectively between 2005 and 2015. The total demand for the associated meals is projected to increase by more than 11%, while production of these associated meals is projected to increase by more than 9%. Oilseed meals net exports are thus, under the Baseline, projected to increase.

Livestock and dairy sectors

Under the Baseline, the French livestock sector is characterised by a projected drop in cattle and sheep numbers (13.7% and 20% respectively), while pig numbers are projected to increase by more than 2% over the projection period.

Over the Baseline projection period, the French beef and veal price is projected to fall by 1.1% to €144.34 per 100 kg in 2015. French producer prices for pig meat and sheep meat are projected to increase by 4.3% and 2% respectively, while the poultry meat price is projected to decrease by 3.9% between 2005 and 2015. In response to the Baseline projection of rising pig meat prices, French pig meat production is projected to increase by 5.5% between 2005 and 2015, in tandem with a projected increase of 8.1% in total domestic use of pig meat in France, with growth in domestic use driven by growth in per capita incomes. French sheep meat production under the Baseline is projected to decline by 5.4% between 2005 and 2015, while lamb meat consumption is projected to increase by 5.6% in response to declining lamb prices and rising per capita incomes.. By contrast, French beef and veal production is projected to decrease by 4.6% while total domestic consumption should increase by 1% between 2005 and 2015. Finally, French poultry production under the Baseline is projected to remain constant over the projection period, while in response to declining poultry prices total domestic use of poultry meat in France is projected to increase by over 8%.

Following the 2003 CAP reform, which reduced some dairy commodity intervention prices, the French dairy market is over the projection period characterised by a decrease in the farm gate milk price to € 28.14 per tonne in 2015 (a projected decline of 0.8% over the projection period). Prices of dairy commodities in France are in general also projected to fall, with the important exceptions of cheese and skim milk powder, which under the Baseline are projected to increase by 2% and 5% rise respectively. Under the Baseline, ending numbers of dairy cows in France are projected to decline by 7.6% (to 3.955 million head), leading to a 6.2% decline in projected French milk production under the Baseline. The cuts in the butter intervention prices (25% from 2004) in the Baseline scenario are reflected in projected French market prices. The fall in the butter price is projected to lead to a reduction in French butter production of 6% over the period 2005-2015. Despite the lower projected prices, consumption of butter is projected to decline slightly (-1.2%) over the projection period, while the consumption of cheese is expected to grow by 11% between 2005 and 2015. Table 8.4 summarises the Baseline projections for the main agricultural commodities in France.

Agricultural income

Although the AGMEMOD country models cover only an incomplete portion of all of France's agricultural commodity outputs and models only expenditure on feedstuffs as the sole input variable, it is still possible to approximate the development of French agricultural sector gross income. This projection of French agricultural sector gross output, input and incomes is based on the development of the agricultural output value, subsidies received (direct payments and SFP) by French producers of the commodities in question, and feed expenditures (Table 8.3).

Table 8.3 : Agricultural output, subsidies, feed cost and gross income in France[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.98	0.97	0.98	0.99	1.00	1.00	1.01	1.01	1.01	1.02	1.03
Subsidies/SFP	2000=1	1.00	1.05	1.10	1.06	1.05	1.04	1.03	1.02	1.01	1.00	0.99	0.98
Feeding costs	2000=1	1.00	0.87	0.87	0.93	0.97	0.95	0.95	0.96	0.96	0.98	0.98	0.99
Gross agric. income	2000=1	1.00	1.01	1.01	1.01	1.01	1.02	1.02	1.02	1.01	1.02	1.02	1.02

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: French AGMEMOD Model (2006)

The share of subsidies/SFP in the agricultural output value under consideration is projected to decrease slightly from 20.1% in 2000 to 19.3% in 2015. Between 2005 and 2015, a 4.9% increase in agricultural sector output value is projected, while. Under the Baseline, French gross agricultural income is projected to increase by 1.1% between 2005 and 2015.

Table 8.4 : Baseline results concerning main agricultural commodities of France

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	54390	55906	56407	57002	57822	56645	59133	59619	60157	60721	61313	61906
Domestic use	1,000 ton	28504	29483	29668	29790	29928	30070	30195	30277	30320	30354	30377	30394
Soft wheat													
Production	1,000 ton	31198	33094	33712	34197	34699	35079	35313	35567	35866	36178	36488	36802
Domestic use	1,000 ton	16717	17713	17948	18099	18274	18455	18614	18733	18821	18906	18987	19070
Producer price	euro/ton	110	104	103	106	108	107	107	107	107	108	108	109
Durum wheat													
Production	1,000 ton	1192	1105	1122	1181	1243	1326	1403	1463	1510	1547	1578	1601
Domestic use	1,000 ton	941	984	988	990	992	996	1002	1007	1012	1015	1019	1023
Producer price	euro/ton	156	141	146	158	163	158	156	157	160	164	166	168
Barley													
Production	1,000 ton	7764	7194	6983	6887	6812	6779	6732	6695	6676	6676	6697	6737
Domestic use	1,000 ton	4164	3995	3937	3901	3869	3828	3783	3731	3674	3614	3545	3469
Producer price	euro/ton	102	90	92	94	96	97	97	98	98	99	101	102
Maize													
Production	1,000 ton	14236	14513	14590	14738	15069	15446	15685	15896	16105	16320	16550	16766
Domestic use	1,000 ton	6682	6791	6795	6800	6793	6791	6796	6806	6814	6819	6825	6832
Producer price	euro/ton	121	105	105	108	111	111	111	111	111	111	112	112
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	5734	5864	6003	6113	6143	6268	6486	6691	6861	7028	7190	7356
Domestic use	1,000 ton	3934	4209	4241	4233	4266	4340	4380	4408	4439	4475	4514	4554
Rapeseed													
Production	1,000 ton	3774	3518	3678	3830	3870	3969	4166	4346	4484	4609	4728	4847
Domestic use	1,000 ton	1666	1815	1862	1893	1936	1990	2026	2067	2113	2159	2209	2255
Producer price	euro/ton	199	245	245	249	257	259	257	254	251	249	248	247
Sunflower													
Production	1,000 ton	1698	2095	2086	2051	2038	2059	2080	2104	2133	2169	2208	2250
Domestic use	1,000 ton	1515	1640	1607	1577	1580	1596	1591	1575	1560	1547	1537	1527
Producer price	euro/ton	234	282	267	271	284	290	290	289	289	289	287	284
Soybeans													
Production	1,000 ton	262	251	239	232	235	240	240	241	245	250	254	259
Domestic use	1,000 ton	752	755	772	763	750	754	762	765	767	768	769	771
Producer price	euro/ton	216	199	192	220	240	228	221	224	227	230	232	233
Beef and veal													
Production	1,000 ton	1728	1754	1754	1747	1737	1724	1714	1706	1698	1689	1681	1673
Domestic use	1,000 ton	1600	1629	1632	1634	1637	1640	1642	1643	1643	1643	1643	1643
Producer price	euro/100 kg	146	146	145	144	144	144	144	144	144	144	144	144
Pig meat													
Production	1,000 ton	2334	2494	2520	2538	2553	2569	2586	2601	2609	2616	2623	2631
Domestic use	1,000 ton	2090	2189	2212	2229	2244	2261	2278	2298	2317	2334	2351	2368
Producer price	euro/100 kg	138	127	122	122	126	128	130	128	126	129	131	133
Poultry meat													
Production	1,000 ton	1201	1222	1224	1226	1228	1230	1231	1232	1233	1233	1233	1234
Domestic use	1,000 ton	783	802	809	816	822	829	835	842	849	856	863	869
Producer price	euro/100 kg	126	124	123	122	122	123	122	121	120	120	120	119
Sheep meat													
Production	1,000 ton	137	133	133	132	131	131	130	129	128	128	127	126
Domestic use	1,000 ton	304	311	313	315	317	319	320	322	324	325	327	328
Producer price	euro/100 kg	396	405	406	406	407	408	409	410	411	412	412	413
Fluid milk													
Production	1,000 ton	25089	24768	24767	24605	24290	24105	23988	23845	23683	23523	23370	23221
Domestic use	1,000 ton	26097	25866	25953	25887	25613	25453	25375	25276	25155	25033	24913	24798
Whole sale price	euro/100 kg	29	28	28	28	28	28	28	28	28	28	28	28
Butter													
Production	1,000 ton	480	477	475	469	464	463	461	457	454	451	449	447
Domestic use	1,000 ton	508	509	511	512	511	510	509	508	507	505	504	503
Whole sale price	euro/100kg	427	388	361	354	358	356	355	356	358	359	360	361
SMP													
Production	1,000 ton	335	333	335	329	326	330	331	328	327	326	325	326
Domestic use	1,000 ton	192	202	212	196	189	197	200	199	198	198	198	199
Whole sale price	euro/100kg	222	217	212	218	224	222	221	222	223	224	226	228
WMP													
Production	1,000 ton	269	298	309	318	322	326	329	331	333	335	337	338
Domestic use	1,000 ton	82	89	90	91	91	91	92	92	93	93	93	94
Whole sale price	euro/100kg	283	261	248	260	270	261	255	255	255	255	256	256
Cheese													
Production	1,000 ton	1852	1841	1849	1848	1808	1771	1756	1745	1729	1710	1693	1675
Domestic use	1,000 ton	1332	1410	1422	1459	1475	1482	1497	1515	1531	1544	1555	1565
Whole sale price	euro/100kg	474	476	479	469	469	476	477	476	476	479	482	486

Source: French AGMEMOD Model (2006)

8.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU Member States.

SPS payments in the EU15 Member States were, above certain amounts, also subject to modulation. The 'Further CAP reform' scenario, described in Report III AGMEMOD - Model description, involves effectively standardising the Member States' currently nationally differentiated CAP implementation plans by imposing full decoupling from 2007, while the rates of compulsory modulation associated with the current SPS are increased by 10% from 2007 onwards.

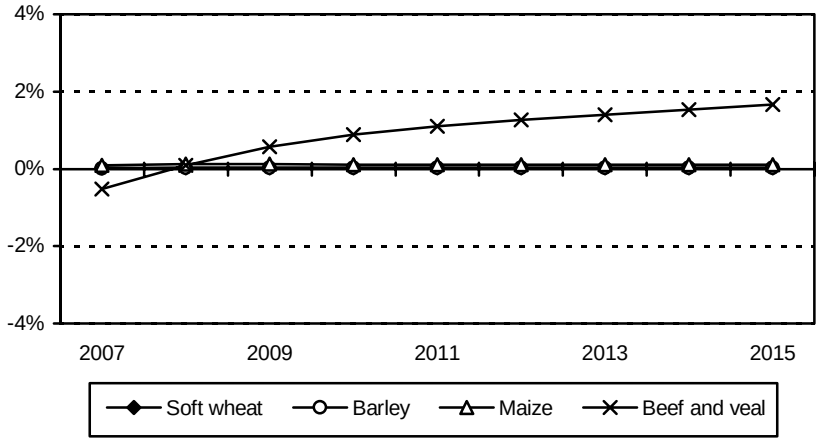
The further CAP reform scenario, involving the "full" decoupling of all CAP direct payments and increased rates of modulation, would not, *a priori*, be expected to have major impacts on the supply and use of agricultural commodities in France. Nevertheless, since France has chosen to decouple its direct payments only partially, this FCR scenario should show some impacts on the French agricultural sector.

Main Results

The impact of full decoupling, the further CAP reform (FCR) scenario, on French agricultural commodity markets is presented below and emphasises the projected development of prices for key commodity markets. Figure 8.1 sets out the percentage changes from the Baseline level projections for grain prices (soft wheat, barley, maize and pig meat) and beef prices.

Table 8.5 and Table 8.6 compare the French AGMEMOD model's projections under the FCR scenario with the Baseline projections. The rest of this section comments on these results.

Figure 8.1 : French Prices: FCR Scenario (% Δ from Baseline)



Source: French AGMEMOD Model (2006)

Grains and oilseed sectors

The FCR scenario, in comparison with the Baseline, is projected to lead to a reduction in harvested areas of all grains and oilseeds, and thus in all grains and oilseeds production. However the magnitude of the projected declines in areas harvested are modest (-0.13% for grains and -0.64% for oilseeds). This minor change can be explained by the limited extent to which arable aid payments remained coupled under the Baseline, which means that the policy change analysed in this respect is somewhat limited.

With a decline in grain production under the FCR scenario, French grain prices are projected to increase slightly when compared with the levels projected under the baseline. Over the period under consideration, the projected increases are 0.03%, 0.6%, 0.02 % and 0.11% for soft wheat, durum wheat, barley and maize respectively compared with the Baseline. Even though the projected impacts of the FCR scenario are stronger for oilseed prices than for grain prices, the production effects of the price changes are still small. Under the FCR

scenario, French rapeseed and sunflower seed prices are projected to increase by 0.58% and 0.4% respectively compared to the Baseline projections.

The projected price changes under the FCR scenario have negligible impacts on the grain supply side and demand side when we compare the projections under the FCR scenario with those under the Baseline. The impacts of the FCR scenario are more tangible for the oilseeds sector where, under the FCR scenario, domestic use declines, while the effect of the scenario analysed is virtually negligible for the French grains sector. Hence, French net exports are projected to decrease slightly in all grain and oilseeds sectors.

Livestock and dairy sectors

The impact of the FCR scenario on the French livestock and dairy markets when compared to the Baseline projections is negligible, except for the beef and veal market. Under the FCR scenario, the number of suckler cows in France is projected to decline by 5% to 3.86 million head in 2015. Given the substantial share of beef cows in the cow herd in France, the effect of this decline under the CAP reform scenario on French beef production will be significant, with beef and veal production under the scenario 5.5 % lower than under the Baseline.

The FCR scenario's impact on French beef and veal market prices is projected to be positive, with prices under the scenario 1% higher than under the Baseline results. This increase in prices under the reform scenario is projected to lead to a slight decrease in beef and veal consumption (-0.1% per year compared to the Baseline projections).

Table 8.5 : France projections under the FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.15%	-0.14%	-0.04%	-0.13%	-0.13%	-0.14%	-0.14%	-0.14%	-0.14%
Domestic use	0.01%	0.01%	0.01%	0.02%	0.02%	0.02%	0.03%	0.03%	0.03%
Soft wheat									
Production	-0.15%	-0.15%	-0.15%	-0.15%	-0.15%	-0.15%	-0.16%	-0.16%	-0.16%
Domestic use	0.01%	0.02%	0.01%	0.01%	0.02%	0.02%	0.02%	0.02%	0.02%
Producer price	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%
Durum wheat									
Production	-0.39%	-0.55%	-0.45%	-0.43%	-0.44%	-0.47%	-0.51%	-0.52%	-0.54%
Domestic use	0.00%	-0.06%	-0.06%	-0.06%	-0.06%	-0.07%	-0.07%	-0.07%	-0.07%
Producer price	0.03%	1.15%	0.61%	0.58%	0.55%	0.56%	0.64%	0.62%	0.60%
Barley									
Production	-0.15%	-0.14%	-0.14%	-0.13%	-0.13%	-0.13%	-0.14%	-0.14%	-0.14%
Domestic use	0.04%	0.06%	0.08%	0.10%	0.12%	0.14%	0.16%	0.18%	0.20%
Producer price	0.01%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Maize									
Production	-0.15%	-0.09%	-0.06%	-0.06%	-0.06%	-0.07%	-0.07%	-0.07%	-0.07%
Domestic use	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%
Producer price	0.09%	0.12%	0.12%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%
Rye									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other grains									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total oilseeds									
Production	-0.25%	-0.40%	-0.55%	-0.65%	-0.72%	-0.76%	-0.79%	-0.82%	-0.84%
Domestic use	-0.01%	-0.02%	-0.03%	-0.05%	-0.06%	-0.07%	-0.07%	-0.08%	-0.09%
Rapeseed									
Production	-0.25%	-0.38%	-0.50%	-0.57%	-0.59%	-0.60%	-0.60%	-0.61%	-0.62%
Domestic use	-0.02%	-0.05%	-0.07%	-0.10%	-0.12%	-0.13%	-0.14%	-0.15%	-0.16%
Producer price	0.09%	0.20%	0.33%	0.47%	0.61%	0.72%	0.83%	0.92%	1.01%
Sunflower									
Production	-0.25%	-0.44%	-0.64%	-0.81%	-0.95%	-1.06%	-1.15%	-1.22%	-1.26%
Domestic use	0.00%	0.00%	0.00%	-0.01%	-0.01%	-0.01%	-0.02%	-0.02%	-0.02%
Producer price	0.00%	0.05%	0.12%	0.23%	0.35%	0.49%	0.63%	0.78%	0.93%
Soybeans									
Production	-0.25%	-0.43%	-0.64%	-0.81%	-0.96%	-1.08%	-1.18%	-1.27%	-1.33%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Beef and veal									
Production	-2.46%	-3.56%	-4.50%	-5.22%	-5.82%	-6.33%	-6.83%	-7.24%	-7.61%
Domestic use	0.01%	0.01%	-0.01%	-0.03%	-0.05%	-0.08%	-0.10%	-0.13%	-0.15%
Producer price	-0.53%	0.09%	0.57%	0.88%	1.10%	1.27%	1.40%	1.54%	1.66%
Pig meat									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%
Domestic use	-0.03%	0.00%	0.03%	0.04%	0.05%	0.05%	0.06%	0.06%	0.07%
Producer price	-0.02%	0.01%	0.02%	0.03%	0.04%	0.04%	0.04%	0.04%	0.04%
Poultry meat									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sheep meat									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.01%	-0.01%	-0.01%
Producer price	-0.01%	-0.01%	0.00%	0.01%	0.02%	0.03%	0.04%	0.04%	0.05%
Fluid milk									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Butter									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SMP									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WMP									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cheese									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Source: French AGMEMOD Model (2006)

Agricultural income

The Baseline results show that the share of subsidies/SFP in the agricultural output value under consideration is projected to decrease slightly from 20.1% in 2000 to 19.3% in 2015.

Under the FCR scenario the ratio is projected to decrease from 20.1% in 2000 to 17% in 2015.

Under the FCR scenario French agricultural output value is projected to decline by almost 1% against the Baseline results. French agriculture's gross agricultural sector income is, under the FCR scenario, projected to fall by 3.7% when compared to the Baseline projections, while feed costs are projected to increase slightly.

Table 8.6 : France: Agricultural output and income under FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-0.4%	-0.4%	-0.5%	-0.5%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%
Subsidies/SFP	-11.7%	-11.3%	-11.7%	-12.1%	-12.6%	-13.0%	-14.6%	-14.3%	-14.7%
Feeding costs	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Gross agric. income	-3.2%	-3.1%	-3.2%	-3.3%	-3.4%	-3.5%	-3.8%	-3.7%	-3.8%

Source: French AGMEMOD Model (2006)

8.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is € = US$ 1.24 from 2007 onwards (FAPRI 2006). In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro, with the exchange rate moving to rates of US$1.30 and US$1.40 US in 2007. The third projection is for the euro to depreciate versus the dollar to a parity exchange rate of € = US$ 1.00.

For a number of commodities, the AGMEMOD model does not endogenously model their prices. For the French model, these commodities are soybean and all oilseed meals and oils. Thus French prices are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products, changes in the exchange rate will have a direct impact on national currency prices and on the associated supplies of and demand for the commodity in question.

Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for France. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 8.7 to Table 8.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

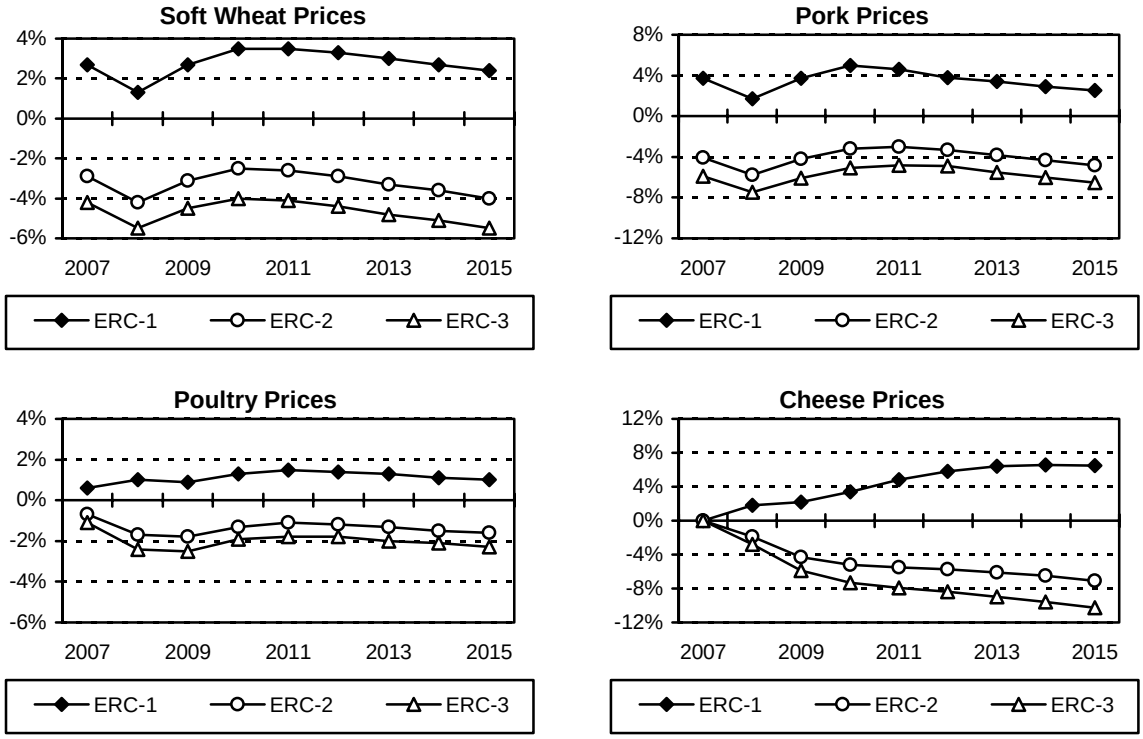
The impact of the three ERC scenarios when compared with one another and with the Baseline projections indicates that the AGMEMOD model performs as one would expect.

French prices under the ECR-1 scenario, where the € = US$ 1.00 from 2007, are characterised by increases compared with the Baseline. When compared with Baseline price projections for France, prices under both the ERC-2 and ERC-3 scenarios (where the euro appreciates against the dollar) decline as expected. The increase in prices which are endogenously determined within the AGMEMOD modelling system is in general smaller than the percentage changes in prices that are determined exogenously to the AGMEMOD model. For these, the percentage change in the exchange rate from Baseline levels is fully

reflected in the euro prices for these commodities (oilseeds and oil seed meals and oils). The impact of the changed exchange rate on commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities.

Figure 8.2 charts the percentage change in four prices under each of the three ERC scenarios. The commodity prices chosen for France are soft wheat, pork, rapeseed and cheese.

Figure 8.2 : French Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: French AGMEMOD Model (2006)

When the projections for French commodity markets under the ECR-1 scenario are compared with those under the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use.

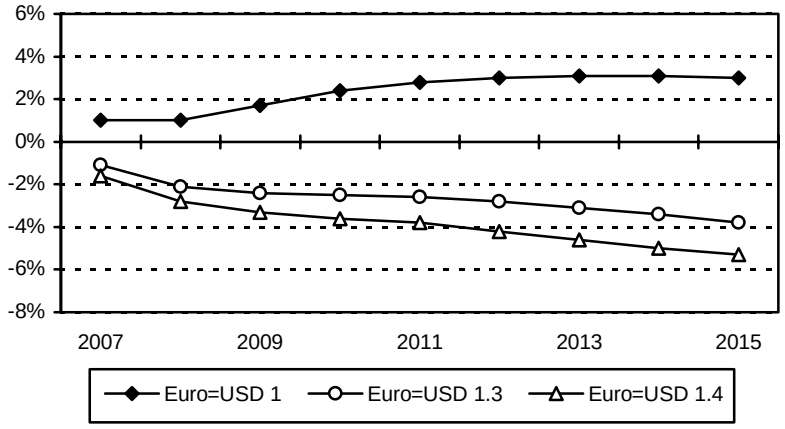
The two exchange rate change scenarios labelled ECR-2 and ECR-3 involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under ECR-2, the € = US$ 1.30, while under ECR-3 the € = US$ 1.40 from 2007. As expected, the projections for France under both scenarios are characterised by similar changes in prices, quantities supplied and demanded. As in the ECR-1 scenario, the impact of the exchange rate changes is most fully expressed in the prices of commodities which are exogenous to the AGMEMOD model system. For the majority of agricultural commodities in the AGMEMOD modelling system, prices are determined endogenously, together with all of the elements of supply and use balances. Under each of the euro / US dollar exchange rate scenarios, market prices in France are projected to be lower than under the Baseline, with often concomitant reductions in the volume of domestic production and small increases in domestic use. The magnitude of the impacts on prices and supply and use balances is, as expected, greater under ECR-3 than ECR-2.

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. Higher prices and production levels that are projected under the ERC-1 scenario lead to increased values of agricultural outputs (up 9% compared with the Baseline level), while the opposite is the case in the ERC-2 and ERC-3 scenarios, where the value of agricultural output declines by 0.7% and 2.9% respectively.

Finally, the impacts of these REC scenarios on gross agricultural sector income in France are set out in Figure 8.3.

Figure 8.3 : France: Gross agriculture income in ERC Scenarios. (% Δ from Baseline)



Source: French AGMEMOD Model (2006)

Table 8.7: France: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.5%	0.2%	0.5%	0.6%	0.6%	0.5%	0.5%	0.4%
Domestic use	-0.1%	0.1%	0.1%	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%
Soft wheat									
Production	0.0%	0.3%	0.1%	0.2%	0.2%	0.1%	0.0%	-0.1%	-0.1%
Domestic use	-0.1%	0.2%	0.2%	0.3%	0.5%	0.7%	0.7%	0.8%	0.8%
Producer price	2.7%	1.3%	2.7%	3.5%	3.5%	3.3%	3.0%	2.7%	2.4%
Durum wheat									
Production	0.0%	1.4%	1.9%	2.4%	2.9%	3.0%	2.4%	1.2%	-0.1%
Domestic use	-0.4%	-0.3%	-0.5%	-0.6%	-0.6%	-0.6%	-0.5%	-0.5%	-0.4%
Producer price	8.2%	1.2%	6.0%	7.0%	6.0%	4.9%	3.6%	3.2%	2.9%
Barley									
Production	0.0%	0.6%	0.8%	1.3%	1.9%	2.4%	2.9%	3.2%	3.5%
Domestic use	0.1%	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%
Producer price	2.1%	2.0%	2.9%	4.0%	4.5%	4.4%	4.2%	3.8%	3.4%
Maize									
Production	0.0%	0.6%	0.4%	0.6%	0.8%	0.8%	0.6%	0.5%	0.3%
Domestic use	0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	2.3%	1.8%	2.8%	3.8%	4.2%	4.0%	3.7%	3.3%	2.9%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	-0.8%	0.0%	-0.3%	-0.3%	0.0%	0.4%	0.7%	0.9%
Domestic use	-0.8%	0.4%	0.1%	0.5%	1.1%	1.5%	1.8%	2.0%	2.1%
Rapeseed									
Production	0.0%	-2.3%	-1.5%	-2.9%	-3.9%	-4.3%	-4.3%	-4.2%	-3.8%
Domestic use	-0.7%	0.1%	-0.7%	-0.8%	-0.9%	-1.1%	-1.4%	-1.5%	-1.6%
Producer price	2.5%	3.9%	5.9%	8.7%	11.5%	13.6%	15.1%	16.0%	16.2%
Sunflower									
Production	0.0%	1.7%	2.9%	4.7%	6.9%	9.0%	10.5%	11.4%	11.5%
Domestic use	-0.1%	2.0%	2.6%	4.2%	6.1%	7.8%	8.9%	9.7%	10.0%
Producer price	5.4%	6.9%	10.3%	14.3%	17.2%	18.7%	18.9%	18.2%	16.9%
Soybeans									
Production	0.0%	1.8%	0.9%	1.1%	1.1%	0.4%	-0.7%	-1.7%	-2.6%
Domestic use	-2.2%	-2.0%	-2.9%	-3.7%	-4.0%	-3.8%	-3.4%	-3.0%	-2.6%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Beef and veal									
Production	-0.2%	-0.1%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%
Domestic use	0.1%	0.1%	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%
Producer price	0.5%	0.2%	0.6%	0.6%	0.6%	0.6%	0.5%	0.4%	0.3%
Pig meat									
Production	0.1%	0.2%	0.3%	0.5%	0.7%	0.8%	0.9%	1.0%	1.0%
Domestic use	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	3.7%	1.7%	3.7%	5.0%	4.6%	3.8%	3.4%	2.9%	2.5%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Producer price	0.6%	1.0%	0.9%	1.3%	1.5%	1.4%	1.3%	1.1%	1.0%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	-0.2%	0.0%	-0.1%	-0.1%	0.0%	0.1%	0.2%	0.3%
Domestic use	0.0%	-0.2%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%
Whole sale price	0.8%	1.1%	1.6%	2.3%	2.9%	3.2%	3.3%	3.3%	3.2%
Butter									
Production	0.0%	0.3%	0.5%	0.8%	1.1%	1.3%	1.4%	1.5%	1.5%
Domestic use	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Whole sale price	1.3%	0.6%	1.2%	1.5%	1.4%	1.3%	1.1%	0.9%	0.8%
SMP									
Production	-0.2%	1.0%	1.2%	1.9%	2.6%	3.2%	3.4%	3.5%	3.4%
Domestic use	-4.9%	-0.3%	-2.0%	-1.8%	-0.1%	1.7%	3.0%	3.8%	4.2%
Whole sale price	3.1%	2.0%	3.6%	4.7%	5.1%	4.9%	4.6%	4.3%	3.9%
WMP									
Production	-0.4%	-0.3%	-0.4%	-0.6%	-0.6%	-0.6%	-0.5%	-0.4%	-0.4%
Domestic use	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%
Whole sale price	5.5%	2.8%	5.6%	7.3%	7.4%	6.8%	6.1%	5.4%	4.8%
Cheese									
Production	0.1%	-1.1%	-0.9%	-1.5%	-2.0%	-2.2%	-2.3%	-2.2%	-2.1%
Domestic use	0.0%	-0.9%	-1.1%	-1.6%	-2.2%	-2.6%	-2.8%	-2.9%	-2.8%
Whole sale price	0.0%	1.8%	2.2%	3.4%	4.8%	5.8%	6.4%	6.6%	6.5%

Source: French AGMEMOD Model (2006)

Table 8.8: France: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.5%	-0.6%	-0.6%	-0.4%	-0.4%	-0.5%	-0.5%	-0.6%
Domestic use	0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Soft wheat									
Production	0.0%	-0.4%	-0.4%	-0.1%	0.0%	0.1%	0.0%	0.0%	0.0%
Domestic use	0.1%	-0.1%	-0.5%	-0.6%	-0.6%	-0.6%	-0.7%	-0.8%	-0.9%
Producer price	-2.9%	-4.2%	-3.1%	-2.5%	-2.6%	-2.9%	-3.3%	-3.6%	-4.0%
Durum wheat									
Production	0.0%	-1.6%	-3.6%	-3.9%	-3.0%	-1.8%	-0.9%	-0.4%	0.1%
Domestic use	0.4%	0.7%	0.6%	0.5%	0.4%	0.5%	0.5%	0.6%	0.6%
Producer price	-8.9%	-9.6%	-3.7%	-2.0%	-3.0%	-4.7%	-5.6%	-5.8%	-6.1%
Barley									
Production	0.0%	-0.7%	-1.5%	-1.9%	-2.2%	-2.5%	-2.9%	-3.3%	-3.7%
Domestic use	-0.1%	0.0%	0.1%	0.2%	0.3%	0.3%	0.4%	0.6%	0.7%
Producer price	-2.3%	-4.4%	-4.3%	-3.7%	-3.5%	-3.7%	-4.1%	-4.6%	-5.1%
Maize									
Production	0.0%	-0.7%	-1.1%	-0.8%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%
Domestic use	-0.1%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	-2.5%	-4.4%	-4.0%	-3.3%	-3.2%	-3.4%	-3.8%	-4.2%	-4.5%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	1.3%	1.3%	0.3%	-0.2%	-0.4%	-0.4%	-0.5%	-0.6%
Domestic use	0.8%	0.3%	-0.9%	-1.2%	-1.2%	-1.2%	-1.3%	-1.4%	-1.5%
Rapeseed									
Production	0.0%	3.2%	4.8%	4.5%	4.4%	4.7%	4.9%	4.8%	4.5%
Domestic use	0.8%	0.6%	0.4%	1.1%	1.5%	1.8%	1.9%	1.9%	1.9%
Producer price	-2.7%	-6.9%	-9.8%	-11.6%	-13.3%	-15.0%	-16.6%	-18.0%	-19.2%
Sunflower									
Production	0.0%	-1.9%	-5.1%	-7.9%	-9.9%	-11.2%	-11.9%	-12.0%	-12.0%
Domestic use	0.1%	-2.0%	-4.8%	-6.2%	-6.9%	-7.4%	-8.0%	-8.6%	-9.3%
Producer price	-5.9%	-12.9%	-16.0%	-16.8%	-16.9%	-17.1%	-17.6%	-18.5%	-19.9%
Soybeans									
Production	0.0%	-2.0%	-2.8%	-1.2%	0.4%	1.4%	1.9%	2.2%	2.4%
Domestic use	2.4%	4.5%	4.1%	3.4%	3.1%	3.2%	3.4%	3.7%	4.0%
Producer price	-13.5%	-18.5%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Beef and veal									
Production	0.2%	0.4%	0.5%	0.5%	0.4%	0.3%	0.3%	0.4%	0.4%
Domestic use	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%
Producer price	-0.5%	-0.7%	-0.6%	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%
Pig meat									
Production	-0.1%	-0.4%	-0.6%	-0.7%	-0.8%	-0.8%	-0.9%	-1.0%	-1.2%
Domestic use	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%
Producer price	-4.1%	-5.8%	-4.2%	-3.2%	-3.0%	-3.3%	-3.8%	-4.3%	-4.8%
Poultry meat									
Production	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
Domestic use	0.0%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%
Producer price	-0.7%	-1.7%	-1.8%	-1.3%	-1.1%	-1.2%	-1.3%	-1.5%	-1.6%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	0.2%	0.3%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.0%	0.2%	0.4%	0.2%	0.1%	0.0%	0.1%	0.1%	0.1%
Whole sale price	-0.8%	-2.0%	-2.6%	-2.8%	-2.9%	-3.0%	-3.3%	-3.6%	-3.9%
Butter									
Production	-0.1%	-0.3%	-0.9%	-1.2%	-1.3%	-1.3%	-1.4%	-1.5%	-1.6%
Domestic use	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Whole sale price	-1.4%	-2.0%	-1.3%	-0.9%	-0.9%	-1.1%	-1.2%	-1.4%	-1.5%
SMP									
Production	0.0%	-0.8%	-2.4%	-3.0%	-3.0%	-3.1%	-3.2%	-3.4%	-3.7%
Domestic use	5.5%	5.8%	0.1%	-2.3%	-2.5%	-2.2%	-2.1%	-2.1%	-2.2%
Whole sale price	-3.5%	-5.4%	-4.6%	-4.0%	-4.0%	-4.5%	-4.9%	-5.4%	-5.8%
WMP									
Production	0.4%	0.7%	0.6%	0.5%	0.4%	0.5%	0.5%	0.5%	0.6%
Domestic use	0.1%	0.2%	0.2%	0.2%	0.1%	0.2%	0.2%	0.2%	0.2%
Whole sale price	-6.0%	-8.9%	-6.5%	-5.2%	-5.3%	-6.0%	-6.7%	-7.5%	-8.2%
Cheese									
Production	0.0%	1.1%	2.1%	2.1%	1.9%	1.9%	2.1%	2.3%	2.5%
Domestic use	0.0%	0.9%	2.1%	2.5%	2.5%	2.6%	2.7%	2.9%	3.1%
Whole sale price	0.0%	-1.9%	-4.3%	-5.2%	-5.5%	-5.7%	-6.1%	-6.5%	-7.1%

Source: French AGMEMOD Model (2006)

Table 8.9 : France: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.8%	-0.8%	-0.9%	-0.7%	-0.7%	-0.7%	-0.7%	-0.8%
Domestic use	0.1%	-0.1%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%	-0.6%	-0.6%
Soft wheat									
Production	0.0%	-0.5%	-0.5%	-0.2%	0.0%	0.1%	0.0%	0.0%	0.0%
Domestic use	0.2%	-0.2%	-0.6%	-0.8%	-0.9%	-1.0%	-1.1%	-1.2%	-1.3%
Producer price	-4.2%	-5.5%	-4.5%	-4.0%	-4.1%	-4.4%	-4.8%	-5.1%	-5.5%
Durum wheat									
Production	0.0%	-2.3%	-4.9%	-5.4%	-4.4%	-2.9%	-1.7%	-0.8%	0.1%
Domestic use	0.6%	1.0%	0.9%	0.7%	0.7%	0.7%	0.8%	0.8%	0.9%
Producer price	-13.0%	-12.2%	-5.7%	-3.8%	-4.8%	-6.9%	-7.7%	-7.8%	-8.1%
Barley									
Production	0.0%	-1.0%	-2.0%	-2.7%	-3.2%	-3.7%	-4.2%	-4.8%	-5.4%
Domestic use	-0.1%	-0.1%	0.1%	0.3%	0.4%	0.5%	0.6%	0.8%	1.1%
Producer price	-3.4%	-5.9%	-6.0%	-5.6%	-5.4%	-5.7%	-6.1%	-6.6%	-7.1%
Maize									
Production	0.0%	-1.0%	-1.5%	-1.2%	-0.9%	-0.8%	-0.8%	-0.8%	-0.8%
Domestic use	-0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Producer price	-3.6%	-5.9%	-5.7%	-5.0%	-4.9%	-5.2%	-5.6%	-6.0%	-6.3%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	2.1%	1.8%	0.6%	0.0%	-0.3%	-0.5%	-0.7%	-1.0%
Domestic use	1.2%	0.3%	-1.0%	-1.5%	-1.6%	-1.6%	-1.8%	-1.9%	-2.1%
Rapeseed									
Production	0.0%	5.0%	6.8%	6.7%	6.9%	7.3%	7.4%	7.1%	6.5%
Domestic use	1.1%	0.8%	0.8%	1.6%	2.2%	2.6%	2.7%	2.8%	2.8%
Producer price	-3.9%	-9.6%	-13.8%	-16.9%	-19.7%	-22.4%	-24.7%	-26.5%	-27.9%
Sunflower									
Production	0.0%	-2.8%	-7.2%	-11.2%	-14.4%	-16.5%	-17.7%	-17.9%	-17.7%
Domestic use	0.2%	-3.0%	-6.5%	-8.5%	-9.7%	-10.6%	-11.4%	-12.3%	-13.1%
Producer price	-8.5%	-17.6%	-22.2%	-24.1%	-24.9%	-25.4%	-26.0%	-26.9%	-28.4%
Soybeans									
Production	0.0%	-2.9%	-3.6%	-1.7%	0.3%	1.7%	2.6%	3.2%	3.7%
Domestic use	3.6%	6.1%	5.8%	5.0%	4.8%	4.9%	5.1%	5.3%	5.5%
Producer price	-19.7%	-24.4%	-20.0%	-17.4%	-17.4%	-18.6%	-19.8%	-20.9%	-22.0%
Beef and veal									
Production	0.3%	0.5%	0.7%	0.7%	0.6%	0.5%	0.5%	0.6%	0.6%
Domestic use	-0.2%	-0.3%	-0.4%	-0.5%	-0.6%	-0.6%	-0.7%	-0.7%	-0.8%
Producer price	-0.7%	-0.9%	-0.9%	-0.9%	-0.8%	-0.7%	-0.7%	-0.7%	-0.8%
Pig meat									
Production	-0.2%	-0.5%	-0.8%	-1.0%	-1.1%	-1.3%	-1.4%	-1.5%	-1.7%
Domestic use	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Producer price	-5.9%	-7.5%	-6.1%	-5.1%	-4.8%	-4.9%	-5.5%	-6.0%	-6.5%
Poultry meat									
Production	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%
Domestic use	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
Producer price	-1.1%	-2.4%	-2.5%	-1.9%	-1.8%	-1.8%	-2.0%	-2.1%	-2.3%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Fluid milk									
Production	0.0%	0.4%	0.3%	0.0%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%
Domestic use	-0.1%	0.4%	0.5%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%
Whole sale price	-1.2%	-2.7%	-3.6%	-4.0%	-4.2%	-4.5%	-4.9%	-5.2%	-5.6%
Butter									
Production	-0.2%	-0.5%	-1.2%	-1.6%	-1.8%	-1.9%	-2.1%	-2.2%	-2.3%
Domestic use	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%
Whole sale price	-2.1%	-2.7%	-1.9%	-1.5%	-1.5%	-1.6%	-1.8%	-2.0%	-2.1%
SMP									
Production	0.0%	-1.3%	-3.3%	-4.1%	-4.4%	-4.6%	-4.8%	-5.0%	-5.3%
Domestic use	8.0%	7.2%	0.7%	-2.5%	-3.1%	-3.1%	-3.3%	-3.5%	-3.8%
Whole sale price	-5.1%	-7.2%	-6.5%	-6.0%	-6.2%	-6.7%	-7.2%	-7.6%	-8.1%
WMP									
Production	0.6%	1.0%	0.9%	0.8%	0.7%	0.7%	0.7%	0.8%	0.8%
Domestic use	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%
Whole sale price	-8.8%	-11.6%	-9.4%	-8.1%	-8.3%	-9.0%	-9.8%	-10.5%	-11.3%
Cheese									
Production	0.0%	1.7%	2.9%	3.0%	2.9%	2.9%	3.1%	3.3%	3.6%
Domestic use	0.0%	1.4%	2.8%	3.5%	3.7%	3.8%	4.0%	4.2%	4.5%
Whole sale price	0.0%	-2.8%	-5.9%	-7.3%	-7.9%	-8.4%	-9.0%	-9.6%	-10.3%

Source: French AGMEMOD Model (2006)

9 Germany

Petra Salamon and Oliver von Ledebur, Federal Agricultural Research Centre (FAL), Institute of Market Analysis and International Trade Policy, Braunschweig.

9.1 Baseline

Table 9.1 depicts the specific assumptions for Germany on the macroeconomic variables that underlie the German AGMEMOD model's Baseline and scenario projections up to 2015.

Table 9.1: Assumptions on macroeconomic variables for Germany

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	82.3	82.7	82.7	82.8	82.9	83.0	83.1	82.8	82.8	82.7	82.7	82.7
GDP	bil. Euro97	1969	2035	2056	2076	2097	2118	2139	2160	2182	2204	2226	2248
GDP per capita	Euro97/cap	23931	24621	24843	25067	25293	25521	25751	26093	26362	26633	26908	27185
Inflation	1997=1	1.00	1.06	1.07	1.08	1.10	1.11	1.13	1.14	1.16	1.17	1.19	1.20

Source: Statistisches Bundesamt

The 2003 CAP reform changes the premiums to be applied to cereals, oilseeds and livestock. Most direct payments made in Germany will be fully decoupled, with income support provided through the Single Payment System (SPS). There are some minor exceptions to the full decoupling of most direct payments in Germany, with hops and potatoes retaining a coupling rate of 25% and 60% respectively and tobacco retaining a coupling rate of 60% of the Agenda 2000 premium (only until 2009). The Single Farm Payment (SFP) was introduced as a "dynamic hybrid system". The dairy premium is integrated into the SFP as from 2005. Due to this short period of existence there are only minor production impacts to be expected. Thus, in the model calculations, the dairy premiums are regarded as fully decoupled. Payments for other agricultural commodities, however, will become independent of the use of land or animals for specific production purposes (full decoupling). Nevertheless, the assumption is that these decoupled payments will affect supply.

The assumed impact on agricultural production of decoupled direct payments – as opposed to the coupled payments made previously – depends on the distribution effects of payments to other sectors in comparison with the entitled hectares and animals in the reference years (in Germany, 11% of the entitled payments will shift to land that was not subsidised in the reference period), on (compulsory) modulation effects (the modulation will amount to 16% of CAP payments in 2015) and on shift rate effects (it is assumed that annually 2.5% of arable farmers and 5% of livestock farmers will exit the agricultural sector in Germany). Details can be found in Report III AGMEMOD - Model description. Table 9.2 sets out the derived multipliers that reflect these supply-inducing parameters for the German agricultural sectors. These multipliers are used to simulate the increase in decoupling effects due to the SFP by reducing the direct payments (as used under the old scheme) to 'synthetic' premium levels.

Table 9.2 : Supply-inducing multipliers of German agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	0.86	0.85	0.81	0.79	0.76	0.73	0.71	0.68	0.65	0.62	0.60
Oilseeds	index	1.00	0.86	0.85	0.81	0.79	0.76	0.73	0.71	0.68	0.65	0.62	0.60
Suckler cows	index	1.00	0.86	0.85	0.79	0.75	0.70	0.66	0.62	0.58	0.54	0.51	0.48
Milk	index	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maize	index	1.00	0.86	0.85	0.81	0.79	0.76	0.73	0.71	0.68	0.65	0.62	0.60
Ewes	index	1.00	0.86	0.85	0.79	0.75	0.70	0.66	0.62	0.58	0.54	0.51	0.48
Sheep	index	1.00	0.86	0.85	0.79	0.75	0.70	0.66	0.62	0.58	0.54	0.51	0.48
Bulls	index	1.00	0.86	0.85	0.79	0.75	0.70	0.66	0.62	0.58	0.54	0.51	0.48
Adult slaughtering	index	1.00	0.86	0.85	0.79	0.75	0.70	0.66	0.62	0.58	0.54	0.51	0.48
Calves slaughtering	index	1.00	0.86	0.85	0.79	0.75	0.70	0.66	0.62	0.58	0.54	0.51	0.48

Source: Own calculations

Grains and oilseed sectors

Although the German cereal market is influenced by the decoupling of direct payments, the projected impacts are relatively minor. In general, the Baseline projection for German producer prices in the cereal sector follows the developments projected for French key prices (see Table 9.3). Under the Baseline, German cereal prices are projected to decline slightly at the beginning of the period, but then recover and by the end of the Baseline period exceed the levels at the beginning. Thus, German grain production is projected to increase due to expansion in the area harvested as well as to projected productivity gains. With the introduction of decoupling under the Baseline, a shift away from other crop products to wheat is projected, due to relatively high margins per hectare projection for wheat. But these projected gains in wheat production will induce a marginally higher price decline. Due to the abolition of the rye intervention under the Baseline, German farmers are expected to reduce the area under rye. But with the overall cereal price recovery projected to occur under the Baseline, German production of rye will increase a little in the second part of the projection period.

Under the Baseline, with world market prices projected to rise, there are relatively large impacts on oilseed supply and use in Germany. However, one point to be borne in mind is that the over-proportional increase in German rapeseed area that may result from policy-driven demand increases in bio-energy have not been directly reflected as the relevant policy indicators have not yet reached the implementation stage. Under the Baseline, sunflower production will continue to decrease in Germany as returns are smaller than for rapeseed under the Baseline.

Over the Baseline projection period, overall domestic use of grains in Germany is projected to grow in tandem with growth in livestock production. Under the Baseline, there is increased projected demand for feed in the poultry and the pig meat sector. In terms of feed uses of cereals, more pronounced gains are projected to occur in feed demand for wheat and maize as their price developments are likely to be more favourable than for barley. The demand for rye in Germany is projected to decline further due to reduced use in bread production and increased prices.

German demand for oilseeds is largely for crushing, driven by the attractive margin available. In the past the driving factor has often been the demand for oilseed animal meals. Now the picture is changing, with higher projected meal prices that will lead to oilseed meals being replaced as a component of fodder rations. However, with a major increase in demand for bio-energy, which uses only the oil from the crushing process, this might be only partly true because meals are then likely to be in excess supply and may be “priced” back into animal feed rations.

Livestock and dairy sectors

In Germany, due to the traditional pattern of joint production systems for beef and milk, the suckler cow herd is small compared to the dairy cow herd. Nevertheless, the CAP reform is projected to lead to a further decline in the number of cattle slaughtered and in the production of beef and veal of approximately 12% over the Baseline projection period 2005 to 2015. Partially offsetting the production impact of declining numbers of cattle slaughtered are projected increases in the average slaughter weights of cattle which, over the projection period, are expected to increase by 6%. The projected reduction in beef production is due not only to the decoupling of direct payments but also to the long-term decline in the demand for

beef and veal in Germany, which under the Baseline is projected to fall by 14% between 2005 and 2015. As a consequence of lower beef production, the projection is for German beef prices to rise over the period to 2015.

German pig and poultry markets are not directly affected by the CAP reform, but producers will be indirectly affected through the impact of the reform on prices for grains and other feed ingredients, and through the impact of the reform on substitutes for pork and poultry. German pork production is under the Baseline projected to expand by about 6% over the period 2005-2015. Although pig slaughtering numbers are projected to increase only slightly (1%) over the Baseline projection period, this growth is augmented by projected increases in average pig slaughter weights. Under the Baseline, German pig meat consumption is projected to increase up to 2006, but thereafter domestic consumption declines due to substitution by poultry.

Table 9.3: Baseline results concerning main agricultural commodities of Germany

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	44118	47129	47462	48175	48876	48029	50225	50932	51647	52353	53060	53777
Domestic use	1,000 ton	38313	38765	38785	38929	38856	38859	38968	39104	39260	39338	39428	39541
Soft wheat													
Production	1,000 ton	21357	22897	23300	23671	24077	24405	24739	25060	25413	25772	26115	26443
Domestic use	1,000 ton	16120	16975	17163	17248	17294	17459	17640	17800	17969	18112	18260	18421
Producer price	euro/ton	114	106	105	108	111	110	109	109	110	111	111	112
Durum wheat													
Production	1,000 ton	47	47	47	47	47	47	47	47	47	47	47	47
Domestic use	1,000 ton	665	665	665	665	665	665	665	665	665	665	665	665
Producer price	euro/ton	162	141	149	162	165	157	155	158	162	165	167	169
Barley													
Production	1,000 ton	11778	12849	12749	12926	13067	13247	13442	13657	13853	14037	14234	14450
Domestic use	1,000 ton	10500	10249	10172	10173	10104	10023	9974	9946	9920	9876	9833	9795
Producer price	euro/ton	95	85	86	88	90	90	90	91	91	92	93	94
Maize													
Production	1,000 ton	3165	3396	3418	3467	3516	3559	3604	3651	3698	3745	3792	3840
Domestic use	1,000 ton	4099	4346	4352	4367	4338	4326	4337	4362	4393	4400	4415	4435
Producer price	euro/ton	127	109	109	112	115	115	115	115	115	115	116	116
Rye													
Production	1000 tons	3230	3044	3014	3055	3086	3129	3176	3228	3274	3318	3365	3417
Domestic use	1000 tons	2739	3009	2963	2987	2979	2945	2928	2917	2910	2896	2883	2868
Producer price	euro/ton	102	78	79	81	83	83	83	83	84	85	86	87
Other grains													
Production	1000 tons	4542	4896	4934	5009	5083	5150	5218	5290	5362	5434	5507	5580
Domestic use	1000 tons	4190	4185	4135	4154	4141	4107	4088	4079	4069	4054	4038	4021
Producer price	euro/ton	94	83	84	86	89	89	89	89	90	91	92	93
Total oilseeds													
Production	1,000 ton	3839	4344	4379	4402	4461	4579	4702	4795	4871	4947	5033	5125
Domestic use	1,000 ton	8856	10004	10021	10311	10517	10722	10968	11198	11467	11762	12033	12333
Rapeseed													
Production	1,000 ton	3707	4242	4283	4306	4373	4490	4613	4710	4789	4868	4959	5057
Domestic use	1,000 ton	4374	5091	5195	5352	5514	5636	5768	5904	6043	6199	6341	6483
Producer price	euro/ton	206	213	214	243	259	244	235	235	237	239	241	241
Sunflower													
Production	1,000 ton	129	99	93	94	85	86	86	83	79	76	71	65
Domestic use	1,000 ton	487	544	541	528	518	522	532	541	549	561	575	590
Producer price	euro/ton	237	227	234	270	289	274	265	265	268	269	270	271
Soybeans													
Production	1,000 ton	3	3	3	3	3	3	3	3	3	3	3	3
Domestic use	1,000 ton	3995	4368	4284	4430	4485	4564	4668	4752	4875	5002	5117	5261
Producer price	euro/ton	216	199	192	220	240	228	221	224	227	230	232	233
Beef and veal													
Production	1,000 ton	1406	1332	1318	1335	1300	1269	1244	1228	1215	1200	1188	1177
Domestic use	1,000 ton	1227	1220	1203	1172	1151	1147	1138	1118	1101	1085	1069	1052
Producer price	euro/100 kg	274	255	252	263	267	261	257	257	258	260	264	268
Pig meat													
Production	1,000 ton	4209	4216	4221	4221	4219	4231	4267	4326	4376	4409	4443	4487
Domestic use	1,000 ton	4498	4562	4601	4598	4549	4511	4474	4459	4463	4427	4395	4364
Producer price	euro/100 kg	138	121	110	110	117	121	125	121	117	120	124	128
Poultry meat													
Production	1,000 ton	766	954	995	1031	1066	1102	1138	1176	1214	1249	1285	1322
Domestic use	1,000 ton	1297	1454	1479	1489	1503	1537	1572	1595	1618	1641	1664	1688
Producer price	euro/100 kg	156	146	143	140	140	139	137	133	131	129	128	126
Sheep meat													
Production	1,000 ton	45	46	46	46	46	45	45	45	45	44	44	44
Domestic use	1,000 ton	96	106	106	107	110	113	116	117	118	120	123	125
Producer price	euro/100 kg	134	140	139	139	139	139	139	138	138	137	137	136
Fluid milk													
Production-quota	1,000 ton	27769	27769	27908	28048	28187	28187	28187	28187	28187	28187	28187	28187
Domestic use	1,000 ton	3279	3143	3129	3116	3102	3089	3075	3048	3031	3014	2996	2979
Whole sale price	euro/100 kg	31	27	26	26	26	26	26	26	26	26	26	26
Butter													
Production	1,000 ton	472	424	413	414	410	401	395	389	382	374	365	355
Domestic use	1,000 ton	553	565	564	558	555	557	559	556	555	553	551	549
Whole sale price	euro/100kg	331	294	270	262	265	263	262	263	264	265	266	267
SMP													
Production	1,000 ton	395	295	266	243	230	215	202	190	177	163	149	134
Domestic use	1,000 ton	122	120	118	116	116	116	116	116	116	115	115	115
Whole sale price	euro/100kg	221	187	179	176	180	180	180	181	182	184	185	187
WMP													
Production	1,000 ton	191	183	180	181	177	173	174	178	180	180	180	181
Domestic use	1,000 ton	85	123	120	126	146	154	152	155	163	171	180	190
Whole sale price	euro/100kg	256	246	243	235	219	215	221	223	221	218	215	213
Cheese													
Production	1,000 ton	1782	1964	2016	2047	2082	2121	2150	2175	2203	2234	2267	2301
Domestic use	1,000 ton	1690	1825	1851	1875	1900	1926	1953	1971	1994	2017	2040	2062
Whole sale price	euro/100kg	403	394	389	380	378	379	379	377	376	375	375	375

Source: German AGMEMOD Model (2006)

The German market for broiler meat will continue to expand under the Baseline, with projected increases in production driven by productivity gains. These increases in production are projected to have negative impacts on prices despite growing domestic use of broiler

meat. Over the Baseline projection period, 2005 to 2015, the consumption share of other poultry meat overhauls that of broiler meat.

The cuts in butter intervention prices (25% from 2004) in the Baseline scenario will cause a decrease in German prices of dairy products. Naturally the component most affected will be the butter price, although this will remain above the intervention level. Nevertheless, lower butter prices will reduce the use made of raw milk for butter, although this effect is restricted as fat can only partially be switched to other uses. As butter consumption under the Baseline remains virtually unchanged due to the price decline, net imports are expected to increase markedly. The reduction in the projected SMP intervention price will induce a downward trend in production of SMP, whereas cheese production is, under the Baseline, projected to increase due to higher inputs of fat and proteins. The cheese price in Germany is projected to decrease by up to 7% in the wake of the cut in butter and skimmed milk powder intervention prices. Although German cheese consumption is projected to increase by some 22%, there is some capacity for growth in exports. German dairy cow milk production under the Baseline will, however, continue to be largely determined by the quota level and will even show a small increase in the projected period.

Agricultural income

As the AGMEMOD country models cover only a restricted set of agricultural commodities, and the sole input variables are feed ingredients, the development of gross agricultural sector income can only be approximated (Table 9.4). This estimation is based on developments of agricultural output values, subsidies (direct payments and SFP) paid to German producers of the commodities under consideration, and feed costs, respectively.

Table 9.4 : Agricultural output, subsidies, feed cost and gross income in Germany[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.92	0.89	0.91	0.94	0.94	0.95	0.94	0.95	0.96	0.98	0.99
Subsidies/SFP	2000=1	1.00	1.13	1.03	1.00	0.99	0.98	0.96	0.95	0.94	0.93	0.91	0.90
Feeding costs	2000=1	1.00	0.88	0.88	0.95	0.98	0.95	0.95	0.96	0.98	1.01	1.02	1.03
Gross agric. income	2000=1	1.00	0.97	0.92	0.92	0.94	0.94	0.95	0.94	0.94	0.95	0.96	0.97

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: German AGMEMOD Model (2006)

Due to the reform measures, the value of German agricultural sector output is projected to decline until all the measures have fully kicked in. After this phasing-in period, agricultural output is projected to start to rise again. The growth in agricultural output is mostly due to the projected increases in prices and a 3% increase in feed costs. In contrast, subsidies/SFP value will be steadily reduced as part of the agricultural subsidies will spill over to non-agricultural sectors. Hence, gross agricultural income will recover – ceteris paribus.

9.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU MS. SPS payments in the EU15 MS were, above certain amounts, also subject to modulation. The 'Further CAP reform' scenario, described in Report III AGMEMOD - Model description, involves effectively standardising the MS' currently nationally differentiated CAP implementation plans by imposing full decoupling from 2007, while the rates of compulsory modulation that are associated with the current SPS are increased to 10% from 2007 onwards.

Due to the Luxembourg Agreement implementation, most premium payments to farmers started to be decoupled in Germany from 2005 on. Most sectors in Germany will be fully decoupled, but there are some minor exceptions concerning hops and potatoes, with a coupling rate of 25% and 60% respectively, and tobacco with 60% (only until 2009). The dairy premium is integrated in the SFP as from 2005, but is in the model regarded as fully decoupled. The SFP was introduced as a "dynamic hybrid system". In principle farmers receive regionalised 'arable land' and/or 'grassland' aid payments. Additionally, top-ups will be disbursed if applicable. From 2005 to 2009, entitlements based on arable land aids, seed aids, 75% of the decoupled component of the potato starch premium, and the decoupled component of hops are paid as a regionalised flat-rate 'arable land' aid for each region. From 2005 to 2009, entitlements stemming from the adult cattle slaughter premium, the beef national envelope, and 50% of the beef extensification premium are paid as a regionalised flat-rate 'grassland' premium for each region. As a 'top-up' on a per-farm basis for the period 2005 to 2009, the dairy premium, the suckler cow premium, the special beef premium, the calf slaughter premium, the ewe premium, 50% of the beef extensification premium, dried fodder aid and 25% of the decoupled component of the potato starch premium are distributed. But the 'Bundesländer' can vary the allocation between grassland and arable land payments by up to 15%. Regional aids will also be partially harmonised. Between 2010 and 2013, a gradual transition to a fully regionalised aid system will take place. Due to the lack of data, the German system uses only the simplified SPS scheme. German farmers receiving single farm payments (SFP) in excess of € 5 000 were, like other farmers in the EU15 MS, subject to modulation at rates that from 2007 will reach 5%.

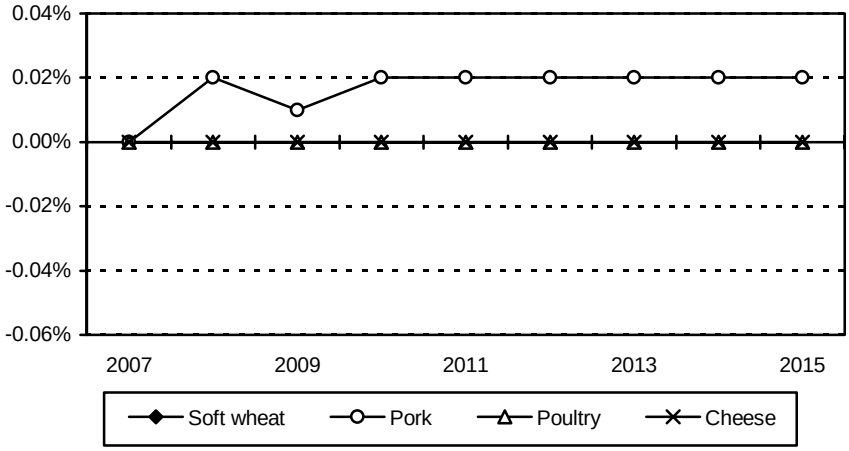
The further CAP reform scenario, involving the “full” decoupling of all CAP direct payments and increased rates of modulation, would not, *a priori*, be expected to have any major impact on the supply and use of agricultural commodities in Germany. However, the full decoupling of payments in all EU MS might alter supply and use balances of agricultural commodity markets and thus indirectly affect the German market since many MS have only partially decoupled some premiums. Expected changes in supply and use balances at EU level will most likely involve reduced indigenous production of those commodities that are still supported by coupled direct payments. Therefore some minor positive impacts on market prices for agricultural commodities are possible.

The further CAP reform scenario results set out below show that the impacts on German agricultural commodity markets of introducing full decoupling in other MS and the increased rates of compulsory modulation are somewhat limited.

Main Results

The impact of full decoupling in other EU MS on German agricultural commodity markets is marginally reflected in the development of prices. However, the effect of full decoupling across all EU MS tends to be rather small increases in the supply-inducing prices used in the German AGMEMOD sub-model. Figure 9.1 sets out these minor percentage changes from the Baseline level projections for the prices of four commodities in the German AGMEMOD model (soft wheat, pork, poultry and milk).

Figure 9.1 : German Prices: FCR Scenario (% Δ from Baseline)



Source: German AGMEMOD Model (2006)

Table 9.5 and Table 9.6 compare the German AGMEMOD model's projections under the FCR scenario with the Baseline projections.

Grains and oilseed sectors

The impact of the FCR scenario on German grain markets is, compared to the Baseline projections, as expected, quite modest. For Germany, this is mainly because virtually all direct payments have already been fully decoupled under the Luxembourg Agreement. Under the FCR scenario, EU grain prices are projected to increase slightly due to the full decoupling of arable aid direct payments in all MS (see Figure 9.1).

Normally, a modest increase in prices would lead (ceteris paribus) to lower domestic use of cereals compared with the Baseline. In Germany this happens, but only on a very small scale which does not show up in the percentage changes of domestic use in Table 9.5. As the impact of the FCR scenario on the domestic use of grains in other EU MS is greater than for Germany, the export demand for German cereals is projected to decline. The reduced export opportunities that are projected under the FCR scenario will be reflected in a very small production decline under the FCR scenario. This may be interpreted as being due to the reduced competitiveness of German cereal production. But it has to be borne in mind that, once again, the effect is rather restricted.

Livestock and dairy sectors

Given that all direct payments in the German livestock sector are decoupled under the Baseline, the impact of the FCR scenario on German meat markets is exclusively due to secondary effects. In Germany, projected higher imports and lower exports under the FCR scenario would induce a minor reduction in the production of beef and veal. Thus, the prices for beef under the FCR scenario are projected to increase slightly. But again, the impact of the FCR scenario on German livestock markets is very small compared to the Baseline projections.

Table 9.5 : Germany: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.01%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soft wheat									
Production	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.1%	1.3%	0.6%	0.6%	0.6%	0.6%	0.7%	0.6%	0.6%
Barley									
Production	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Rye									
Production	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.2%	0.3%	-0.1%	-0.3%	-0.3%	-0.4%	-0.4%	-0.3%	-0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.4%	0.3%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: German AGMEMOD Model (2006)

The reform of the dairy commodity market organisation under the Baseline is virtually unaffected by the reforms examined under the further CAP reform (FCR) scenario. The

increased rate of modulation of SFP is not projected to lead to any contraction in the total volume of milk produced. German milk production is projected to continue to fill the quota. Changes in the rate of modulation are not expected to change the relative prices of different dairy commodities, and as a consequence changes in supply and use balance in dairy commodity markets in Germany and the German farm gate milk price, under the FCR scenario, are negligible.

Agricultural income

It was expected that the somewhat higher agricultural commodity prices projected under the FCR scenario and the modest increases in the levels of production projected in response to the projected price increases would lead to an increase in German agricultural income. Compared to the Baseline, however, German agricultural incomes decrease under the FCR scenario (Table 9.6), due almost entirely to lower subsidy receipts (these projected reductions result from the increased rate of modulation). This reduction more than offsets the small increase in agricultural output value, which was hardly affected by changed price and production levels.

Table 9.6 : Germany: Agricultural output and income under FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subsidies/SFP	-6.4%	-6.4%	-6.5%	-6.6%	-6.6%	-6.7%	-6.8%	-6.8%	-6.9%
Feeding costs	0.0%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Gross agric. income	-1.3%	-1.2%	-1.2%	-1.2%	-1.2%	-1.2%	-1.2%	-1.2%	-1.2%

Source: German AGMEMOD Model (2006)

9.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is US$ 1.24 per euro from 2007 onwards. In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro, with the exchange rate moving to rates of 1.3 and 1.4 US dollar per euro in 2007. The third is for the euro to depreciate versus the dollar to a parity exchange rate of US$ 1 per euro.

The euro / US dollar exchange rate directly influences German prices wherever the German price is the key one in the AGMEMOD modelling structure (beef and veal, pig meat, poultry, butter). For other markets, the projected impact of the alternative exchange rate paths is examined through the price linkages to the key price projections generated by the AGMEMOD model.

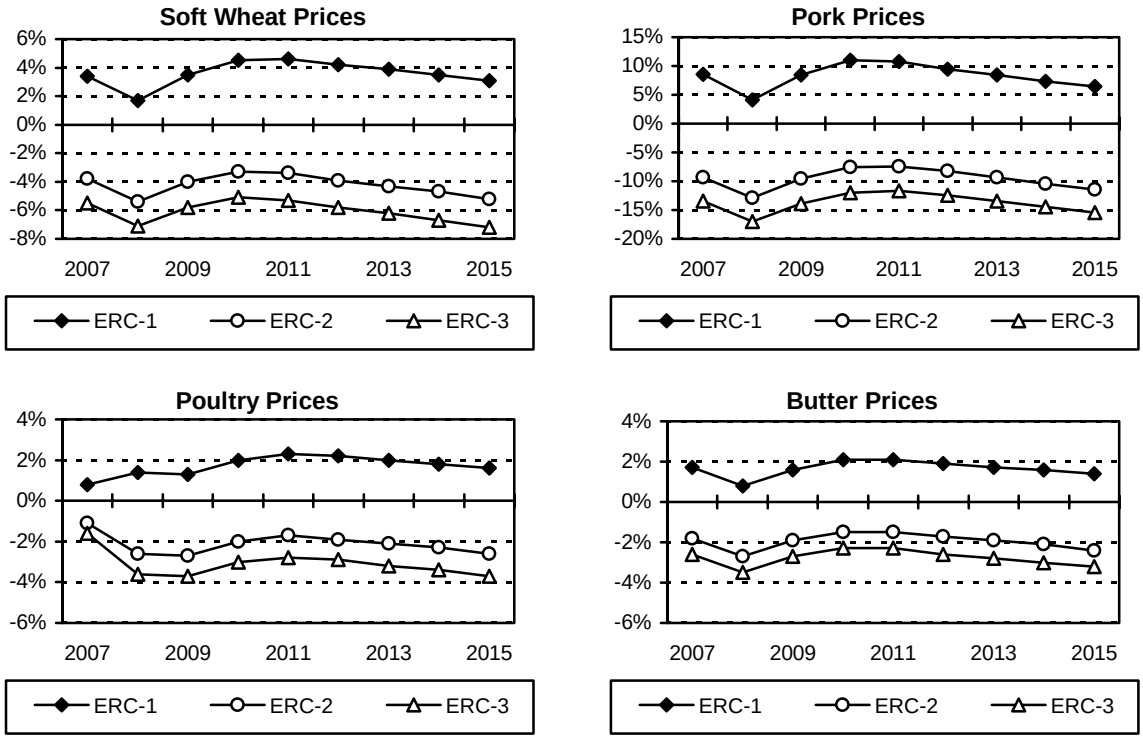
For a number of commodities, such as oilseeds and their associated meals and oils, the AGMEMOD model does not endogenously model their prices. Producer prices for European farmers are assumed to be world prices (in dollars) converted into national currency equivalents. For such products, any change in the exchange rate will also have a direct impact on the national currency prices and on the associated supplies of and demand for the commodity in question. Given that Germany is not a significant producer of most oilseeds (except rapeseed), changes in the euro / US dollar exchange rate will, for sunflower seed and soybeans, mainly affect demand for these products.

Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for Germany. We have labelled the three exchange rate sub-scenarios ERC-1 (euro = 1.00 US$), ERC-2 (euro = 1.30 US$) and ERC-3 (euro = 1.40 US$). Table 9.7 to Table 9.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

The impact of the three ERC scenarios when compared with each other and with the Baseline projections indicate that the AGMEMOD model performs as expected. Key prices under the ECR-1 scenario, in which the euro-US dollar exchange rate is 1.0 from 2007, increase relative to the Baseline. When compared with Baseline price projections for Germany, prices under both the ERC-2 and ERC-3 scenarios (in which the euro appreciates against the dollar) decline as expected. The size of the increase in the key prices that are endogenously determined within the AGMEMOD modelling system are in general smaller than the percentage changes of exogenously determined prices. For these prices, the percentage change in the exchange rate from Baseline levels is fully reflected in the euro prices (oilseeds and oil seed meals and oils). By contrast, the impact of the adjusted exchange rates on the commodity prices determined endogenously by the AGMEMOD system is altered by the endogenous response of EU supply and demand for agricultural commodities and by policy instruments. Figure 9.2 sets out the percentage change in four German prices under each of the three ERC scenarios. The commodity prices chosen for Germany are soft wheat, pork, poultry and milk.

Figure 9.2 : German Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: German AGMEMOD Model (2006)

When the projections for German commodity markets under the ECR-1 scenario are compared with the Baseline, market clearing prices are seen to be generally higher. The biggest impact is in the price of pig meat. By contrast, smaller impacts can occur for poultry and butter. In general, higher prices will be associated with small increases in the production of most agricultural commodities. Higher prices for cereals are projected to lead to somewhat reduced domestic use. Here cereals, which are subject to lower price increases compared to the oilseed complex, will tend to replace oil-meals in feed rations, the impact being enhanced by a rise in exports of meals. With livestock products, the higher price increase for pig meat will lead to beef being used in part as a substitute. Thus the domestic use of beef will increase slightly. In contrast, the additional production of pig meat will be exported. As the price increase for poultry will be much smaller than the rise in feed prices, production of poultry will fall. In the dairy sector too, some substitutions are projected to take place, with a further shift of production away from butter and skimmed milk powder towards cheese. Demand will be virtually unaffected, whereas adjustments in trade will clear the market. The milk price is projected to increase by about 2% compared to the Baseline.

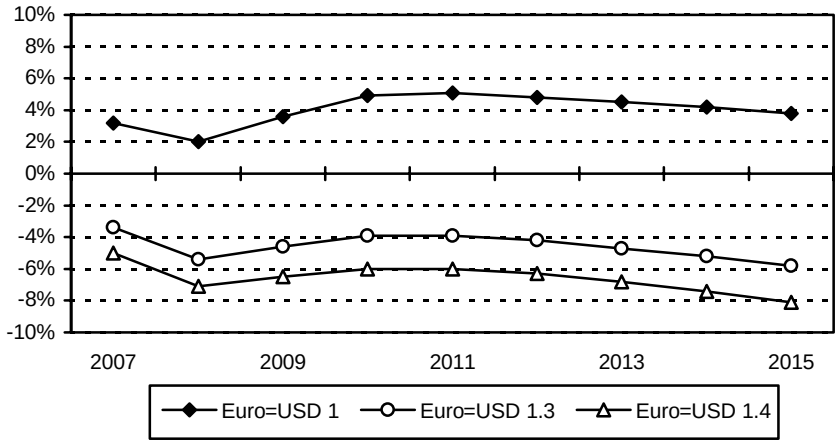
The two exchange rate change scenarios, labelled ECR-2 and ECR-3, involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007, under ECR-2, the euro / US dollar exchange rate is 1.30, while under ECR-3 it is assumed to be 1.40 from 2007. As expected, the projections for Germany under both scenarios when compared with the Baseline are characterised by similar changes in prices, quantities supplied and demand. As in the ECR-1 scenario, the impact of the exchange rate changes is most fully expressed in the prices of commodities which are exogenous to the AGMEMOD system. For the majority of agricultural commodities in the AGMEMOD system, prices are determined endogenously, together with all the elements of supply and use balances. Under each of the euro / US dollar exchange rate scenarios, market

prices in Germany are projected to be lower than under the Baseline, often combined with reduced domestic production. In the cereal sector in general, domestic use declines as cereals for feed are substituted by imported oil meals, which will be relatively cheaper. In the livestock market, due to more favourable relative prices, poultry production will increase, while pig meat and beef production will decline. Beef for human consumption is substituted by pig meat. The magnitude of the impacts on prices and supply and use balances is, as expected, greater under ECR-3 than ECR-2.

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. The main effect on gross agricultural income (ceteris paribus) arises from agricultural output value, which is projected to arise in Germany. Higher prices and production levels in the ERC-1 scenario would lead to increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 9.3).

Figure 9.3 : Germany: Gross agriculture income in the ERC Scenarios. (% Δ from Baseline)



Source: German AGMEMOD Model (2006)

Table 9.7 : Germany: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.2%	0.1%	0.0%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%
Domestic use	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.3%	0.4%	0.4%
Soft wheat									
Production	0.2%	0.5%	0.4%	0.7%	0.7%	0.7%	0.5%	0.4%	0.3%
Domestic use	-0.6%	-0.1%	-0.4%	-0.4%	-0.2%	-0.1%	0.0%	0.1%	0.2%
Producer price	3.4%	1.7%	3.5%	4.5%	4.6%	4.2%	3.9%	3.5%	3.1%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	8.7%	1.2%	6.5%	7.6%	6.3%	5.0%	3.7%	3.4%	3.1%
Barley									
Production	0.2%	-0.4%	0.0%	-0.1%	0.0%	0.1%	0.3%	0.4%	0.5%
Domestic use	0.3%	0.2%	0.4%	0.6%	0.7%	0.7%	0.7%	0.7%	0.7%
Producer price	2.2%	2.0%	3.0%	4.0%	4.5%	4.5%	4.2%	3.8%	3.4%
Maize									
Production	0.2%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%
Domestic use	0.1%	-0.2%	0.0%	0.0%	0.1%	0.2%	0.3%	0.3%	0.4%
Producer price	2.3%	1.9%	3.0%	4.0%	4.4%	4.2%	3.8%	3.5%	3.1%
Rye									
Production	0.2%	-0.5%	0.0%	-0.1%	0.0%	0.0%	0.3%	0.5%	0.5%
Domestic use	1.4%	0.3%	1.1%	1.3%	1.2%	1.0%	0.9%	0.8%	0.7%
Producer price	2.2%	2.0%	3.0%	4.0%	4.5%	4.5%	4.2%	3.8%	3.4%
Other grains									
Production	0.2%	0.1%	0.2%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%
Domestic use	0.9%	0.1%	0.6%	0.7%	0.6%	0.5%	0.4%	0.4%	0.3%
Producer price	2.3%	2.1%	3.1%	4.2%	4.7%	4.7%	4.4%	4.0%	3.6%
Total oilseeds									
Production	0.0%	0.0%	0.7%	0.8%	1.1%	1.3%	1.6%	1.5%	1.4%
Domestic use	0.6%	0.3%	0.5%	0.7%	0.7%	0.7%	0.7%	0.6%	0.6%
Rapeseed									
Production	0.0%	0.0%	0.7%	0.7%	1.1%	1.3%	1.5%	1.5%	1.4%
Domestic use	0.6%	0.3%	0.6%	0.8%	0.8%	0.7%	0.7%	0.6%	0.5%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Sunflower									
Production	0.0%	0.4%	1.0%	1.0%	1.5%	1.7%	1.9%	1.9%	1.7%
Domestic use	-1.4%	-1.2%	-1.7%	-2.1%	-2.1%	-1.8%	-1.4%	-1.0%	-0.7%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Soybeans									
Production	0.0%	0.0%	0.9%	1.0%	1.4%	1.7%	2.0%	1.9%	1.7%
Domestic use	0.8%	0.4%	0.7%	0.9%	0.9%	0.9%	0.9%	0.8%	0.8%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Beef and veal									
Production	-0.1%	0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	-0.1%	0.1%	0.0%	0.1%	0.2%	0.2%	0.2%	0.1%	0.1%
Producer price	4.2%	2.1%	3.8%	4.8%	4.7%	4.1%	3.7%	3.3%	2.9%
Pig meat									
Production	0.0%	0.5%	0.7%	1.2%	1.6%	2.0%	2.1%	2.2%	2.1%
Domestic use	-0.7%	-0.2%	-0.7%	-0.9%	-0.8%	-0.7%	-0.6%	-0.5%	-0.4%
Producer price	8.5%	4.1%	8.4%	11.0%	10.8%	9.4%	8.4%	7.3%	6.4%
Poultry meat									
Production	-0.3%	-0.1%	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%
Domestic use	0.0%	-0.2%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Producer price	0.8%	1.4%	1.3%	2.0%	2.3%	2.2%	2.0%	1.8%	1.6%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	1.4%	0.7%	1.4%	1.8%	1.7%	1.5%	1.3%	1.2%	1.0%
Producer price	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.1%	0.8%	1.4%	1.9%	2.2%	2.3%	2.3%	2.2%	2.1%
Butter									
Production	0.2%	-0.7%	-0.9%	-1.5%	-2.2%	-2.8%	-3.2%	-3.5%	-3.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.7%	0.8%	1.6%	2.1%	2.1%	1.9%	1.7%	1.6%	1.4%
SMP									
Production	0.1%	-1.1%	-1.4%	-2.6%	-3.8%	-5.1%	-6.2%	-7.1%	-7.9%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.8%	1.0%	1.9%	2.5%	2.6%	2.5%	2.3%	2.1%	1.9%
WMP									
Production	-0.8%	-3.1%	-4.0%	-4.8%	-6.2%	-6.5%	-6.2%	-5.7%	-5.1%
Domestic use	7.4%	10.0%	11.0%	16.8%	18.6%	17.9%	16.2%	14.5%	12.7%
Whole sale price	-3.4%	-5.8%	-5.6%	-8.6%	-9.5%	-9.2%	-8.4%	-7.5%	-6.7%
Cheese									
Production	0.1%	0.6%	0.8%	1.2%	1.5%	1.8%	1.9%	1.9%	1.9%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-0.1%	0.7%	0.9%	1.4%	2.1%	2.6%	2.9%	3.1%	3.1%

Source: German AGMEMOD Model (2006)

Table 9.8 : Germany: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.2%	-0.4%	0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.5%
Domestic use	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%
Soft wheat									
Production	-0.2%	-0.8%	-0.9%	-0.7%	-0.4%	-0.4%	-0.5%	-0.6%	-0.6%
Domestic use	0.7%	0.8%	0.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Producer price	-3.8%	-5.4%	-4.0%	-3.3%	-3.4%	-3.9%	-4.3%	-4.7%	-5.2%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-9.5%	-10.2%	-4.0%	-2.2%	-3.0%	-4.9%	-5.9%	-6.2%	-6.5%
Barley									
Production	-0.2%	0.3%	0.6%	0.1%	-0.4%	-0.5%	-0.4%	-0.3%	-0.3%
Domestic use	-0.4%	-0.5%	-0.5%	-0.6%	-0.7%	-0.7%	-0.8%	-0.8%	-0.9%
Producer price	-2.4%	-4.4%	-4.4%	-3.8%	-3.6%	-3.8%	-4.2%	-4.7%	-5.2%
Maize									
Production	-0.2%	-0.3%	-0.3%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%
Domestic use	-0.1%	0.2%	0.2%	-0.1%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Producer price	-2.5%	-4.6%	-4.2%	-3.5%	-3.3%	-3.6%	-4.0%	-4.4%	-4.8%
Rye									
Production	-0.2%	0.4%	0.7%	0.2%	-0.4%	-0.6%	-0.4%	-0.3%	-0.3%
Domestic use	-1.5%	-1.7%	-0.8%	-0.6%	-0.9%	-1.1%	-1.2%	-1.2%	-1.3%
Producer price	-2.4%	-4.4%	-4.4%	-3.8%	-3.6%	-3.8%	-4.2%	-4.7%	-5.2%
Other grains									
Production	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%
Domestic use	-1.0%	-1.0%	-0.4%	-0.2%	-0.4%	-0.6%	-0.6%	-0.6%	-0.6%
Producer price	-2.5%	-4.6%	-4.5%	-3.9%	-3.7%	-3.9%	-4.4%	-4.9%	-5.4%
Total oilseeds									
Production	0.0%	0.0%	-0.8%	-1.5%	-1.7%	-1.5%	-1.2%	-1.2%	-1.3%
Domestic use	-0.7%	-0.9%	-0.6%	-0.5%	-0.5%	-0.6%	-0.7%	-0.8%	-1.0%
Rapeseed									
Production	0.0%	0.0%	-0.8%	-1.5%	-1.7%	-1.5%	-1.2%	-1.2%	-1.3%
Domestic use	-0.6%	-1.0%	-0.7%	-0.6%	-0.6%	-0.6%	-0.7%	-0.8%	-0.9%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Sunflower									
Production	0.0%	-0.5%	-1.2%	-1.9%	-2.0%	-1.8%	-1.5%	-1.5%	-1.6%
Domestic use	1.5%	2.8%	2.5%	1.9%	1.6%	1.6%	1.4%	1.3%	1.0%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Soybeans									
Production	0.0%	0.0%	-1.0%	-2.0%	-2.2%	-1.9%	-1.6%	-1.5%	-1.7%
Domestic use	-0.9%	-1.2%	-0.9%	-0.7%	-0.7%	-0.8%	-0.9%	-1.1%	-1.3%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Beef and veal									
Production	0.1%	0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%
Domestic use	0.0%	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%
Producer price	-4.6%	-6.4%	-4.5%	-3.4%	-3.3%	-3.7%	-4.1%	-4.5%	-5.0%
Pig meat									
Production	0.0%	-0.5%	-1.3%	-1.8%	-2.0%	-2.0%	-2.1%	-2.2%	-2.3%
Domestic use	0.8%	1.1%	0.7%	0.6%	0.6%	0.7%	0.8%	0.9%	1.0%
Producer price	-9.3%	-12.9%	-9.6%	-7.6%	-7.4%	-8.2%	-9.3%	-10.4%	-11.4%
Poultry meat									
Production	0.4%	0.4%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	0.0%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Producer price	-1.1%	-2.6%	-2.7%	-2.0%	-1.7%	-1.9%	-2.1%	-2.3%	-2.6%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	-1.6%	-2.3%	-1.7%	-1.3%	-1.3%	-1.4%	-1.6%	-1.8%	-2.0%
Producer price	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.2%	-2.1%	-2.0%	-1.9%	-2.0%	-2.2%	-2.4%	-2.7%	-2.9%
Butter									
Production	-0.2%	0.6%	1.8%	2.5%	2.8%	2.9%	3.2%	3.5%	3.9%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.8%	-2.7%	-1.9%	-1.5%	-1.5%	-1.7%	-1.9%	-2.1%	-2.4%
SMP									
Production	0.0%	1.2%	3.1%	4.2%	4.9%	5.5%	6.3%	7.5%	9.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.2%	-3.2%	-2.6%	-2.2%	-2.3%	-2.5%	-2.7%	-2.9%	-3.1%
WMP									
Production	1.0%	4.6%	7.6%	7.2%	5.6%	5.3%	5.6%	6.2%	6.8%
Domestic use	-9.0%	-17.4%	-17.7%	-13.9%	-12.6%	-13.3%	-14.7%	-16.0%	-17.4%
Whole sale price	4.9%	11.4%	12.4%	9.1%	7.9%	8.3%	9.3%	10.4%	11.5%
Cheese									
Production	-0.2%	-0.8%	-1.6%	-1.8%	-1.8%	-1.8%	-1.9%	-2.1%	-2.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.2%	-0.6%	-1.8%	-2.3%	-2.5%	-2.6%	-2.8%	-3.1%	-3.4%

Source: German AGMEMOD Model (2006)

Table 9.9 : Germany: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.3%	-0.5%	0.2%	-0.5%	-0.5%	-0.6%	-0.6%	-0.6%	-0.7%
Domestic use	0.0%	0.0%	-0.1%	-0.3%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%
Soft wheat									
Production	-0.4%	-1.1%	-1.3%	-1.0%	-0.6%	-0.6%	-0.7%	-0.8%	-0.8%
Domestic use	1.0%	1.0%	0.5%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%
Producer price	-5.5%	-7.1%	-5.8%	-5.1%	-5.3%	-5.8%	-6.2%	-6.7%	-7.2%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-13.8%	-12.9%	-6.3%	-4.3%	-4.9%	-7.0%	-8.0%	-8.3%	-8.6%
Barley									
Production	-0.3%	0.5%	0.7%	0.2%	-0.5%	-0.7%	-0.6%	-0.5%	-0.5%
Domestic use	-0.5%	-0.7%	-0.7%	-0.8%	-1.0%	-1.1%	-1.2%	-1.2%	-1.3%
Producer price	-3.5%	-6.0%	-6.1%	-5.7%	-5.5%	-5.8%	-6.2%	-6.7%	-7.3%
Maize									
Production	-0.4%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%
Domestic use	-0.1%	0.3%	0.3%	-0.1%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%
Producer price	-3.7%	-6.1%	-5.9%	-5.3%	-5.2%	-5.5%	-5.9%	-6.2%	-6.7%
Rye									
Production	-0.3%	0.6%	0.8%	0.3%	-0.5%	-0.7%	-0.6%	-0.5%	-0.5%
Domestic use	-2.2%	-2.1%	-1.2%	-1.1%	-1.4%	-1.6%	-1.7%	-1.7%	-1.8%
Producer price	-3.5%	-6.0%	-6.1%	-5.7%	-5.5%	-5.8%	-6.2%	-6.7%	-7.3%
Other grains									
Production	-0.3%	-0.4%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%
Domestic use	-1.4%	-1.3%	-0.6%	-0.5%	-0.7%	-0.8%	-0.8%	-0.8%	-0.8%
Producer price	-3.6%	-6.2%	-6.4%	-5.9%	-5.7%	-6.0%	-6.5%	-7.0%	-7.6%
Total oilseeds									
Production	0.0%	0.0%	-1.1%	-2.1%	-2.4%	-2.1%	-1.9%	-1.9%	-2.0%
Domestic use	-0.9%	-1.1%	-0.9%	-0.8%	-0.8%	-0.9%	-1.1%	-1.2%	-1.3%
Rapeseed									
Production	0.0%	0.0%	-1.1%	-2.1%	-2.4%	-2.1%	-1.9%	-1.9%	-2.0%
Domestic use	-0.9%	-1.3%	-1.0%	-0.9%	-0.9%	-1.0%	-1.1%	-1.2%	-1.2%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Sunflower									
Production	0.0%	-0.8%	-1.8%	-2.6%	-2.9%	-2.6%	-2.3%	-2.3%	-2.4%
Domestic use	2.2%	3.8%	3.5%	2.8%	2.5%	2.4%	2.1%	1.8%	1.4%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Soybeans									
Production	0.0%	0.0%	-1.4%	-2.7%	-3.0%	-2.7%	-2.4%	-2.4%	-2.5%
Domestic use	-1.3%	-1.5%	-1.2%	-1.1%	-1.0%	-1.2%	-1.4%	-1.5%	-1.8%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Beef and veal									
Production	0.2%	0.1%	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
Producer price	-6.7%	-8.5%	-6.5%	-5.4%	-5.2%	-5.5%	-5.9%	-6.4%	-6.9%
Pig meat									
Production	0.1%	-0.7%	-1.7%	-2.5%	-2.9%	-3.1%	-3.1%	-3.3%	-3.4%
Domestic use	1.3%	1.5%	1.1%	1.0%	1.0%	1.1%	1.2%	1.3%	1.4%
Producer price	-13.5%	-17.0%	-13.9%	-12.0%	-11.7%	-12.4%	-13.5%	-14.5%	-15.5%
Poultry meat									
Production	0.6%	0.6%	0.4%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%
Domestic use	0.0%	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Producer price	-1.6%	-3.6%	-3.7%	-3.0%	-2.8%	-2.9%	-3.2%	-3.4%	-3.7%
Sheep meat									
Production	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	-2.4%	-3.1%	-2.5%	-2.1%	-2.1%	-2.2%	-2.4%	-2.6%	-2.8%
Producer price	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.8%	-2.8%	-2.8%	-2.9%	-3.1%	-3.3%	-3.6%	-3.9%	-4.1%
Butter									
Production	-0.3%	0.9%	2.5%	3.5%	4.0%	4.4%	4.8%	5.3%	5.8%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.6%	-3.5%	-2.7%	-2.3%	-2.3%	-2.6%	-2.8%	-3.0%	-3.2%
SMP									
Production	0.1%	1.8%	4.2%	5.9%	7.1%	8.3%	9.6%	11.2%	13.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-3.3%	-4.4%	-3.8%	-3.5%	-3.6%	-3.8%	-4.0%	-4.2%	-4.5%
WMP									
Production	1.5%	6.7%	10.7%	10.3%	8.7%	8.3%	8.6%	9.2%	9.8%
Domestic use	-13.6%	-23.4%	-23.9%	-20.5%	-19.2%	-20.0%	-21.3%	-22.5%	-23.8%
Whole sale price	7.6%	16.3%	17.5%	14.2%	12.8%	13.3%	14.4%	15.5%	16.6%
Cheese									
Production	-0.3%	-1.2%	-2.2%	-2.5%	-2.7%	-2.8%	-2.9%	-3.1%	-3.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.3%	-0.9%	-2.4%	-3.2%	-3.6%	-3.9%	-4.2%	-4.6%	-5.0%

Source: German AGMEMOD Model (2006)

10 Greece

Elias Mantzouneas, University of Athens, Department of Economics, Athens

10.1 Baseline

The Greek economy has experienced significant economic growth in recent years. This pattern is expected to continue in the medium term. Table 11.1Table 10.1 shows the specific assumptions for Greece on the macroeconomic variables that underlie the Greek AGMEMOD model's Baseline and scenario projections up to 2015.

Table 10.1 : Assumptions on macroeconomic variables for Greece

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	10.7	11.0	11.0	11.1	11.1	11.2	11.2	11.2	11.2	11.3	11.3	11.3
GDP	bil. Euro97	120	133	138	158	175	172	172	179	188	198	209	220
GDP per capita	Euro97/cap	11184	12059	12505	14277	15707	15376	15406	15952	16758	17604	18495	19433
Inflation	1997=1	1.09	1.32	1.34	1.37	1.40	1.43	1.46	1.48	1.51	1.54	1.58	1.61

Source: Source: NSSG and MNEC

Due to the Luxembourg Agreement implementation of 2003, the vast majority of premiums have been fully decoupled in Greece with effect from 2006, which is the year that the SFP scheme was introduced in the country. Greece decided to fully decouple all once supported commodities, excluding cotton, payments related to which are partially coupled (35%). It should also be noted that cotton (together with tobacco and olive oil) is of great importance for the whole agricultural sector in Greece. Nevertheless, the decoupled payments might be expected to retain some supply--inducing impacts on agriculture. AGMEMOD assumes that these supply impacts will depend on the distribution effects of payments to other sectors, compared with the entitled hectares and animals in the reference years (in Greece, some 8% of the CAP payments will disappear to land that was not subsidised in the reference years), on (compulsory) modulation effects (which will reach 14% of subsidies in 2015) and on shift rate effects (it is assumed that in the period 2005-2015 only 2% of arable farmers and 5% of livestock farmers will leave the Greek agricultural sector). Table 10.2 shows the derived multipliers that reflect these supply-inducing effects in the various Greek agricultural sectors. These multipliers are used to simulate the effect of the SFP by reducing the amounts of direct payments (as used under the old scheme) to 'synthetic' premium levels. The multipliers are relatively high compared to the multipliers in other EU-15, owing to the assumption of a much lower rate of exit from the agricultural sector in Greece.

Table 10.2 : Supply-inducing multipliers of Greek agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	1.00	0.87	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.78
Durum Wheat (Traditional Zone)	index	1.00	1.00	0.87	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.78
Oilseeds	index	1.00	1.00	0.87	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.78
Set Aside	index	1.00	1.00	0.87	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.78
Suckler Cows	index	1.00	1.00	0.85	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76
Milk	index	1.00	1.00	0.55	0.54	0.53	0.53	0.52	0.51	0.51	0.50	0.50	0.49
Maize	index	1.00	1.00	0.87	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.78
Ewes	index	1.00	1.00	0.85	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76
Sheep	index	1.00	1.00	0.85	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76
Bulls	index	1.00	1.00	0.85	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76

Source: Own calculations

Grains and oilseed sectors

Table 10.3 summarises the Baseline projections for the main agricultural commodities in Greece. The decoupling of direct payments from production under the Baseline is projected to lead to lower receipts from grain production. On the other hand, the producer prices of grains are, under the Baseline, projected to increase due to rising EU and world market prices. As a result of differences in the projected development of prices within the grains group, more durum wheat is projected to be harvested, with the area in 2015 22.5% up on 2005, while the areas harvested in soft wheat are projected to decline by 34.3 %, barley by 24.5% and maize by 11% in 2015 when compared with 2005. The increase in the total grains harvested area in Greece under the Baseline is projected to be approximately 5%. Productivity per hectare is projected to grow for the majority of grains due to higher prices, while the effect of policy changes on grain yields is not really notable, with the exception of durum wheat, where we observe an increase under the Baseline of 19%. The production impact of the projected developments in area harvested and yields per hectare harvested in Greece indicate that the 2003 CAP reform will lead to increased durum wheat output, which by 2015 is projected to be 46% higher than in 2005, while production of maize, soft wheat and barley are all projected to decrease significantly.

Under the Baseline, total domestic use of grains in Greece is projected to increase by 4.2% between 2005 and 2015, despite the rising grain prices. Maize feed use (maize is the most important feedstuff) is projected to decrease over the Baseline projection period, while in other grains there is a positive trend. Over the Baseline projection period, food uses of all grain commodities is projected to grow due to increasing per capita incomes, these being sufficient to offset the negative effects of increasing prices over the projection period. Soft wheat stocks are projected to decline significantly, while other grain stocks increase significantly up to 2015.

With the implementation of the reforms under the Luxembourg Agreement, oilseed area harvested is projected to decline, with the 2015 level 28% lower than in 2005. It should also be noted that oilseed production in Greece is insignificant in terms of overall Greek land use.

Livestock and dairy sectors

In terms of size, the Greek cattle herd is projected to decrease only marginally due to the CAP reform, finishing approximately 4% down in 2015 compared to the levels in 2005. Despite the projected decline in numbers, slaughtering is projected to increase by 6.8% over the projection period. As a consequence of this projected development and a projected minor decline in average slaughtering weights, beef and veal production is projected to increase by 6.5%. The negative impact of the slightly higher producer prices on beef consumption will be more than offset by the positive impact of GDP growth, so that overall domestic use of beef and veal in Greece is projected to increase over the Baseline period.

The 2003 CAP reform will not have any direct impact on pig or poultry producers, but will affect them through the markets for meat and supplies of grains and other feed ingredients. Pork production in Greece is projected to decline by 8.7% over the period 2005-2015. With declining prices, domestic use of pork in Greece is projected to increase, fuelled by an increase in net imports of pig meat. Despite lower prices, Greek poultry consumption is projected to decrease by approximately 6% percent over the projection period, while production is expected to increase slightly. The impact of the 2003 CAP reform is more significant in the sheep sector, where sheep meat production is projected to decline significantly (-12.6%), despite the projected increase in lamb prices over the Baseline

projection period. Over the same period, Greek domestic consumption of sheep meat is projected to remain constant, with the impact of increased per capita income offsetting the negative impact of increasing lamb prices.

The cuts in the butter intervention prices in the Baseline scenario are reflected in market prices. This would tend to reduce the use of milk for butter production. Results for the Greek butter balance sheet show that butter stocks in 2015 will shrink to around 30% of the amount in 2005. Raw milk prices would decrease by about 12% in the wake of the cut in the butter intervention price. Finally, results show a significant rise in the consumption of butter, while the effect on consumption of cheese is expected to be the opposite.

Table 10.3 : Baseline results concerning main agricultural commodities of Greece

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	3833	4251	4237	4303	4321	4441	4412	4474	4508	4567	4601	4661
Domestic use	1,000 ton	4454	4088	4112	4123	4129	4152	4174	4196	4213	4229	4243	4259
Soft wheat													
Production	1,000 ton	494	426	411	400	387	372	355	339	322	305	288	271
Domestic use	1,000 ton	1257	1431	1464	1491	1513	1533	1554	1573	1592	1610	1627	1643
Producer price	euro/ton	145	140	139	140	140	141	141	141	141	142	142	143
Durum wheat													
Production	1,000 ton	1332	1676	1720	1803	1869	1953	2030	2114	2196	2280	2361	2445
Domestic use	1,000 ton	854	850	865	892	918	934	949	963	975	992	1005	1017
Producer price	euro/ton	196	196	198	202	206	209	211	213	216	219	222	225
Barley													
Production	1,000 ton	282	285	248	251	230	243	225	235	217	223	205	211
Domestic use	1,000 ton	487	764	770	776	778	789	799	811	818	827	833	840
Producer price	euro/ton	126	120	123	126	129	129	130	130	132	133	135	137
Maize													
Production	1,000 ton	1725	1864	1858	1850	1836	1819	1802	1786	1773	1760	1747	1733
Domestic use	1,000 ton	1856	1892	1878	1856	1838	1829	1822	1812	1802	1792	1784	1776
Producer price	euro/ton	140	116	116	119	123	123	122	122	122	123	123	124
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	39	34	31	29	28	28	28	27	26	25	25	24
Domestic use	1,000 ton	355	350	328	311	305	300	293	286	280	276	273	271
Rapeseed													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Sunflower													
Production	1,000 ton	39	34	31	28	27	27	27	26	25	25	24	24
Domestic use	1,000 ton	104	72	68	68	68	66	65	64	64	65	66	67
Producer price	euro/ton	237	227	234	270	289	274	265	265	268	269	270	271
Soybeans													
Production	1,000 ton	0.2	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4
Domestic use	1,000 ton	251	279	260	243	237	234	228	221	216	211	207	204
Producer price	euro/ton	216	199	192	220	240	228	221	224	227	230	232	233
Beef and veal													
Production	1,000 ton	83	106	108	110	111	111	112	112	112	113	113	113
Domestic use	1,000 ton	242	254	257	258	260	262	263	265	266	267	268	269
Producer price	euro/100 kg	323	322	319	323	327	326	325	323	323	324	326	329
Pig meat													
Production	1,000 ton	149	138	136	134	133	133	132	130	129	128	127	126
Domestic use	1,000 ton	239	248	250	251	252	253	254	255	256	257	258	258
Producer price	euro/100 kg	173	155	143	141	149	154	159	156	151	154	158	163
Poultry meat													
Production	1,000 ton	176	175	174	174	173	172	171	171	170	170	169	169
Domestic use	1,000 ton	194	196	196	196	195	194	193	193	192	192	191	190
Producer price	euro/100 kg	131	125	123	120	119	118	117	114	112	111	109	108
Sheep meat													
Production	1,000 ton	130	119	118	116	114	113	111	110	109	107	106	104
Domestic use	1,000 ton	152	152	152	151	152	152	152	152	152	152	152	153
Producer price	euro/100 kg	137	142	143	144	145	146	147	148	149	150	151	152
Fluid milk													
Production	1,000 ton	675	700	700	700	700	700	700	700	700	700	700	700
Domestic use	1,000 ton	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001
Whole sale price	euro/100 kg	35	30	28	27	27	27	26	26	26	26	26	26
Butter													
Production	1,000 ton	4	6	6	7	7	7	8	8	8	9	9	9
Domestic use	1,000 ton	13	16	17	17	18	18	18	19	19	20	20	20
Whole sale price	euro/100kg	489	367	327	316	321	316	313	313	314	314	315	315
SMP													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	6	6	6	6	6	6	6	6	5	5	5	5
Whole sale price	euro/100kg	204	177	160	182	198	190	185	186	189	192	195	198
WMP													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	15	22	23	23	23	24	24	25	25	25	25	25
Whole sale price	euro/100kg	200	184	167	190	211	201	194	197	202	206	211	215
Cheese													
Production	1,000 ton	227	197	192	186	182	180	177	175	172	170	168	167
Domestic use	1,000 ton	262	256	254	252	250	249	249	248	247	246	246	245
Whole sale price	euro/100kg	438	424	426	411	401	400	396	390	386	383	381	380

Source: Greek AGMEMOD Model (2006)

Agricultural income

It should be noted that the current Greek AGMEMOD model takes into account a limited part

of the Greek agricultural sector value added, given that some key commodities for Greece such as olive oil, cotton, tobacco, fruit and vegetables are not included in the model Baseline run or in the consequent gross income calculation. Although it covers only a restricted set of agricultural commodities in Greece and covers feedstuffs as the sole input variable, it is possible to approximate the development of gross agricultural sector income. This is based on the development of agricultural output value, subsidies (direct payments and SFP) made to the Greek producers of the commodities under consideration, and feed costs respectively.

Table 10.4 : Agricultural output, subsidies, feed cost and gross income in Greece[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.00	0.99	1.00	1.02	1.03	1.04	1.04	1.04	1.05	1.07	1.08
Subsidies/SFP	2000=1	1.00	1.01	0.91	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.81
Feeding costs	2000=1	1.00	0.92	0.91	0.93	0.96	0.95	0.95	0.95	0.95	0.95	0.96	0.96
Gross agric. income	2000=1	1.00	1.02	0.98	0.97	0.98	0.99	0.99	0.99	0.99	0.99	1.00	1.01

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Greek AGMEMOD Model (2006)

The value of agricultural output (in nominal prices) is projected to increase (by approximately 9%) after the introduction of decoupled CAP payments (i.e. in the 2006-2015 period) (Table 10.4). The conclusion is therefore that the effect of the new payment regime on agricultural output value will not be very significant. The share of subsidies/SFP in the agricultural output value under consideration will decrease from 31% in 2000 to 25% in 2015. From 2006 to 2015, the Baseline shows a 5% increase in feed costs. Hence, gross agricultural income in Greece is projected to decrease – ceteris paribus - by almost 3% in the review period.

10.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differentiated implementation of these payments across EU MS. SPS payments in the EU15 MS were, above certain amounts, also subject to modulation. The 'Further CAP reform' scenario, described in Report III AGMEMOD - Model description, involves effectively standardising the MS' currently nationally differentiated CAP implementation plans by imposing full decoupling from 2007, while the rates of compulsory modulation associated with the current SPS are increased to 10% from 2007 onwards.

Greece chose in 2006 to decouple almost all direct payments previously made to Greek farmers from production and to introduce an SPS based on historical entitlements. The further CAP reform scenario analysed, involving the "full" decoupling of all CAP direct payments and increased rates of modulation, would not, *a priori*, be expected to have any major impact on the supply and use of agricultural commodities in Greece.

Main Results

Table 10.5 and Table 10.6 compare the Greek AGMEMOD model's projections under the FCR scenario with the Baseline projections. The remainder of this section comments briefly on these results.

Grains and oilseed sectors

The impact of the FCR scenario on Greek grain markets when compared to the Baseline projections is, as expected, quite modest. One important reason is that the AGMEMOD crop

commodities in this study were already fully decoupled in the Baseline, and hence the main effect of decoupling direct payments was already projected in Section 10.1. Under the FCR scenario, EU grain prices are projected to show a slight increase due to the full decoupling of arable aid direct payments in all MS. The result is that the impact on Greek grain prices is negligible compared to Baseline levels.

Livestock and dairy sectors

The impact of the FCR scenario on Greek livestock markets compared to the Baseline projections is also relatively insignificant. The reason is that there are no differences in the decoupling rates for the animals considered in the Greek model. Introducing full decoupling in other EU MS might lead to reduced indigenous EU supply of meats and somewhat higher EU prices for meats. Compared to the Baseline, the effect on beef production can be ignored. Furthermore, the prices for Greek livestock farmers in the FCR scenario are broadly the same as under the Baseline. The influence of the FCR scenario on other animal sectors is also insignificant.

The reform of the dairy commodity market organisation under the Baseline is basically unaffected by the reforms examined under the further CAP reform (FCR) scenario. The increased rate of modulation of SFP is not projected to lead to any contraction in the total volume of milk produced in Greece. Changes in the rate of modulation are not expected to change the relative prices of different dairy commodities, and as a consequence changes in the supply and use balance in dairy commodity markets in Greece and Greek farm gate milk price are, under the FCR scenario, zero.

Table 10.5 : Greece: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%
Domestic use	-0.03%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
Soft wheat									
Production	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.3%	-0.4%	-0.5%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.1%
Domestic use	0.2%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%
Producer price	0.0%	0.2%	0.2%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
Barley									
Production	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.4%	-0.6%	-0.8%	-0.9%
Domestic use	0.0%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Domestic use	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Producer price	0.1%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.5%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	-0.5%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	-0.5%	-0.6%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.1%	-0.4%	-0.6%	-0.9%	-1.1%	-1.2%	-1.4%	-1.5%	-1.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Greek AGMEMOD Model (2006)

Agricultural income

Compared to the Baseline, Greek agricultural incomes show a 2% decline due to the significant decrease in Subsidies/SFP under the FCR scenario (Table 10.6).

Table 10.6 : Greece: Agricultural output and income under the FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Subsidies/SFP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Feeding costs	0.0%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%
Gross agric. income	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%

Source: Greek AGMEMOD Model (2006)

10.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is US$ 1.24 per euro from 2007 onwards. In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro, with the exchange rate moving to rates of 1.3 and 1.4 US dollar per euro in 2007. The third is for the euro to depreciate against the dollar to a parity exchange rate of US$ 1 per euro.

Greece is not a key price country in the current AGMEMOD model structure. Thus, the alternative exchange rate paths examined in this scenario operate through the impact of the different exchange rates on the key commodity price projections generated by the AGMEMOD model.

For a number of commodities, such as oilseeds and their associated meals and oils, the AGMEMOD model does not endogenously model their prices. Supply-inducing prices for European farmers are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products any change in the exchange rate will have a direct impact on national currency prices and on the associated supplies of and demand for the commodity in question. Given that Greece is not a significant producer of oilseeds or oilseed products, the impact of changes in the euro / US dollar exchange rate will operate on the demand in Greece for these products.

Main Results

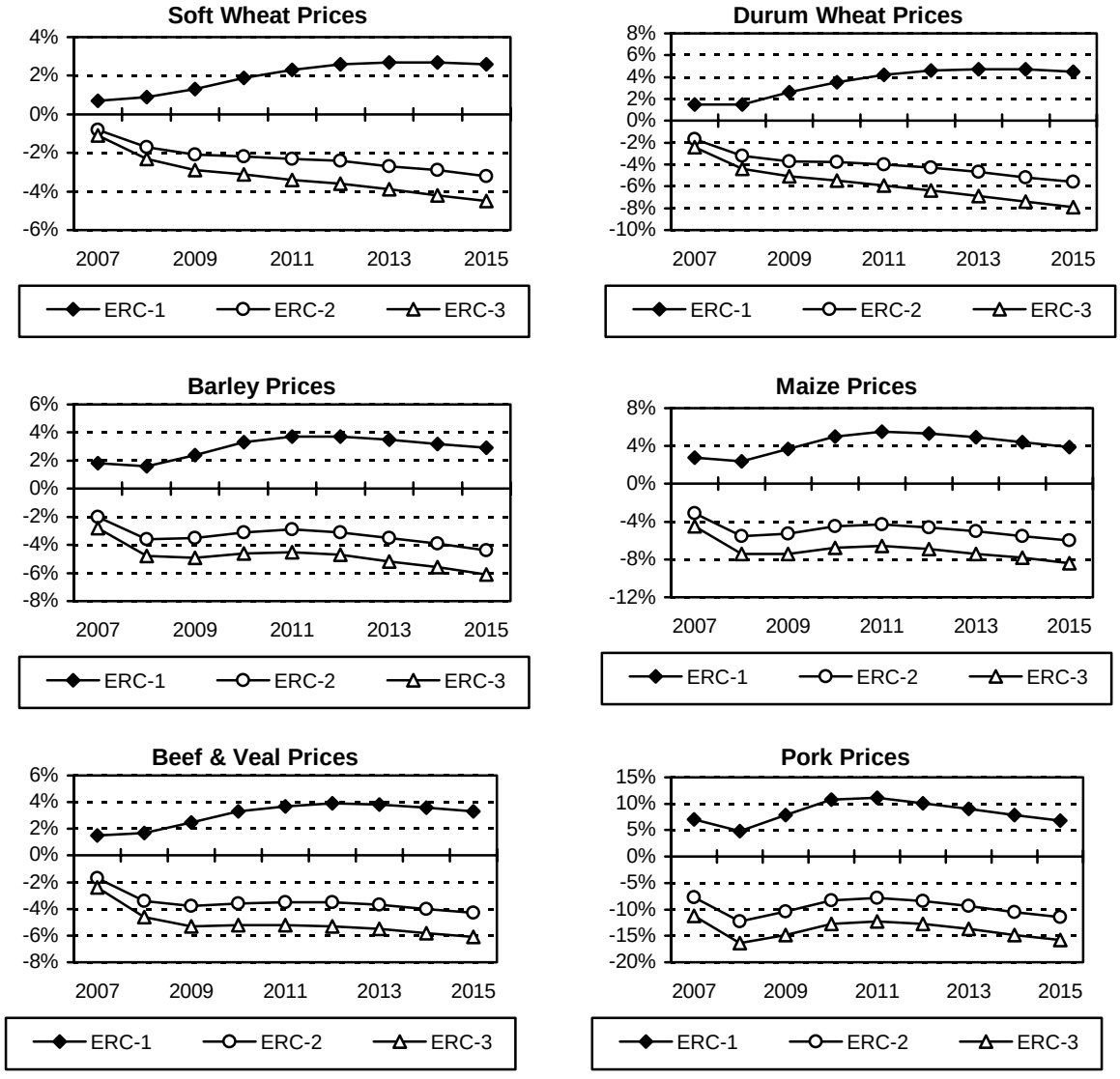
This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for Greece. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1 US$), ERC-2 (€ = 1.3 US$) and ERC-3 (€ = 1.4 US$). Table 10.7 to Table 10.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

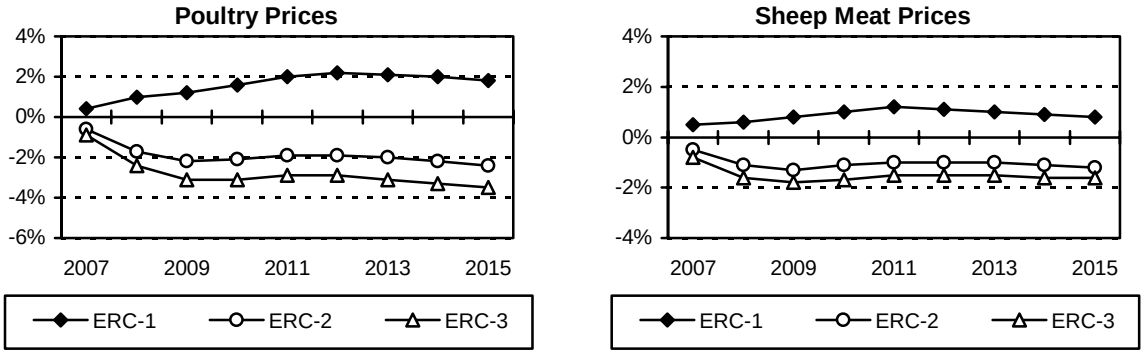
The impact of the three ERC scenarios when compared with one another and with the Baseline projections indicate that the AGMEMOD model performs as one would have expected. Key prices under the ECR-1 scenario, where the euro / US dollar exchange rate is 1.0 from 2007, are characterised by increases. When compared with Baseline price projections for Greece, prices under both the ERC-2 and ERC-3 scenarios decline as expected. The size of the increase in the key prices that are endogenously determined within the AGMEMOD modelling system are in general smaller than the percentage changes in prices that are determined exogenously to the AGMEMOD model. For these prices the

percentage change from Baseline levels is fully reflected in the euro prices for these commodities (oilseeds and oil seed meals and oils). The impact of the changed exchange rate on commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities.

Figure 10.1 charts the percentage change in ten Greek prices under each of the three ERC scenarios. The commodity prices chosen for Greece are soft wheat, durum wheat, barley, maize, beef and veal, pork, poultry and sheep meat. These prices are endogenously determined in the AGMEMOD model.

Figure 10.1 : Greek Commodity Prices: ERC Scenarios (% Δ from Baseline)





Source: Greek AGMEMOD Model (2006)

When the projections for Greek commodity markets under the ECR-1 scenario are compared with those under the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production in many of the agricultural commodities analysed, with the exception of oilseeds, where the increases are significant due to the low level of production in the country, and somewhat reduced domestic use.

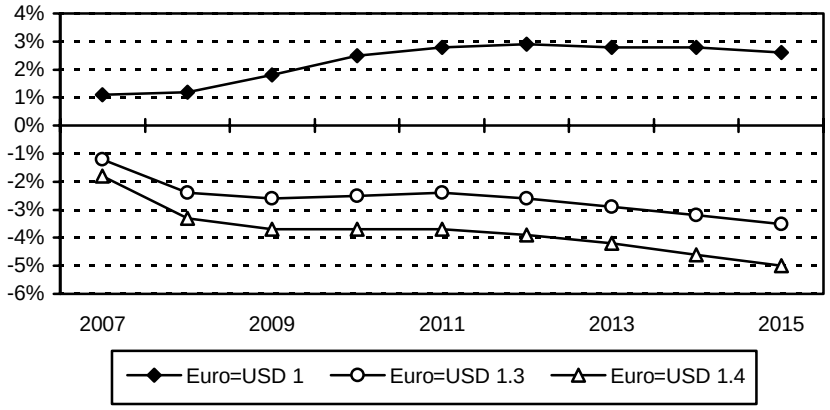
The two exchange rate change scenarios labelled ECR-2 and ECR-3 involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under the ECR-2 the euro / US dollar exchange rate is 1.3, while under ECR-3 it is assumed to be 1.4 from 2007. As expected, the projections for Greece under both scenarios when compared with the Baseline are characterised by similar changes in prices, quantities supplied and demand. As in the ECR-1 scenario the exchange rate changes are most fully reflected in the prices of commodities exogenous to the AGMEMOD model system. For the majority of agricultural commodities in the AGMEMOD system, prices are determined endogenously, together with all of the elements of the supply and use balances. Under each of the exchange rate scenarios, market prices in Greece are projected to be lower than under the Baseline, with reductions in the volume of domestic production and small increases in domestic use. The magnitude of the impacts on prices and supply and use balances are, as expected, greater under ECR-3 than ECR-2.

Summaries of the three ERC scenario projections are set out in Table 10.7 to Table 10.9 .

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. The main effect on gross agricultural income (ceteris paribus) arises from the agricultural output value. Higher prices and production levels in the ERC-1 scenario would lead to increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 10.2).

Figure 10.2 : Greece: Gross agriculture income in ERC Scenarios. (% Δ from Baseline)



Source: Greek AGMEMOD Model (2006)

Table 10.7 : Greece: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.4%	0.4%
Domestic use	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.1%	0.2%	0.2%	0.3%
Soft wheat									
Production	0.2%	0.1%	0.1%	-0.1%	-0.5%	-1.1%	-1.8%	-2.7%	-3.5%
Domestic use	0.1%	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.7%	0.9%	1.3%	1.9%	2.3%	2.6%	2.7%	2.7%	2.6%
Durum wheat									
Production	0.0%	0.3%	0.2%	0.4%	0.6%	0.8%	0.7%	1.0%	0.9%
Domestic use	-0.5%	-0.7%	-1.4%	-2.0%	-2.6%	-3.2%	-3.6%	-3.9%	-4.0%
Producer price	1.5%	1.5%	2.6%	3.5%	4.2%	4.6%	4.7%	4.7%	4.5%
Barley									
Production	-0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	-0.1%	-0.5%	-1.1%
Domestic use	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.4%	-0.2%	0.0%	0.1%
Producer price	1.8%	1.6%	2.4%	3.3%	3.7%	3.7%	3.5%	3.2%	2.9%
Maize									
Production	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.1%	0.2%	0.3%
Domestic use	-0.1%	0.0%	0.1%	0.2%	0.3%	0.4%	0.6%	0.7%	0.8%
Producer price	2.8%	2.4%	3.7%	5.0%	5.5%	5.3%	4.9%	4.4%	3.9%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	2.2%	3.2%	4.7%	5.9%	7.0%	7.3%	6.9%	6.2%
Domestic use	1.0%	2.8%	3.4%	4.9%	6.2%	6.9%	7.0%	6.7%	6.2%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	2.2%	3.2%	4.7%	5.9%	7.0%	7.3%	6.9%	6.2%
Domestic use	4.4%	3.5%	5.2%	6.9%	7.5%	7.2%	6.6%	5.9%	5.2%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Soybeans									
Production	0.0%	2.1%	3.0%	4.4%	5.6%	6.7%	7.0%	6.7%	6.0%
Domestic use	0.0%	2.6%	2.9%	4.3%	5.9%	6.9%	7.2%	7.0%	6.6%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Beef and veal									
Production	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
Domestic use	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%
Producer price	1.5%	1.7%	2.5%	3.3%	3.7%	3.9%	3.8%	3.6%	3.3%
Pig meat									
Production	0.5%	0.2%	0.5%	0.7%	0.7%	0.6%	0.5%	0.5%	0.5%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	7.0%	4.8%	7.9%	10.8%	11.1%	10.1%	9.0%	7.9%	6.8%
Poultry meat									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.1%	0.2%	0.3%
Producer price	0.4%	1.0%	1.2%	1.6%	2.0%	2.2%	2.1%	2.0%	1.8%
Sheep meat									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%
Domestic use	0.3%	0.4%	0.5%	0.7%	0.8%	0.8%	0.8%	0.7%	0.7%
Producer price	0.5%	0.6%	0.8%	1.0%	1.2%	1.1%	1.0%	0.9%	0.8%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.1%	1.2%	2.1%	2.9%	3.5%	4.0%	4.2%	4.2%	4.1%
Butter									
Production	-0.2%	-0.4%	-0.6%	-0.9%	-1.1%	-1.2%	-1.3%	-1.3%	-1.3%
Domestic use	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%
Whole sale price	2.1%	0.9%	1.9%	2.4%	2.3%	1.9%	1.6%	1.4%	1.1%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	5.1%	2.5%	4.9%	6.3%	6.3%	5.6%	5.0%	4.4%	3.8%
Whole sale price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.9%	1.0%	1.1%	2.1%	3.4%	4.6%	5.6%	6.3%	6.8%
Whole sale price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Cheese									
Production	-0.1%	0.1%	0.2%	0.3%	0.5%	0.7%	0.8%	0.9%	0.9%
Domestic use	0.1%	0.1%	0.2%	0.3%	0.4%	0.4%	0.5%	0.5%	0.5%
Whole sale price	0.1%	1.5%	2.3%	3.4%	4.8%	6.0%	6.7%	7.1%	7.1%

Source: Greek AGMEMOD Model (2006)

Table 10.8 : Greece: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.3%
Domestic use	0.1%	0.2%	0.2%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%
Soft wheat									
Production	-0.3%	-0.4%	-0.1%	0.4%	1.1%	1.8%	2.4%	3.2%	4.0%
Domestic use	-0.1%	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	-0.8%	-1.7%	-2.1%	-2.2%	-2.3%	-2.4%	-2.7%	-2.9%	-3.2%
Durum wheat									
Production	0.0%	-0.3%	-0.5%	-0.5%	-0.6%	-0.9%	-0.9%	-1.0%	-1.0%
Domestic use	0.5%	1.1%	1.9%	2.7%	3.1%	3.5%	3.8%	4.0%	4.2%
Producer price	-1.7%	-3.2%	-3.7%	-3.8%	-4.0%	-4.3%	-4.7%	-5.2%	-5.6%
Barley									
Production	0.1%	0.1%	-0.2%	-0.4%	-0.3%	0.0%	0.5%	1.2%	1.8%
Domestic use	0.5%	1.0%	0.9%	0.5%	0.2%	0.1%	0.1%	0.2%	0.3%
Producer price	-2.0%	-3.6%	-3.5%	-3.1%	-2.9%	-3.1%	-3.5%	-3.9%	-4.4%
Maize									
Production	0.0%	0.1%	0.1%	0.1%	0.0%	-0.1%	-0.3%	-0.3%	-0.3%
Domestic use	0.1%	0.1%	-0.1%	-0.3%	-0.5%	-0.6%	-0.6%	-0.7%	-0.7%
Producer price	-3.1%	-5.5%	-5.3%	-4.5%	-4.3%	-4.6%	-5.0%	-5.5%	-6.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	-2.4%	-5.7%	-7.3%	-7.2%	-6.4%	-6.1%	-6.2%	-6.6%
Domestic use	-1.1%	-4.0%	-6.2%	-6.5%	-6.3%	-6.3%	-6.6%	-7.0%	-7.4%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	-2.4%	-5.7%	-7.3%	-7.2%	-6.4%	-6.1%	-6.2%	-6.6%
Domestic use	-4.8%	-8.2%	-7.4%	-6.2%	-5.7%	-6.0%	-6.6%	-7.3%	-8.0%
Producer price	-13.5%	-18.5%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Soybeans									
Production	0.0%	-2.3%	-5.4%	-7.0%	-6.9%	-6.2%	-5.9%	-6.0%	-6.4%
Domestic use	0.0%	-2.8%	-5.8%	-6.6%	-6.5%	-6.4%	-6.5%	-6.9%	-7.2%
Producer price	-13.5%	-18.5%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Beef and veal									
Production	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%
Domestic use	0.1%	0.2%	0.3%	0.3%	0.3%	0.2%	0.2%	0.3%	0.3%
Producer price	-1.7%	-3.4%	-3.8%	-3.6%	-3.5%	-3.5%	-3.7%	-4.0%	-4.3%
Pig meat									
Production	-0.5%	-0.8%	-0.6%	-0.5%	-0.5%	-0.6%	-0.7%	-0.7%	-0.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-7.7%	-12.3%	-10.4%	-8.3%	-7.8%	-8.4%	-9.4%	-10.5%	-11.5%
Poultry meat									
Production	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.2%	0.2%	0.1%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%
Producer price	-0.6%	-1.7%	-2.2%	-2.1%	-1.9%	-1.9%	-2.0%	-2.2%	-2.4%
Sheep meat									
Production	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%
Domestic use	-0.3%	-0.7%	-0.8%	-0.8%	-0.7%	-0.7%	-0.8%	-0.8%	-0.9%
Producer price	-0.5%	-1.1%	-1.3%	-1.1%	-1.0%	-1.0%	-1.0%	-1.1%	-1.2%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.1%	-2.5%	-3.1%	-3.4%	-3.6%	-3.8%	-4.1%	-4.5%	-4.9%
Butter									
Production	0.2%	0.6%	1.0%	1.2%	1.2%	1.3%	1.3%	1.4%	1.4%
Domestic use	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Whole sale price	-2.3%	-3.2%	-2.0%	-1.4%	-1.4%	-1.6%	-1.9%	-2.1%	-2.3%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-5.6%	-8.0%	-5.8%	-4.4%	-4.5%	-5.0%	-5.5%	-6.0%	-6.4%
Whole sale price	-13.5%	-18.5%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.0%	-0.1%	-2.6%	-4.0%	-4.7%	-5.2%	-5.8%	-6.4%	-7.1%
Whole sale price	-13.5%	-18.5%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Cheese									
Production	0.1%	0.0%	-0.3%	-0.6%	-0.7%	-0.7%	-0.8%	-0.9%	-0.9%
Domestic use	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%
Whole sale price	0.0%	-1.7%	-4.1%	-5.3%	-5.7%	-6.0%	-6.4%	-6.9%	-7.6%

Source: Greek AGMEMOD Model (2006)

Table 10.9 : Greece: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.2%	-0.2%	-0.3%	-0.3%	-0.5%	-0.5%	-0.5%	-0.5%
Domestic use	0.2%	0.3%	0.2%	0.0%	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%
Soft wheat									
Production	-0.4%	-0.5%	-0.2%	0.6%	1.5%	2.5%	3.5%	4.6%	5.9%
Domestic use	-0.1%	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Producer price	-1.1%	-2.3%	-2.9%	-3.1%	-3.4%	-3.6%	-3.9%	-4.2%	-4.5%
Durum wheat									
Production	0.0%	-0.5%	-0.7%	-0.8%	-0.9%	-1.2%	-1.3%	-1.4%	-1.5%
Domestic use	0.7%	1.5%	2.7%	3.7%	4.4%	5.0%	5.4%	5.8%	6.1%
Producer price	-2.4%	-4.4%	-5.1%	-5.5%	-5.9%	-6.4%	-6.9%	-7.4%	-7.9%
Barley									
Production	0.2%	0.1%	-0.2%	-0.5%	-0.5%	-0.1%	0.6%	1.5%	2.5%
Domestic use	0.7%	1.4%	1.2%	0.7%	0.4%	0.2%	0.2%	0.2%	0.3%
Producer price	-2.8%	-4.8%	-4.9%	-4.6%	-4.5%	-4.7%	-5.2%	-5.6%	-6.1%
Maize									
Production	0.0%	0.1%	0.2%	0.2%	0.0%	-0.2%	-0.3%	-0.4%	-0.4%
Domestic use	0.1%	0.2%	-0.1%	-0.4%	-0.6%	-0.8%	-0.9%	-1.0%	-1.1%
Producer price	-4.5%	-7.4%	-7.4%	-6.8%	-6.6%	-6.9%	-7.4%	-7.8%	-8.4%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	-3.5%	-7.8%	-10.1%	-10.2%	-9.6%	-9.2%	-9.3%	-9.7%
Domestic use	-1.5%	-5.6%	-8.4%	-9.2%	-9.3%	-9.5%	-9.8%	-10.2%	-10.7%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	-3.5%	-7.8%	-10.1%	-10.3%	-9.6%	-9.3%	-9.4%	-9.7%
Domestic use	-7.0%	-11.0%	-10.4%	-9.3%	-8.9%	-9.2%	-9.8%	-10.5%	-11.2%
Producer price	-19.7%	-24.4%	-20.0%	-17.4%	-17.4%	-18.6%	-19.8%	-20.9%	-22.0%
Soybeans									
Production	0.0%	-3.3%	-7.4%	-9.7%	-9.8%	-9.2%	-8.9%	-9.0%	-9.3%
Domestic use	0.0%	-4.1%	-7.9%	-9.2%	-9.4%	-9.5%	-9.8%	-10.2%	-10.5%
Producer price	-19.7%	-24.4%	-20.0%	-17.4%	-17.4%	-18.6%	-19.8%	-20.9%	-22.0%
Beef and veal									
Production	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%	0.4%	0.5%	0.5%
Domestic use	0.1%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Producer price	-2.4%	-4.6%	-5.3%	-5.2%	-5.2%	-5.3%	-5.5%	-5.8%	-6.1%
Pig meat									
Production	-0.8%	-1.0%	-0.8%	-0.7%	-0.8%	-0.9%	-1.0%	-1.0%	-1.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-11.2%	-16.4%	-14.8%	-12.8%	-12.3%	-12.8%	-13.7%	-14.8%	-15.8%
Poultry meat									
Production	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.2%	0.3%	0.2%	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%
Producer price	-0.9%	-2.4%	-3.1%	-3.1%	-2.9%	-2.9%	-3.1%	-3.3%	-3.5%
Sheep meat									
Production	0.1%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	-0.5%	-1.0%	-1.2%	-1.2%	-1.1%	-1.1%	-1.1%	-1.2%	-1.2%
Producer price	-0.8%	-1.6%	-1.8%	-1.7%	-1.5%	-1.5%	-1.5%	-1.6%	-1.6%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.6%	-3.3%	-4.3%	-4.8%	-5.3%	-5.7%	-6.1%	-6.6%	-7.1%
Butter									
Production	0.3%	0.9%	1.4%	1.7%	1.8%	1.9%	1.9%	2.0%	2.1%
Domestic use	0.2%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Whole sale price	-3.4%	-4.2%	-3.0%	-2.3%	-2.2%	-2.5%	-2.7%	-2.9%	-3.2%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-8.1%	-10.5%	-8.3%	-7.0%	-7.0%	-7.5%	-8.0%	-8.4%	-8.8%
Whole sale price	-19.7%	-24.4%	-20.0%	-17.4%	-17.4%	-18.6%	-19.8%	-20.9%	-22.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.4%	-0.4%	-3.5%	-5.5%	-6.6%	-7.5%	-8.5%	-9.4%	-10.4%
Whole sale price	-19.7%	-24.4%	-20.0%	-17.4%	-17.4%	-18.6%	-19.8%	-20.9%	-22.0%
Cheese									
Production	0.1%	-0.1%	-0.4%	-0.8%	-1.0%	-1.1%	-1.2%	-1.3%	-1.4%
Domestic use	-0.1%	-0.3%	-0.4%	-0.5%	-0.6%	-0.6%	-0.7%	-0.7%	-0.8%
Whole sale price	0.0%	-2.5%	-5.5%	-7.4%	-8.2%	-8.9%	-9.5%	-10.3%	-11.0%

Source: Greek AGMEMOD Model (2006)

11 Hungary

Tibor Ferenczi, Szabolcs Varga and Tibor Varga, Corvinus University of Budapest

11.1 Baseline

Table 11.1 shows the specific assumptions for Hungary on the macroeconomic variables that underlie the model's Baseline and scenario projections up to 2015.

Table 11.1 : Assumptions on macroeconomic variables for Hungary

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	10.2	10.1	10.1	10.1	10.0	10.0	10.0	10.0	9.92	9.88	9.84	9.80
GDP	bil. Euro97	108	127	131	149	162	158	157	161	167	174	180	187
GDP per capita	Euro97/cap	8228	9737	10072	11457	12525	12195	12142	12507	13059	13625	14204	14797
Inflation	1997=1	1.34	1.78	1.84	1.95	2.01	2.08	2.16	2.21	2.26	2.31	2.35	2.37

Source: Eurostat

Due to the expected EU accession of Romania and Bulgaria in 2007, the population assumption for Hungary was adjusted. The low fertility rate projection for Hungary will be reflected explicitly in a declining population projection. This negative trend however, will be offset by the immigration of ethnic Hungarians from Romania as a result of the better economic growth prospects in the EU10 accession states following accession to the EU. But as Romania will in future offer the same opportunities, the previous strong incentives for moving to Hungary will be unlikely to be maintained.

Another modified assumption relates to the expectation of economic growth and income trends. In April, international and Hungarian forecasting institutions had still expected speedy economic growth, a low inflation rate and a convergence in per capita income to the level of EU15. Recently, however, international institutions have started to qualify their economic forecasts for the Hungarian economy, and these forecasts no longer show the earlier level of optimism. These concerns arise out of uncertainty surrounding the accuracy of recent national economic data.

As regards policy variables, the Hungarian government intends to maintain SAPS for as long as possible, and not even the idea of modulation is up for discussion. The government thus intends to maintain a strong coupling rate under the current circumstances; this is reflected in the model, whereby shift rates are always 1 (for any commodity and all years up to 2015) to reflect a transfer of payments to other sectors.

With the implementation of the CAP reform in 2007, it is assumed that, for SAPS payments in Hungary will have 30% impact on grains, oilseeds and suckler cows production Complementary national direct payments are fully coupled to production as set out in the following Table 11.2.

Grains and oilseed sectors

Baseline supports for agriculture are assumed to increase over the projection period, and as a consequence the upward trend in grains and oilseed area harvested is maintained. Area payments coupled to arable crops contribute to a projected increase in grains and oilseed production. However, grain feed use will not change very much because the Hungarian livestock sectors indicate stable or declining activity levels. When combined with the projected increase in grain production, this will lead to higher grain exports from Hungary.

Table 11.2 : Supply-inducing multipliers of Hungarian agriculture in CAP Reform scenario

	SAP scheme	SPS scheme	
		Baseline	CAP Scenario
Decoupled EU support			

- grains	0.6	0.6	0.3
- rapeseeds	0.6	0.6	0.3
- suckler cows	0.6	0.6	0.3
- cattle	0.1	0.1	0.1
Coupled national support (CNDP)			
- grains	1.0	1.0	1.0
- rapeseeds	1.0	1.0	1.0
- suckler cows	1.0	1.0	1.0
- cattle	1.0	1.0	1.0

Source: Own calculations

Under the Baseline, Hungarian grain prices are projected to be lower than the intervention levels. It is estimated that grain producers share in the ownership of not more than 10 per cent of about 1000 storage companies. In consequence the main beneficiaries from the intervention system appear to be grain merchants and traders rather then producers (CEEC Agri Policy (2005).

Over the Baseline projection period, the EU intervention system is expected to support market prices such that they exceed the intervention level. This will disadvantage livestock producers and further contribute to declining levels of activity. The Hungarian grain sector is projected to maintain a strong position in arable crops, and the share of maize in total arable area is projected to grow. Maize in Hungary belongs to the northern margin of production, but the 100% self-sufficiency (largely thanks to France) in the EU25 makes production less risky than other grains. As noted above, the Baseline projection indicates that oilseed area harvested and oilseed production will increase further, probably due largely to increases in rapeseed and sunflower seed production. The soybean sector is projected to remain a marginal production activity in Hungary.

Livestock and dairy sectors

Animal husbandry is projected to decline further. This is an unfavourable trend, including from the point of view of cereals, because using the feeds domestically would be the most efficient use. The production costs of grains in Hungary are among the lowest of all EU Member States, but the long distance from sea ports and under-developed logistical infrastructure makes grain exporting very costly. Thus, the efficiency of Hungarian agriculture may decline if the excess grain is put to less use by domestic animal sectors.

The Baseline shows different prospects for the various animal commodities. Beef is consumed in only very small amounts in Hungary; prior to transition, it was 10 kg per capita, but this declining trend is projected to continue, and the latest statistics show no more than 3 kg. Pork consumption has also declined, from 40 kg to below 30 kg, and this trend is still continuing. Sheepmeat consumption was always negligible. However, poultrymeat consumption, which was increasing before transition when consumption per capita was 22 kg, is now over 34 kg.

Under the Baseline, the domestic use of beef continues to decline. Hungarian pork consumption – especially in the second part of the projection period – is projected to increase, but not by as much as pork production. The result will be additional pork exports from Hungary. Under the Baseline, the production and domestic use of broilers is projected to continue to grow over the projection period.

Under the Baseline, Hungarian milk production is projected to be around the quota level. Domestic use of milk in Hungary is expected to increase, mainly in the second part of the projection period. This is largely accounted for by increased consumption of dairy products,

supplied by increased dairy commodity imports.

There is a significant change in feedstuffs demand under the Baseline: a fall is projected in the feed use of grains, which is only partly connected to the decline in livestock. Another element is that, structurally, fewer grains and more oil meals are being used. In this regard, the domestic (feed) use of rape meal is projected to almost double during the Baseline projection period, while sunflower and soybean meals are slightly diminishing.

Table 11.3 summarises the Baseline projections for the main agricultural commodities in Hungary.

Table 11.3 : Baseline results concerning main agricultural commodities of Hungary

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	9708	10153	10718	11909	12957	13264	15107	15427	15915	16319	15879	16295
Domestic use	1,000 ton	8934	10199	10753	11025	11176	11335	11543	11798	12002	11995	12149	12291
Soft wheat													
Production	1,000 ton	3692	5212	5340	5800	5842	6367	6709	6852	6915	6906	6186	6085
Domestic use	1,000 ton	3064	3539	3536	3496	3500	3521	3551	3561	3576	3579	3609	3610
Producer price	euro/ton	112	98	98	103	105	104	103	104	104	105	106	108
Durum wheat													
Production	1,000 ton	45	54	54	54	54	54	54	54	54	54	54	54
Domestic use	1,000 ton	35	28	28	28	28	28	28	28	28	28	28	28
Producer price	euro/ton	108	124	114	110	108	106	104	103	102	102	102	101
Barley													
Production	1,000 ton	901	1706	1619	1621	1545	1586	1603	1504	1417	1324	1011	941
Domestic use	1,000 ton	995	1376	1429	1424	1466	1489	1533	1557	1577	1588	1599	1567
Producer price	euro/ton	118	98	97	103	104	104	102	102	102	103	104	108
Maize													
Production	1,000 ton	4984	3056	3580	4309	5391	6287	6615	6892	7404	7909	8502	9090
Domestic use	1,000 ton	4778	5195	5700	6016	6121	6236	6371	6592	6761	6739	6853	7026
Producer price	euro/ton	95	83	82	85	87	86	86	86	86	86	86	86
Rye													
Production	1000 tons	86	125	125	125	125	125	125	125	125	125	125	125
Domestic use	1000 tons	63	89	89	89	89	89	89	89	89	89	89	89
Producer price	euro/ton	79	69	58	59	61	62	62	62	63	63	64	64
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	77	67	66	68	69	71	71	71	71	72	73	73
Total oilseeds													
Production	1,000 ton	694	1174	1134	1041	1050	1154	1204	1200	1190	1190	1157	1129
Domestic use	1,000 ton	651	804	811	812	822	839	848	850	851	854	855	856
Rapeseed													
Production	1,000 ton	179	226	203	192	229	299	314	281	255	247	244	248
Domestic use	1,000 ton	224	180	182	183	190	202	208	207	207	209	211	213
Producer price	euro/ton	206	213	214	243	259	244	235	235	237	239	241	241
Sunflower													
Production	1,000 ton	484	899	883	803	774	804	838	867	884	893	863	832
Domestic use	1,000 ton	393	588	593	594	597	601	605	607	609	609	608	607
Producer price	euro/ton	158	207	169	182	215	230	218	211	214	216	217	218
Soybeans													
Production	1,000 ton	31	49	48	46	47	52	52	51	50	50	49	49
Domestic use	1,000 ton	34	36	36	35	36	36	36	36	36	36	36	36
Producer price	euro/ton	204	241	196	198	229	249	237	230	236	239	242	244
Beef and veal													
Production	1,000 ton	67	85	89	88	92	97	102	104	106	92	89	89
Domestic use	1,000 ton	44	52	50	48	48	48	48	48	47	46	45	45
Producer price	euro/100 kg	86	86	79	81	87	88	86	85	86	86	87	88
Pig meat													
Production	1,000 ton	397	522	552	579	603	626	646	666	684	700	716	730
Domestic use	1,000 ton	295	307	308	309	308	308	308	308	308	308	307	306
Producer price	euro/100 kg	103	122	107	102	105	112	116	120	118	114	117	121
Poultry meat													
Production	1,000 ton	458	447	458	469	477	485	494	504	514	524	533	542
Domestic use	1,000 ton	356	391	395	397	397	400	403	405	408	411	413	415
Producer price	euro/100 kg	84	148	133	136	136	136	135	133	132	129	128	126
Sheep meat													
Production	1,000 ton	11	16	17	17	17	18	18	19	19	18	18	18
Domestic use	1,000 ton	2	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/100 kg	146	153	140	137	135	134	132	130	130	129	129	129
Fluid milk													
Production	1,000 ton	2137	2047	2343	2399	2278	2147	2114	2174	2176	2158	2170	2166
Domestic use	1,000 ton	1969	1513	1511	1544	1535	1561	1579	1597	1615	1632	1648	1664
Whole sale price	euro/100 kg	26	26	25	25	24	24	24	24	24	24	24	24
Butter													
Production	1,000 ton	12	14	16	19	22	25	28	31	34	37	40	43
Domestic use	1,000 ton	12	9	10	11	10	10	11	11	12	12	12	12
Whole sale price	euro/100kg	510	465	426	413	416	413	410	410	411	412	413	414
SMP													
Production	1,000 ton	5	5	5	5	5	5	5	5	5	5	5	5
Domestic use	1,000 ton	4	4	4	4	4	4	4	4	4	4	4	4
Whole sale price	euro/100kg	244	197	186	182	185	184	183	183	184	184	185	185
WMP													
Production	1,000 ton	4	4	4	4	4	4	4	4	4	4	4	4
Domestic use	1,000 ton	1	1	1	1	1	1	1	1	2	2	2	2
Whole sale price	euro/100kg	84	77	70	79	88	84	81	83	85	86	88	90
Cheese													
Production	1,000 ton	66	91	93	92	94	93	93	92	91	90	89	88
Domestic use	1,000 ton	58	69	69	70	70	71	72	72	73	73	73	73
Whole sale price	euro/100kg	601	604	607	594	595	603	605	603	604	607	611	616

Source: Hungarian AGMEMOD Model (2006)

Agricultural income

Although the AGMEMOD country models cover a limited set of agricultural commodities and cover feedstuffs as the sole input variable, it is possible to approximate the development of gross agricultural sector income. This is based on the development of agricultural output value, subsidies (direct payments and SFP) to the Hungarian producers of the commodities under consideration and feed costs respectively. From 2013, the modulation effect is visible.

Table 11.4 : Agricultural output, subsidies, feed cost and gross income in Hungary[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.23	1.22	1.28	1.35	1.44	1.48	1.51	1.54	1.55	1.54	1.58
Subsidies/SFP	2000=1	1.00	4.63	5.12	4.87	5.55	6.83	7.65	7.93	8.28	5.50	5.22	5.22
Feeding costs	2000=1	1.00	1.08	1.15	1.25	1.31	1.31	1.32	1.36	1.39	1.40	1.43	1.46
Gross agric. income	2000=1	1.00	1.42	1.38	1.43	1.53	1.69	1.77	1.81	1.84	1.75	1.73	1.77

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Own calculations

The Hungarian model takes a different approach to reflecting the impact of budgetary support than do the other EU-10 models. First, subsidies per hectare have been calculated. Second, these subsidies are allocated to the various agricultural commodities (subsidy per kg) according to their land use. This results in factors which are added to the corresponding producer prices. The real supply-inducing effects of these subsidy add-ups are tempered by multiplier rates. In the event of adjustments to the subsidy amounts, the model seems to react more effectively than the models of other EU-10.

11.2 Further CAP Reform (FCR)

Transition to SFP and further CAP reform from 2007 would modify the coupling effects as presented in the introduction to Table 11.2. In this scenario, grain production would slightly increase and rapeseeds would gain in area share. Animal husbandry would also change from the Baseline projection. In particular the livestock and sheep sectors would diminish. Within the oilseed sector further growth in the feed use of rapeseed meal is projected, this being at the expense of the feed use of other oilseed meals.

Agricultural income

Compared to the Baseline, Hungarian agricultural incomes decrease under the FCR scenario (Table 11.6) due to lower subsidy receipts. Feed costs are also somewhat lower due to reduced meat production.

Table 11.5 : Hungary: Agricultural output and income under FCR scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.0%	-0.6%	-0.8%	-0.9%	-0.9%	-1.0%	-1.1%	-1.1%	-1.1%
Subsidies/SFP	-9.0%	-11.5%	-13.0%	-14.0%	-15.6%	-17.1%	-29.0%	-29.9%	-30.6%
Feeding costs	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	-0.5%	-0.6%	-0.6%	-0.6%
Gross agric. income	-1.1%	-2.2%	-2.8%	-3.0%	-3.4%	-3.8%	-4.4%	-4.4%	-4.4%

Source: Hungarian AGMEMOD Model (2006)

Table 11.6 : Hungary: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-1.3%	-0.5%	-1.6%	-1.7%	-1.8%	-1.8%	-1.8%	-1.6%
Domestic use	-0.3%	-0.4%	-0.5%	-0.7%	-0.7%	-0.8%	-0.9%	-1.0%	-1.0%
Soft wheat									
Production	0.0%	-2.1%	-2.9%	-3.3%	-3.7%	-4.1%	-4.5%	-5.3%	-5.4%
Domestic use	0.0%	0.0%	-0.2%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%
Producer price	0.0%	0.0%	0.3%	0.4%	0.5%	0.6%	0.6%	0.6%	0.7%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-3.4%	-4.4%	-4.1%	-4.4%	-5.0%	-5.6%	-7.1%	-7.1%
Domestic use	0.0%	0.0%	-0.7%	-0.9%	-1.0%	-1.1%	-1.3%	-1.3%	-1.4%
Producer price	0.0%	0.0%	0.6%	0.9%	1.0%	1.2%	1.3%	1.4%	1.4%
Maize									
Production	0.0%	0.1%	0.0%	0.7%	0.9%	1.0%	1.1%	1.4%	1.4%
Domestic use	-0.4%	-0.6%	-0.6%	-0.8%	-0.9%	-1.0%	-1.1%	-1.1%	-1.1%
Producer price	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	-0.5%	-0.9%	-1.4%	-1.8%	-2.1%	-2.5%	-2.9%	-3.1%
Domestic use	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Rapeseed									
Production	0.0%	-0.3%	-0.1%	0.0%	0.2%	0.4%	0.6%	0.7%	0.8%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	-0.6%	-1.3%	-1.9%	-2.4%	-2.9%	-3.4%	-4.0%	-4.4%
Domestic use	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	-0.3%	-0.5%	-0.7%	-0.9%	-1.0%	-1.1%	-1.3%	-1.3%
Domestic use	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-2.8%	-4.0%	-4.8%	-5.5%	-6.3%	-7.1%	-9.6%	-10.3%	-10.6%
Domestic use	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.0%	0.4%	0.3%	0.4%	0.4%	0.3%	0.3%	0.3%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	-1.3%	-1.9%	-2.4%	-2.8%	-3.2%	-3.5%	-4.4%	-4.6%	-4.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	0.0%	0.0%	-0.5%	-0.4%	-0.5%	-0.5%	-0.5%	-0.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Hungarian AGMEMOD Model (2006)

11.3 Exchange Rate Change (ERC)

As in other MS, the exchange rate between the US dollar and the euro is an important factor in determining the effect of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is US$ 1.24 per euro from 2007 onwards (FAPRI projection). In this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro, with the exchange rate moving to rates of 1.3 and 1.4 US dollar per euro in 2007. The third is for the euro to depreciate against the dollar to a parity exchange rate of US$ 1 per euro.

Obviously, Hungary does not deliver a key price to the AGMEMOD model structure. Thus the influence of the alternative exchange rate paths examined in this scenario operates through the way the different exchange rates impact on the key commodity price projections generated by the AGMEMOD model.

For a number of commodities, such as oilseeds and their associated meals and oils, the AGMEMOD model does not endogenously model their prices. However, it is worth noting that Hungarian oilseed and especially oil meals and oil markets are monopolistic; a single international company operates and manages the buying-in and processing operations, and runs the export and import markets. However, supply-inducing prices for European farmers are assumed to be world prices (in dollars) when converted into national currency equivalents in Hungary too. For such products, any change in the exchange rate will have a direct impact on the national currency prices and on the associated supplies of and demand for the commodity in question.

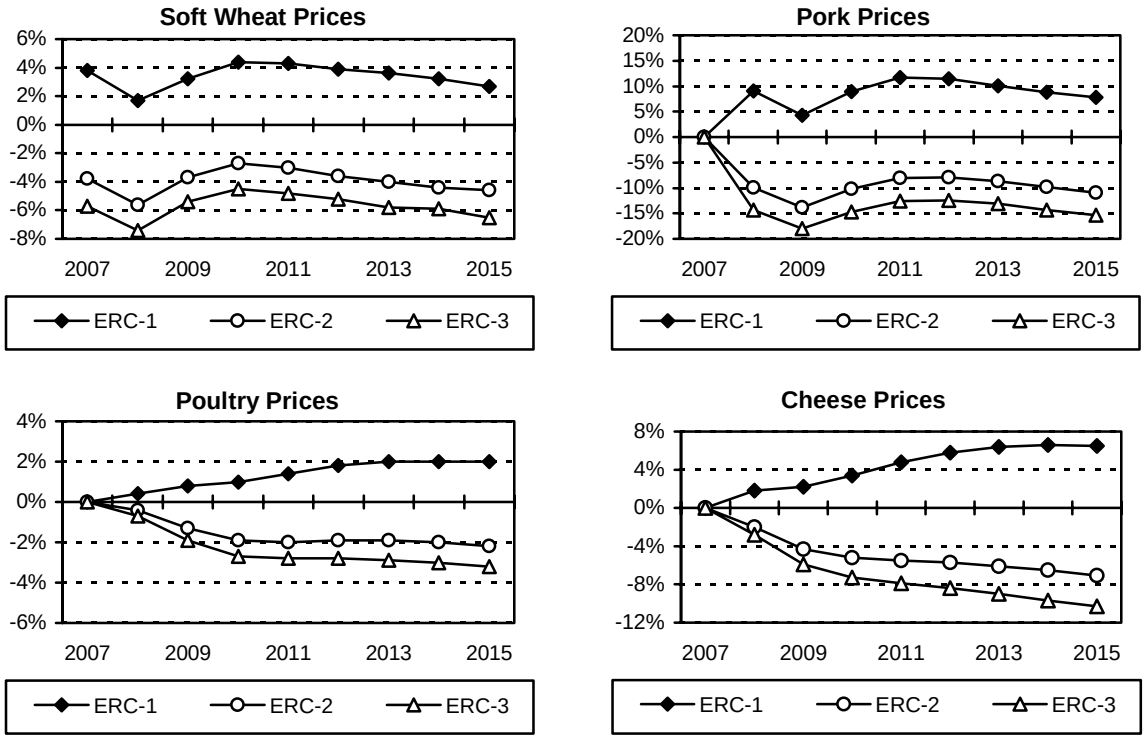
Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for Hungary. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 11.7 to Table 11.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

The impact of the three ERC scenarios when compared with one another and with the Baseline projections indicate that the AGMEMOD model performs as one would have expected. Key prices under the ECR-1 scenario, where the euro / US dollar exchange rate is 1.0 from 2007, are characterised by increases. When compared with Baseline price projections, prices under both ERC-2 and ERC-3 scenarios decline as expected. The size of the increase in the key prices that are endogenously determined within the AGMEMOD system are in general smaller than the percentage changes in prices that are determined exogenously to the model. For these prices the percentage change in the exchange rate from Baseline levels is fully reflected in the euro prices for these commodities (oilseeds and oil seed meals and oils). The impact of the changed exchange rate on commodity prices determined endogenously by the AGMEMOD system is moderated by the endogenous response of EU supply and demand for agricultural commodities (grains, milk and livestock products).

Figure 11.1 charts the percentage change in four Hungarian prices under each of the three ERC scenarios. The commodity prices chosen for Hungary are soft wheat, pork, poultry and milk. These prices are endogenously determined in the AGMEMOD model.

Figure 11.1 : Hungarian Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: Hungarian AGMEMOD Model (2006)

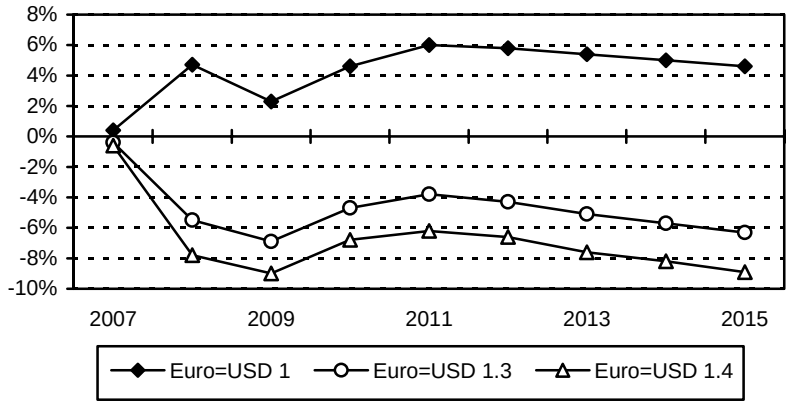
When the projections for Hungarian commodity markets under the ECR-1 scenario are compared with those under the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use.

The two exchange rate change scenarios labelled ECR-2 and ECR-3 involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under ECR-2, the euro / US dollar exchange rate is 1.30, while under ECR-3 it is assumed to be 1.40 from 2007. As expected, the projections for Hungary under both scenarios are characterised by similar changes in prices, quantities supplied and demand. As in the ECR-1 scenario, the impact of the exchange rate changes is most fully expressed in the prices of commodities which are exogenous to the AGMEMOD model system. For the majority of agricultural commodities in the AGMEMOD system, prices are determined endogenously, together with all of the elements of supply and use balances. Under each of the euro / US dollar exchange rate scenarios, market prices in Hungary are projected to be lower than under the Baseline, with often concomitant reductions in the volume of domestic production (e.g. oilseeds, especially sunflower and soybeans, beef, milk and cheese) and small increases in domestic use due to the falling price (as in wheat, barley and especially in maize; and in pork, milk and butter).

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. The main effect on gross agricultural income (ceteris paribus) results from agricultural output value. Higher prices and production levels in the ERC-1 scenario would lead to increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 11.2).

Figure 11.2 : Hungary: Gross agriculture income in Exchange Rate Scenarios. (% Δ from Baseline)



Source: Hungarian AGMEMOD Model (2006)

Table 11.7: Hungary: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	3.4%	0.5%	2.2%	3.1%	2.6%	1.9%	1.5%	1.3%
Domestic use	-0.3%	0.2%	-0.8%	-0.1%	-0.3%	-0.2%	0.0%	0.2%	0.3%
Soft wheat									
Production	0.0%	3.1%	1.7%	2.9%	3.8%	3.7%	3.2%	2.9%	2.6%
Domestic use	-1.4%	-0.3%	-1.2%	-1.3%	-1.2%	-0.9%	-0.8%	-0.6%	-0.5%
Producer price	3.7%	1.7%	3.3%	4.4%	4.3%	3.8%	3.4%	3.1%	2.8%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	4.8%	1.6%	2.7%	4.4%	3.5%	2.3%	2.1%	2.1%
Domestic use	-2.1%	0.0%	-1.0%	-1.0%	-0.5%	0.0%	0.2%	0.2%	0.2%
Producer price	4.3%	1.7%	3.3%	4.7%	4.4%	3.7%	3.3%	3.0%	2.7%
Maize									
Production	0.0%	3.5%	0.6%	1.5%	2.2%	1.5%	0.8%	0.5%	0.4%
Domestic use	0.7%	0.5%	-0.6%	0.7%	0.3%	0.1%	0.3%	0.6%	0.8%
Producer price	2.4%	1.9%	3.0%	4.1%	4.4%	4.3%	3.9%	3.6%	3.1%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	2.2%	2.0%	3.0%	4.0%	4.5%	4.5%	4.2%	3.8%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	2.3%	2.1%	3.1%	4.2%	4.7%	4.7%	4.4%	4.0%
Total oilseeds									
Production	0.0%	-1.6%	-1.1%	-1.9%	-2.6%	-2.8%	-2.8%	-2.6%	-2.4%
Domestic use	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Rapeseed									
Production	0.0%	-1.4%	-0.5%	-0.8%	-0.9%	-0.5%	0.2%	0.7%	1.0%
Domestic use	0.0%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.1%	0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	-1.7%	-1.4%	-2.3%	-3.2%	-3.6%	-3.6%	-3.6%	-3.5%
Domestic use	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	-1.4%	-0.8%	-1.4%	-1.8%	-1.8%	-1.6%	-1.5%	-1.3%
Domestic use	0.0%	-0.2%	-0.1%	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.0%	0.3%	0.2%	0.2%	0.3%	0.3%	0.3%	0.2%	0.2%
Domestic use	0.0%	0.9%	0.4%	1.0%	1.3%	1.3%	1.2%	1.1%	0.9%
Producer price	0.0%	4.2%	2.1%	3.9%	4.8%	4.7%	4.2%	3.7%	3.3%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	-0.3%	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%
Producer price	0.0%	9.1%	4.3%	8.9%	11.7%	11.4%	10.0%	8.8%	7.8%
Poultry meat									
Production	0.0%	-0.3%	-0.1%	-0.3%	-0.4%	-0.4%	-0.3%	-0.2%	-0.2%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Producer price	0.0%	0.8%	1.4%	1.3%	2.0%	2.3%	2.3%	2.1%	1.8%
Sheep meat									
Production	0.0%	-0.5%	-0.6%	-0.9%	-1.2%	-1.4%	-1.6%	-1.6%	-1.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.1%	2.0%	-2.7%	1.5%	0.9%	0.9%	1.8%	2.7%	3.3%
Domestic use	0.0%	-0.3%	-0.2%	-0.4%	-0.5%	-0.6%	-0.6%	-0.6%	-0.6%
Whole sale price	0.0%	1.1%	1.4%	2.1%	2.9%	3.5%	3.9%	4.0%	4.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-1.1%	-0.6%	-1.1%	-1.3%	-1.2%	-1.0%	-0.9%	-0.8%	-0.6%
Whole sale price	1.4%	0.7%	1.4%	1.8%	1.8%	1.6%	1.5%	1.3%	1.2%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	2.0%	1.0%	2.0%	2.6%	2.7%	2.5%	2.2%	2.0%	1.8%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Cheese									
Production	0.0%	0.7%	0.9%	1.4%	1.9%	2.3%	2.5%	2.5%	2.4%
Domestic use	0.0%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%
Whole sale price	0.0%	1.8%	2.2%	3.4%	4.8%	5.8%	6.4%	6.6%	6.5%

Source: Hungarian AGMEMOD Model (2006)

Table 11.8: Hungary: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-3.7%	-2.6%	-2.2%	-1.1%	-1.6%	-2.1%	-2.1%	-2.2%
Domestic use	0.3%	0.1%	0.5%	0.7%	0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Soft wheat									
Production	0.0%	-3.3%	-5.0%	-3.4%	-2.4%	-2.5%	-2.9%	-3.3%	-3.6%
Domestic use	1.5%	1.8%	0.9%	0.7%	0.7%	0.8%	1.0%	1.1%	1.2%
Producer price	-4.1%	-5.7%	-3.7%	-2.7%	-3.0%	-3.6%	-4.1%	-4.5%	-4.8%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-5.1%	-6.8%	-2.4%	-0.4%	-1.7%	-3.1%	-3.8%	-4.1%
Domestic use	2.3%	2.1%	0.1%	-0.5%	-0.1%	0.3%	0.3%	0.3%	0.5%
Producer price	-4.7%	-6.3%	-3.6%	-2.3%	-2.9%	-3.8%	-4.2%	-4.6%	-5.0%
Maize									
Production	0.0%	-4.0%	-3.8%	-1.0%	0.1%	-0.6%	-1.2%	-1.1%	-1.1%
Domestic use	-0.8%	-1.4%	0.4%	1.0%	-0.1%	-0.7%	-0.9%	-1.0%	-1.0%
Producer price	-2.6%	-4.6%	-4.2%	-3.6%	-3.4%	-3.7%	-4.1%	-4.5%	-4.9%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	-2.4%	-4.4%	-4.4%	-3.8%	-3.6%	-3.8%	-4.2%	-4.7%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	-2.5%	-4.6%	-4.5%	-3.9%	-3.7%	-3.9%	-4.4%	-4.9%
Total oilseeds									
Production	0.0%	1.8%	3.0%	2.6%	2.3%	2.4%	2.6%	2.8%	3.0%
Domestic use	0.0%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Rapeseed									
Production	0.0%	1.5%	1.9%	0.7%	-0.2%	-0.5%	-0.6%	-0.5%	-0.5%
Domestic use	0.0%	0.2%	0.3%	0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	1.9%	3.4%	3.3%	3.2%	3.3%	3.6%	3.8%	4.2%
Domestic use	0.0%	0.1%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	1.5%	2.3%	1.7%	1.3%	1.4%	1.5%	1.6%	1.8%
Domestic use	0.0%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.0%	-0.3%	-0.4%	-0.3%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
Domestic use	0.0%	-1.2%	-1.7%	-1.3%	-1.0%	-1.0%	-1.2%	-1.4%	-1.6%
Producer price	0.0%	-4.6%	-6.5%	-4.5%	-3.4%	-3.3%	-3.7%	-4.1%	-4.6%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.3%	0.4%	0.3%	0.2%	0.2%	0.3%	0.3%	0.3%
Producer price	0.0%	-9.9%	-13.8%	-10.2%	-8.0%	-7.9%	-8.7%	-9.8%	-10.9%
Poultry meat									
Production	0.0%	0.4%	0.5%	0.3%	0.2%	0.2%	0.2%	0.3%	0.3%
Domestic use	0.0%	0.1%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%
Producer price	0.0%	-1.1%	-2.6%	-2.7%	-2.0%	-1.7%	-1.9%	-2.1%	-2.4%
Sheep meat									
Production	0.0%	0.5%	1.1%	1.4%	1.4%	1.4%	1.5%	1.6%	1.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	-0.1%	-2.2%	0.7%	2.1%	-0.9%	-2.6%	-3.2%	-3.3%	-3.5%
Domestic use	0.0%	0.3%	0.5%	0.6%	0.6%	0.5%	0.6%	0.6%	0.6%
Whole sale price	0.0%	-1.2%	-2.6%	-3.2%	-3.3%	-3.5%	-3.7%	-4.0%	-4.4%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.2%	1.9%	1.2%	0.9%	0.9%	0.9%	1.0%	1.0%	1.1%
Whole sale price	-1.5%	-2.3%	-1.6%	-1.2%	-1.3%	-1.5%	-1.6%	-1.8%	-2.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.5%	-3.5%	-2.7%	-2.2%	-2.2%	-2.4%	-2.7%	-2.9%	-3.2%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Cheese									
Production	0.0%	-0.8%	-1.8%	-2.1%	-2.2%	-2.2%	-2.3%	-2.5%	-2.7%
Domestic use	0.0%	0.1%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
Whole sale price	0.0%	-2.0%	-4.3%	-5.2%	-5.5%	-5.7%	-6.1%	-6.5%	-7.1%

Source: Hungarian AGMEMOD Model (2006)

Table 11.9: Hungary: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-5.5%	-3.4%	-3.3%	-2.1%	-2.5%	-3.0%	-3.0%	-3.0%
Domestic use	0.5%	0.1%	0.8%	0.9%	0.2%	-0.1%	-0.2%	-0.3%	-0.3%
Soft wheat									
Production	0.0%	-4.8%	-6.6%	-4.9%	-3.9%	-4.0%	-4.4%	-4.8%	-5.0%
Domestic use	2.2%	2.3%	1.5%	1.1%	1.1%	1.3%	1.4%	1.4%	1.6%
Producer price	-5.9%	-7.4%	-5.3%	-4%	-4.8%	-5.4%	-5.9%	-6.3%	-6.7%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-7.4%	-8.7%	-3.6%	-1.5%	-3.0%	-4.4%	-5.2%	-5.6%
Domestic use	3.3%	2.6%	0.4%	-0.3%	0.0%	0.3%	0.3%	0.4%	0.6%
Producer price	-6.8%	-8.3%	-5.2%	-4.0%	-4.7%	-5.6%	-6.1%	-6.5%	-6.8%
Maize									
Production	0.0%	-5.8%	-4.9%	-1.6%	-0.5%	-1.2%	-1.7%	-1.5%	-1.4%
Domestic use	-1.2%	-1.8%	0.6%	1.1%	-0.2%	-0.9%	-1.2%	-1.3%	-1.5%
Producer price	-3.8%	-6.2%	-5.9%	-5.4%	-5.3%	-5.6%	-6.0%	-6.4%	-6.8%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	-3.4%	-6.0%	-6.1%	-5.7%	-5.5%	-5.8%	-6.2%	-6.7%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	-3.6%	-6.2%	-6.4%	-5.9%	-5.7%	-6.0%	-6.5%	-7.0%
Total oilseeds									
Production	0.0%	2.6%	4.0%	3.7%	3.5%	3.7%	3.9%	4.2%	4.4%
Domestic use	0.0%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Rapeseed									
Production	0.0%	2.2%	2.5%	1.1%	0.0%	-0.5%	-0.8%	-0.8%	-0.9%
Domestic use	0.0%	0.3%	0.4%	0.2%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	2.7%	4.6%	4.7%	4.7%	5.0%	5.3%	5.7%	6.1%
Domestic use	0.0%	0.2%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	2.2%	3.0%	2.4%	2.1%	2.1%	2.3%	2.4%	2.5%
Domestic use	0.0%	0.3%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.0%	-0.4%	-0.6%	-0.4%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Domestic use	0.0%	-1.8%	-2.3%	-1.9%	-1.7%	-1.7%	-1.9%	-2.1%	-2.3%
Producer price	0.0%	-6.7%	-8.5%	-6.5%	-5.4%	-5.3%	-5.6%	-6.0%	-6.4%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.5%	0.6%	0.5%	0.4%	0.4%	0.4%	0.4%	0.5%
Producer price	0.0%	-14.4%	-18.0%	-14.7%	-12.6%	-12.4%	-13.1%	-14.3%	-15.3%
Poultry meat									
Production	0.0%	0.5%	0.6%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Domestic use	0.0%	0.2%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%
Producer price	0.0%	-1.6%	-3.6%	-3.7%	-3.0%	-2.8%	-2.9%	-3.2%	-3.4%
Sheep meat									
Production	0.0%	0.8%	1.5%	1.9%	2.0%	2.0%	2.2%	2.4%	2.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	-0.1%	-3.2%	1.4%	2.2%	-1.4%	-3.5%	-4.4%	-4.8%	-5.2%
Domestic use	0.0%	0.4%	0.7%	0.8%	0.8%	0.8%	0.8%	0.9%	0.9%
Whole sale price	-0.1%	-1.7%	-3.5%	-4.4%	-4.8%	-5.1%	-5.5%	-5.9%	-6.3%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.7%	2.5%	1.8%	1.4%	1.4%	1.4%	1.4%	1.5%	1.5%
Whole sale price	-2.2%	-3.0%	-2.3%	-2.0%	-2.0%	-2.2%	-2.4%	-2.6%	-2.8%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-3.7%	-4.8%	-4.0%	-3.5%	-3.5%	-3.7%	-4.0%	-4.2%	-4.5%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Cheese									
Production	0.0%	-1.2%	-2.4%	-3.0%	-3.2%	-3.3%	-3.5%	-3.7%	-3.9%
Domestic use	0.0%	0.2%	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%
Whole sale price	0.0%	-2.8%	-5.9%	-7.3%	-7.9%	-8.4%	-9.0%	-9.7%	-10.3%

Source: Hungarian AGMEMOD Model (2006)

12 Ireland

Trevor Donnellan and Kevin Hanrahan, Rural Economy Research Centre, Teagasc, Athenry, County Galway

12.1 Baseline

Table 12.1 shows the specific projections for the macroeconomic variables that underlie the Irish AGMEMOD model's Baseline and scenario projections up to 2015.

Table 12.1 : Assumptions on macroeconomic variables for Ireland

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	3.8	4.1	4.2	4.3	4.3	4.4	4.4	4.5	4.6	4.7	4.8	4.8
GDP	bil. Euro97	107	139	146	155	164	174	183	192	200	207	215	222
GDP per capita	Euro97/cap	28298	33720	34852	36480	38096	39609	41202	42449	43493	44310	45185	45849
Inflation	1997=1	1.10	1.29	1.32	1.34	1.35	1.37	1.41	1.46	1.52	1.59	1.68	1.77

Source: ESRI

The 2003 CAP reform changed the direct payments that apply to the common market organisations (CMO) for the cereals, oilseeds, livestock and dairy sectors. With effect from 2005, the year that the SFP was introduced in Ireland, direct payments previously linked to agricultural production have become largely independent on the use of land, the production of animals or animal products. As in all the MS, receipt of SFP is conditional on ongoing observance of cross-compliance criteria and good farming practice. It is assumed that the decoupled payments will retain some supply-inducing impacts on the agricultural sector, which will depend on:

- the distributional effects of payments to other sectors in comparison with the entitled hectares and animals in the reference years,
- (compulsory) modulation effects and
- shift rate effects.

Table 12.2 shows the derived multipliers that reflect these supply-inducing effects in the Irish agricultural sectors. These multipliers are used to simulate the effect of the SFP by reducing the amount of direct payments (as used under the old scheme) to 'synthetic' premium levels.

Table 12.2 : Supply-inducing multipliers of Irish agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	0.80	0.77	0.75	0.73	0.71	0.70	0.68	0.66	0.64	0.63	0.61
Oilseeds	index	1.00	0.80	0.77	0.75	0.73	0.71	0.70	0.68	0.66	0.64	0.63	0.61
Suckler cows	index	1.00	0.80	0.75	0.71	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.47
Milk	index	1.00	0.60	0.57	0.54	0.51	0.49	0.46	0.44	0.42	0.40	0.38	0.36
Maize	index	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ewes	index	1.00	0.80	0.75	0.71	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.47
Sheep	index	1.00	0.80	0.75	0.71	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.47
Bulls	index	1.00	0.80	0.75	0.71	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.47
Adult slaughtering	index	1.00	0.80	0.75	0.71	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.47
Calves slaughtering	index	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Own calculations

Grains and oilseed sectors

The decoupling of direct payments from production of grains and oilseeds would, a priori, be expected to lead to lower receipts from grain and oilseeds production. However, between 2005 and 2015 under the Baseline, producer prices of grains are projected to increase due to rising EU and world market prices. Over the period 2005 to 2015, the combination of these two forces is projected to lead to a decrease of approximately 10% in wheat area harvested,

while barley and oats areas harvested, over the same period, are projected to decline by 39% and 16% respectively. Productivity per hectare is projected to increase due to higher prices and the reduction in area harvested (the areas leaving the arable sector are those with the lowest yields, others things being equal). Over the period 2005 to 2015 wheat yields per hectare are projected to increase by almost 21%. Overall production of grains in Ireland under the Baseline is projected to decline since increased yields are insufficient to offset the negative production impact of lower areas harvested. Total grain production in Ireland (soft wheat, barley and oats) under the Baseline is projected to decline by almost 13%.

The total domestic use of grains in Ireland is projected to increase by over 2% between 2005 and 2015 despite the projected increase in prices. Increased feed use of soft wheat is offset by declines in barley and maize feed demand. Food use per capita is projected to increase in the case of maize and barley, while food use of soft wheat and oats is projected to decline. With the exception of oats (denoted as *other grains* in all tables), ending stocks of grains generally decline over the 2005 to 2015 projection period. Irish net imports of soft wheat are projected to decline under the Baseline while net imports of barley into Ireland are projected to grow strongly between 2005 and 2015.

Livestock and dairy sectors

The size of the Irish suckler herd is projected to decline due to the decoupling of direct payments from beef production under the 2003 CAP reform. By 2015 ending stocks of suckler cows are projected to be 17% lower than in 2005. This large decline in beef cow numbers in turn leads to a 6% decline in the numbers of cattle slaughtered over the Baseline projection period. Live exports are also projected to decline. With the large reduction in the number of suckler cows, the average cattle slaughter weight in Ireland is also projected to decline, with the level in 2015 over 2% lower than the level in 2005. With reduced numbers of animals slaughtered and lower average slaughter weights, total beef production is also projected to decrease by almost 9% over the period 2005 to 2015.

In response to the negative impact of decoupling on EU beef production, EU cattle prices are projected to increase over the Baseline projection period. As a consequence, Irish prices increase, by approximately 4% between 2005 and 2015. This, when combined with price changes for other meats and the long-term downward trend in per capita Irish beef consumption, leads to a decline in total Irish domestic use of beef of almost 19% between 2005 and 2015.

The reforms of the CAP agreed in 2003 do not have a direct bearing on the pig or poultry sectors. However, the reforms do affect pig and poultry producers indirectly via the impact on the price of beef and lamb and through their impact on the price of pig and poultry feed (most importantly grains and oilseeds). Under the Baseline, Irish pork production increases marginally. Small increases in the total number of pigs slaughtered in Ireland are offset by small declines in the average slaughter weight of Irish pigs. Strong increases in pig prices (which increase by over 9%) are offset by increases in inputs costs (most notably feed costs) to leave the real producer incentive price largely unchanged. Poultry production in Ireland by contrast is projected to grow strongly under the Baseline despite lower prices, with production in 2015 over 30% higher than 2005. Irish consumption of poultry meat grows strongly between 2005 and 2015, reflecting changing consumer preferences and movements in relative meat prices which favour poultry consumption.

Broadly, the Baseline for dairy commodity production suggests that there will be only a

modest change in product mix in Ireland. Broadly speaking, the trend is towards more cheese production.
The cuts in the butter and SMP intervention prices in the Baseline scenario are reflected in the market price, with Irish butter prices in 2015 over 10% lower than in 2005. Nevertheless, Irish butter production does not decline strongly – in fact it increases marginally between 2005 and 2015. This projected development reflects the limited capacity of the Irish dairy industry to alter its product mix given existing production plants. Despite lower prices Irish per capita consumption is projected to continue its decline. Thus under the Baseline, Irish exports of butter increase by about 7%. The reduction in intervention prices leads to declines in the prices of other dairy commodities and to some small changes in the production of SMP, WMP (decreasing) and cheese (increasing). Some issues remain with respect to the model's simulation of overall milk production, and these are currently being addressed.

Table 12.4 summarises the Baseline projections for the main agricultural commodities in Ireland.

Agricultural income
Although the Irish AGMEMOD country model covers only a restricted set of agricultural commodity outputs and includes feedstuffs as the sole input variable, it is possible to provide a projection of Irish gross agricultural sector income. This is based on projections of agricultural output value, subsidies on the commodities modelled (direct payments and SFP) and feed costs.

The share of subsidies/SFP in the agricultural output value modelled will increase from 22% in 2000 to 29% in 2015. This is largely due to the introduction of milk compensation payments in 2004. Examination of Table 12.3 indicates that subsidies for crops and livestock products will contract due to the compulsory modulation of the SFP. From 2005 to 2015, the Baseline shows a 16% decrease in agricultural output value, which is due to the contraction in the volume of output from the meat, milk and grains sectors. Feed costs are projected to increase slightly due to increased grain prices. Overall under the Baseline, gross agricultural income is projected to decrease by almost 12%.

Table 12.3 : Agricultural output, subsidies, feed cost and gross income in Ireland[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.84	0.81	0.82	0.83	0.83	0.82	0.82	0.82	0.82	0.83	0.84
Subsidies/SFP	2000=1	1.00	1.11	1.13	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Feeding costs	2000=1	1.00	0.99	0.99	1.00	1.01	1.01	1.00	1.00	1.01	1.01	1.01	1.01
Gross agric. income	2000=1	1.00	0.88	0.86	0.86	0.88	0.87	0.87	0.87	0.87	0.87	0.88	0.88

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Own calculations

Table 12.4 : Baseline results concerning main agricultural commodities of Ireland

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	1993	1919	1895	1869	1850	1784	1817	1796	1772	1744	1713	1677
Domestic use	1,000 ton	2701	2948	2957	2982	3005	3015	3021	3025	3028	3028	3026	3019
Soft wheat													
Production	1,000 ton	740	812	825	833	848	862	873	881	888	892	891	888
Domestic use	1,000 ton	1187	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162
Producer price	euro/ton	105	100	100	102	103	103	102	103	103	103	104	104
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	1123	974	937	903	868	837	808	778	748	717	686	654
Domestic use	1,000 ton	1145	1264	1282	1302	1317	1328	1339	1347	1351	1351	1350	1346
Producer price	euro/ton	96	86	87	89	91	92	92	92	93	94	95	96
Maize													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	254	416	408	415	426	427	424	423	425	427	428	429
Producer price	euro/ton	122	105	105	108	111	111	110	110	110	111	111	111
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	130	133	133	133	134	135	136	136	136	136	135	135
Domestic use	1000 tons	116	107	105	103	101	99	96	93	90	88	85	82
Producer price	euro/ton	96	87	88	90	92	93	93	93	94	95	96	97
Total oilseeds													
Production	1,000 ton	6	6	6	6	6	6	6	6	6	6	6	6
Domestic use	1,000 ton	7	7	7	7	7	7	7	7	7	7	7	7
Rapeseed													
Production	1,000 ton	6	6	6	6	6	6	6	6	6	6	6	6
Domestic use	1,000 ton	7	7	7	7	7	7	7	7	7	7	7	7
Producer price	euro/ton	181	181	181	181	181	181	181	181	181	181	181	181
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	573	464	487	498	501	495	484	473	462	452	442	434
Domestic use	1,000 ton	61	67	67	65	63	63	62	61	61	60	59	57
Producer price	euro/100 kg	129	122	121	125	127	124	123	123	123	124	126	127
Pig meat													
Production	1,000 ton	207	206	206	206	206	206	206	206	206	206	206	206
Domestic use	1,000 ton	144	167	172	176	179	182	186	191	196	200	204	209
Producer price	euro/100 kg	147	142	135	136	142	146	149	147	145	149	152	155
Poultry meat													
Production	1,000 ton	130	151	155	160	164	169	174	179	184	189	194	199
Domestic use	1,000 ton	83	110	115	122	129	135	142	150	157	165	172	180
Producer price	euro/100 kg	91	85	83	81	81	80	79	76	75	74	73	72
Sheep meat													
Production	1,000 ton	84	75	76	75	73	72	69	67	64	62	59	57
Domestic use	1,000 ton	16	26	27	28	30	31	33	35	35	36	37	38
Producer price	euro/100 kg	108	128	127	128	129	129	130	131	131	130	130	130
Fluid milk													
Production-quota	1,000 ton	5112	5059	5060	5070	5092	5110	5127	5199	5271	5344	5417	5490
Domestic use	1,000 ton	608	689	705	720	730	743	757	770	782	794	807	818
Whole sale price	euro/100 kg	28	23	21	20	21	21	20	20	21	21	21	21
Butter													
Production	1,000 ton	131	120	116	116	117	116	116	118	120	122	124	125
Domestic use	1,000 ton	27	23	22	23	25	26	27	27	26	24	22	19
Whole sale price	euro/100kg	339	300	273	265	268	266	265	265	266	267	268	269
SMP													
Production	1,000 ton	86	59	51	46	45	44	42	45	48	50	53	55
Domestic use	1,000 ton	8	6	6	6	5	5	5	5	5	5	5	5
Whole sale price	euro/100kg	245	198	186	182	185	184	183	183	184	184	185	186
WMP													
Production	1,000 ton	55	52	52	52	51	51	51	51	52	53	53	54
Domestic use	1,000 ton	1	1	1	1	1	1	1	1	1	1	1	1
Whole sale price	euro/100kg	287	252	240	236	238	237	236	236	237	237	238	239
Cheese													
Production	1,000 ton	100	115	121	123	124	127	129	130	132	134	136	138
Domestic use	1,000 ton	28	36	38	40	42	44	46	48	50	52	54	56
Whole sale price	euro/100kg	486	487	490	480	481	487	488	487	488	490	493	497

Source: Own calculations

12.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across the EU MS. Above certain amounts, the SPS payments in EU15 MS were also subject to modulation. The 'Further CAP reform' scenario, described in Report III AGMEMOD - Model description, involves effectively standardising the currently nationally differentiated MS CAP implementation plans by imposing full decoupling from 2007, while the rates of compulsory modulation associated with the current SPS are increased to 10% from 2007 onwards.

Ireland chose in 2004 to decouple from production almost all of the direct payments previously made to its farmers and to introduce a SPS based strictly on historical entitlements from 2005 onwards. From 2007 Irish farmers receiving single farm payments (SFP) in excess of € 5 000 are, like other farmers in the EU15 MS, subject to modulation at a gradually increasing rate that will in time reach 5%. Unlike some other EU MS, there is no voluntary modulation of the SFP in Ireland.

The "full" decoupling of all CAP direct payments and increased rates of modulation would not, *a priori*, be expected to have a major impact on the supply and use of agricultural commodities in Ireland. This is because Ireland already chose in 2004 to fully decouple all previously coupled direct payments. However, increases in the rate of compulsory modulation would, by decreasing the value of the SFP, be expected to have some (negative) impact on the supply of agricultural commodities. In addition, the full decoupling of CAP payments in all EU MS would be expected to alter the supply and use balance in EU agricultural commodity markets since many MS have chosen to only partially decouple some direct payments. Hence at EU level it is expected that there would be a contraction of indigenous production of those agricultural commodities that are still supported by coupled direct payments and consequently at least some positive impact on the EU market prices for agricultural commodities.

The further CAP reform (FCR) scenario results presented below illustrate the impacts on Irish agricultural commodity markets of the introduction of full decoupling in other MS and the increased rate of compulsory modulation. Relative to the Baseline the projected changes in the FCR scenario are expected to be rather limited.

Main Results

The impact of full decoupling in other EU MS on Irish agricultural commodity markets is reflected in the market prices and in Irish agricultural commodity supply and use. However, the implementation of full decoupling across all EU MS leads to some small increases in the supply-inducing prices that are used in the Irish AGMEMOD sub-model.

Table 12.5 and Table 12.6 compare the Irish AGMEMOD model's projections under the FCR scenario with the Baseline projections discussed earlier. The remainder of this section comments on these results.

Table 12.5: Ireland: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.3%	-0.6%	-0.5%	-1.0%	-1.2%	-1.3%	-1.4%	-1.5%	-1.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soft wheat									
Production	-0.3%	-0.6%	-0.8%	-1.0%	-1.2%	-1.3%	-1.4%	-1.5%	-1.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-0.3%	-0.6%	-0.9%	-1.1%	-1.2%	-1.4%	-1.5%	-1.6%	-1.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%
Producer price	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	-0.3%	-0.5%	-0.7%	-0.9%	-1.0%	-1.1%	-1.2%	-1.3%	-1.4%
Domestic use	0.1%	0.1%	0.0%	-0.1%	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.4%	0.2%	0.0%	-0.1%	-0.3%	-0.5%	-0.7%	-0.9%	-1.0%
Domestic use	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.8%	0.0%	-0.4%	-0.8%	-1.1%	-1.4%	-1.6%	-1.8%	-1.9%
Domestic use	0.1%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	-0.2%	0.0%	0.1%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Irish AGMEMOD Model (2006)

Grains and oilseed sectors

The impact of the FCR scenario on Irish grain markets when compared to the Baseline projections is modest. An important reason for this is that the AGMEMOD crop commodities in this study were already fully decoupled in the Baseline (in Ireland), and consequently the main effect of decoupling direct payments was already projected under the Baseline. Under the FCR scenario, EU grain prices are projected to show a slight increase due to the full decoupling of arable aid direct payments in all MS. The magnitude of the projected price changes across all grain commodities in the Irish AGMEMOD models is less than 1%. The impact of the slight increase in prices on Irish grain production is offset by the impact of increased compulsory modulation. In the AGMEMOD model the decoupled SFP is still modelled as having some supply-inducing impact, thus a reduction in the value of the SFP made to farmers due to increased modulation leads to a reduction in Irish grain production of almost 2% by 2015 when compared with the Baseline.

Normally, a modest increase in prices would be expected (ceteris paribus) to lead to a contraction in the domestic use of cereals. This expected contraction of domestic use (relative to the Baseline) occurs, but the overall level of Irish grain domestic use is only 0.1 % lower in 2015 under the FCR scenario when compared with the Baseline.

Livestock and dairy sectors

The impact of the FCR scenario on Irish livestock markets when compared to the Baseline projections is very slight due to the full decoupling of all direct payments under the Baseline scenario. As in the Irish grains sector, the full decoupling of direct payments in all other EU MS leads to some price increases for livestock which would *a priori* be expected to have a positive impact on production. However, these are offset by the impact of the increased rate of compulsory modulation. Irish beef and lamb production declines under the FCR scenario when compared with the Baseline by 1% and 1.7% respectively. Pig meat and poultry meat production are largely unchanged. Higher beef prices lead to some increase in domestic use of poultry and pig meat under the FCR scenario when compared with the Baseline.

The reform of the dairy commodity market organisation under the Baseline is largely unaffected by the reforms examined under the FCR scenario. The increased rate of modulation of the SFP is not projected to lead to any contraction in the total volume of milk produced in Ireland. Irish milk production is projected to continue to fill the quota. Changes in the rate of modulation are not expected to change the relative prices of different dairy commodities, and as a consequence changes in the supply and use balance in dairy commodity markets in Ireland and the Irish farm gate milk price, under the FCR scenario, are negligible.

Agricultural income

The increases in the prices of agricultural output that occur under the FCR scenario are insufficient to offset the negative impact of increased modulation on agricultural production. However, the magnitude of the price and production volume changes is negligible. The value of Irish agricultural output declines slightly when compared with the Baseline projections, with output value down by approximately 0.3% in 2015 when compared with the level under the Baseline. Irish agricultural sector income decreases under the FCR scenario (Table 12.6). This decline is due to the slight decline in the value of output and the reduced value of subsidies that arises from the higher rate of compulsory modulation.

Table 12.6 : Ireland: Agricultural output and income under FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.1%	0.1%	0.0%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%
Subsidies/SFP	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%
Feeding costs	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Gross agric. income	-1.1%	-1.1%	-1.2%	-1.3%	-1.4%	-1.4%	-1.5%	-1.5%	-1.5%

Source: Irish AGMEMOD Model (2006)

12.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is US$ 1.24 per euro from 2007 onwards. In evaluating the impact of changes in this key macroeconomic assumption, three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro (when compared with the Baseline assumptions), with the exchange rate moving to rates of 1.30 and 1.40 US dollar per euro in 2007. The third is for the euro to depreciate (when compared with the Baseline) to a parity exchange rate of US$ 1 per euro in 2007.

With the exception of the lamb meat market, Ireland is not a key price in the AGMEMOD model structure. Thus the influence of the alternative exchange rate paths examined in these scenarios operates through the impact of the different exchange rates examined on the key commodity price projections generated by the AGMEMOD model.

The AGMEMOD model does not endogenously model the prices of a number of commodities, such as oilseeds and their associated meals and oils. Supply-inducing prices for European farmers are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products, any change in the exchange rate will have a direct impact on the national currency prices and on the associated supplies of and demand for the commodity in question.

Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for Ireland. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 12.7 to Table 12.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

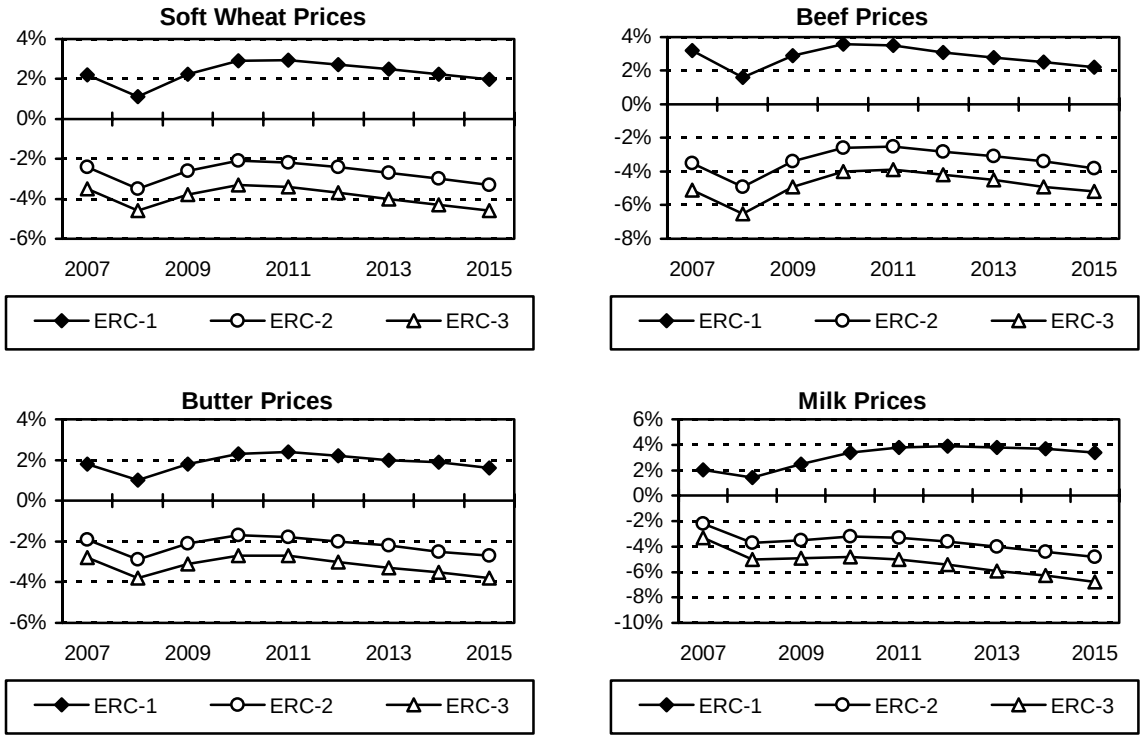
The impact of the three ERC scenarios when compared with one another and with the Baseline projections indicate that the Irish AGMEMOD model performs as one would have expected. The key prices under the ECR-1 scenario, where the euro exchange rate is $1.00 from 2007, increase when compared with the Baseline projections. Under both the ERC-2 and ERC-3 scenarios (where the euro appreciates against the dollar) prices decline as expected relative to the Baseline levels.

The magnitude of the changes in the key prices that are endogenously determined within the AGMEMOD modelling system are in general smaller than the percentage changes in prices

that are determined exogenously to the AGMEMOD model. For those prices determined exogenously the percentage change in the exchange rate from Baseline levels is fully reflected in the euro prices for these commodities (oilseeds and oil seed meals and oils). The impact of the changed exchange rate on the commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for these agricultural commodities.

Figure 12.1 charts the percentage change in four Irish prices under each of the three ERC scenarios. The commodity prices chosen for Ireland are soft wheat, beef, butter and milk. The prices are endogenously determined in the AGMEMOD model.

Figure 12.1 : Irish Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: Irish AGMEMOD Model (2006)

When the projections for Irish commodity markets under the ECR-1 Scenario are compared with those under the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use.

The two exchange rate change scenarios labelled ECR-2 and ECR-3 involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007, under the ECR-2, the euro is $1.30, while under ECR-3 the euro is $1.40 from 2007.

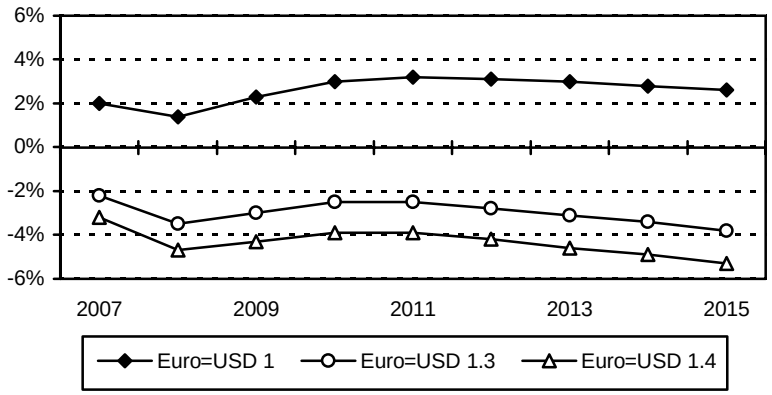
As in the ECR-1 scenario, the impact of the exchange rate changes in the ERC-2 and ECR-3 scenarios is most fully expressed in the prices of those commodities exogenous to the AGMEMOD model system. For the majority of agricultural commodities in the AGMEMOD modelling system, prices are determined endogenously together with all of the elements of the supply and use balances. Under each of the exchange rate appreciation scenarios, market

prices in Ireland are projected to be lower than under the Baseline. Lower prices are associated with reduced production and increased consumption. The relative magnitude of the impacts on prices and supply and use balances is, as expected, greater under the ECR-3 scenario than the ECR-2 scenario.

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. The main influence on gross agricultural income (ceteris paribus) arises from changes in agricultural output value. Higher prices and production levels in the ERC-1 scenario would lead to increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 12.2).

Figure 12.2 : Ireland: Gross agriculture income in ERC Scenarios. (% Δ from Baseline)



Source: Irish AGMEMOD Model (2006)

Table 12.7 : Ireland: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.2%	0.1%	0.4%	0.6%	0.8%	0.9%	1.0%	1.1%
Domestic use	0.4%	0.4%	0.5%	0.8%	0.9%	0.9%	0.8%	0.8%	0.7%
Soft wheat									
Production	0.0%	0.5%	0.3%	0.6%	0.9%	1.0%	1.1%	1.2%	1.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	2.21%	1.11%	2.24%	2.89%	2.95%	2.72%	2.48%	2.23%	1.97%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-0.1%	0.1%	0.1%	0.2%	0.4%	0.5%	0.7%	0.7%
Domestic use	0.0%	-0.2%	-0.3%	-0.5%	-0.7%	-0.9%	-1.1%	-1.2%	-1.3%
Producer price	2.1%	1.9%	2.8%	3.8%	4.3%	4.3%	4.0%	3.6%	3.3%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	2.7%	3.1%	4.9%	7.0%	8.5%	9.2%	9.5%	9.4%	9.1%
Producer price	2.3%	1.9%	2.9%	4.0%	4.3%	4.2%	3.8%	3.4%	3.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.2%	0.3%	0.5%	0.8%	1.1%	1.3%	1.4%	1.5%
Domestic use	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%
Producer price	2.0%	1.8%	2.7%	3.6%	4.1%	4.0%	3.8%	3.4%	3.1%
Total oilseeds									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.1%	0.3%	0.0%	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%
Domestic use	-1.6%	-1.4%	-2.1%	-2.7%	-2.9%	-2.8%	-2.7%	-2.6%	-2.4%
Producer price	3.5%	1.7%	3.2%	4.0%	3.9%	3.4%	3.1%	2.7%	2.4%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.6%	-0.4%	-0.6%	-0.8%	-0.8%	-0.7%	-0.6%	-0.5%	-0.5%
Producer price	4.8%	2.3%	4.9%	6.5%	6.2%	5.3%	4.8%	4.2%	3.7%
Poultry meat									
Production	0.0%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	0.6%	0.1%	0.4%	0.5%	0.4%	0.3%	0.2%	0.2%	0.1%
Producer price	1.0%	1.6%	1.5%	2.3%	2.7%	2.6%	2.4%	2.1%	1.9%
Sheep meat									
Production	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.0%	0.0%	-0.1%
Domestic use	0.9%	0.8%	1.2%	1.6%	1.7%	1.6%	1.5%	1.3%	1.2%
Producer price	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%
Fluid milk									
Production-quota	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%
Whole sale price	2.0%	1.5%	2.5%	3.4%	3.8%	3.9%	3.9%	3.7%	3.5%
Butter									
Production	0.9%	-0.1%	0.2%	0.1%	-0.3%	-0.8%	-1.0%	-1.2%	-1.2%
Domestic use	0.4%	0.2%	0.3%	0.4%	0.4%	0.4%	0.3%	0.3%	0.3%
Whole sale price	1.8%	0.9%	1.8%	2.2%	2.3%	2.1%	1.9%	1.7%	1.5%
SMP									
Production	3.1%	1.6%	2.6%	3.4%	2.8%	1.8%	1.0%	0.4%	-0.1%
Domestic use	-0.2%	-0.1%	-0.2%	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	0.0%
Whole sale price	2.0%	1.1%	2.1%	2.7%	2.7%	2.5%	2.3%	2.1%	1.8%
WMP									
Production	-0.5%	-0.3%	-0.6%	-0.9%	-1.0%	-1.0%	-1.1%	-1.1%	-1.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.3%	0.7%	1.3%	1.7%	1.7%	1.6%	1.4%	1.3%	1.1%
Cheese									
Production	-0.7%	0.3%	0.1%	0.3%	0.8%	1.2%	1.5%	1.6%	1.6%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Whole sale price	0.0%	1.7%	2.1%	3.3%	4.6%	5.6%	6.2%	6.3%	6.3%

Source: Irish AGMEMOD Model (2006)

Table 12.8 : Ireland: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.2%	-0.1%	-0.6%	-0.7%	-0.8%	-0.9%	-1.0%	-1.2%
Domestic use	-0.5%	-1.0%	-1.1%	-1.1%	-1.1%	-1.1%	-1.2%	-1.3%	-1.4%
Soft wheat									
Production	0.0%	-0.5%	-0.8%	-0.8%	-0.9%	-1.0%	-1.1%	-1.3%	-1.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-2.4%	-3.5%	-2.6%	-2.1%	-2.2%	-2.4%	-2.7%	-3.0%	-3.3%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.1%	0.0%	-0.3%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%
Domestic use	0.0%	0.2%	0.6%	0.8%	0.9%	1.0%	1.1%	1.2%	1.4%
Producer price	-2.3%	-4.2%	-4.1%	-3.6%	-3.4%	-3.6%	-4.0%	-4.4%	-4.9%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-3.8%	-7.8%	-9.5%	-10.1%	-10.6%	-11.3%	-12.2%	-13.3%	-14.5%
Producer price	-2.5%	-4.6%	-4.2%	-3.5%	-3.3%	-3.6%	-3.9%	-4.3%	-4.7%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	-0.2%	-0.6%	-0.9%	-1.0%	-1.1%	-1.2%	-1.4%	-1.6%
Domestic use	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.4%
Producer price	-2.1%	-4.0%	-3.9%	-3.3%	-3.2%	-3.4%	-3.7%	-4.2%	-4.6%
Total oilseeds									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.1%	-0.2%	-0.4%	-0.2%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%
Domestic use	1.8%	3.2%	3.0%	2.5%	2.3%	2.4%	2.7%	3.1%	3.6%
Producer price	-3.8%	-5.4%	-3.7%	-2.8%	-2.8%	-3.1%	-3.4%	-3.8%	-4.2%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.7%	1.1%	0.8%	0.7%	0.6%	0.7%	0.7%	0.8%	0.9%
Producer price	-5.2%	-7.5%	-5.6%	-4.4%	-4.3%	-4.6%	-5.3%	-5.9%	-6.6%
Poultry meat									
Production	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	-0.6%	-0.6%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
Producer price	-1.2%	-3.0%	-3.1%	-2.3%	-2.0%	-2.2%	-2.4%	-2.7%	-3.0%
Sheep meat									
Production	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Domestic use	-1.0%	-1.8%	-1.8%	-1.5%	-1.3%	-1.3%	-1.4%	-1.6%	-1.8%
Producer price	-0.2%	-0.4%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
Fluid milk									
Production-quota	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%
Domestic use	0.2%	0.4%	0.4%	0.4%	0.3%	0.4%	0.4%	0.4%	0.4%
Whole sale price	-2.3%	-3.8%	-3.6%	-3.4%	-3.5%	-3.7%	-4.1%	-4.4%	-4.8%
Butter									
Production	-1.1%	-1.0%	0.3%	0.8%	0.9%	0.8%	0.8%	0.8%	0.9%
Domestic use	-0.4%	-0.6%	-0.4%	-0.3%	-0.3%	-0.3%	-0.4%	-0.5%	-0.6%
Whole sale price	-1.9%	-2.9%	-2.0%	-1.6%	-1.6%	-1.8%	-2.1%	-2.3%	-2.5%
SMP									
Production	-3.7%	-5.5%	-3.5%	-1.8%	-1.3%	-1.4%	-1.5%	-1.6%	-1.6%
Domestic use	0.3%	0.4%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%
Whole sale price	-2.5%	-3.6%	-2.8%	-2.3%	-2.3%	-2.5%	-2.8%	-3.0%	-3.3%
WMP									
Production	0.6%	0.9%	0.8%	0.9%	1.0%	1.1%	1.2%	1.3%	1.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.5%	-2.2%	-1.7%	-1.3%	-1.3%	-1.5%	-1.7%	-1.8%	-2.0%
Cheese									
Production	0.9%	0.5%	-0.7%	-1.2%	-1.3%	-1.3%	-1.3%	-1.4%	-1.5%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Whole sale price	0.0%	-1.9%	-4.2%	-5.1%	-5.3%	-5.5%	-5.8%	-6.3%	-6.8%

Source: Irish AGMEMOD Model (2006)

Table 12.9 : Ireland: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.3%	-0.1%	-0.8%	-1.0%	-1.2%	-1.3%	-1.5%	-1.7%
Domestic use	-0.8%	-1.5%	-1.7%	-1.7%	-1.8%	-1.9%	-2.0%	-2.1%	-2.2%
Soft wheat									
Production	0.0%	-0.7%	-1.1%	-1.2%	-1.3%	-1.5%	-1.7%	-1.9%	-2.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-3.5%	-4.6%	-3.8%	-3.3%	-3.4%	-3.7%	-4.0%	-4.3%	-4.6%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.2%	-0.1%	-0.4%	-0.6%	-0.7%	-0.8%	-1.0%	-1.1%
Domestic use	0.0%	0.3%	0.8%	1.1%	1.3%	1.5%	1.7%	1.9%	2.1%
Producer price	-3.3%	-5.7%	-5.7%	-5.3%	-5.2%	-5.4%	-5.9%	-6.3%	-6.9%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-6.0%	-11.4%	-14.3%	-15.8%	-17.0%	-18.2%	-19.5%	-20.9%	-22.3%
Producer price	-3.7%	-6.1%	-5.9%	-5.3%	-5.1%	-5.4%	-5.8%	-6.2%	-6.6%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	-0.3%	-0.8%	-1.2%	-1.4%	-1.6%	-1.8%	-2.1%	-2.3%
Domestic use	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.3%	0.4%	0.5%
Producer price	-3.1%	-5.3%	-5.4%	-5.0%	-4.9%	-5.1%	-5.5%	-6.0%	-6.5%
Total oilseeds									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.1%	-0.4%	-0.5%	-0.3%	-0.4%	-0.5%	-0.6%	-0.7%	-0.7%
Domestic use	2.6%	4.3%	4.2%	3.7%	3.5%	3.7%	4.0%	4.5%	5.0%
Producer price	-5.6%	-7.1%	-5.4%	-4.4%	-4.3%	-4.6%	-4.9%	-5.3%	-5.7%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	1.1%	1.5%	1.2%	1.0%	1.0%	1.0%	1.1%	1.2%	1.2%
Producer price	-7.6%	-9.8%	-8.1%	-7.0%	-6.7%	-7.0%	-7.7%	-8.3%	-9.0%
Poultry meat									
Production	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	-0.8%	-0.8%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Producer price	-1.9%	-4.2%	-4.2%	-3.4%	-3.2%	-3.4%	-3.7%	-4.0%	-4.3%
Sheep meat									
Production	-0.1%	-0.3%	-0.3%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%
Domestic use	-1.4%	-2.4%	-2.5%	-2.2%	-2.0%	-2.0%	-2.1%	-2.3%	-2.6%
Producer price	-0.3%	-0.5%	-0.5%	-0.4%	-0.4%	-0.3%	-0.4%	-0.4%	-0.4%
Fluid milk									
Production-quota	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.4%	0.6%	0.6%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%
Whole sale price	-3.4%	-5.2%	-5.1%	-5.1%	-5.3%	-5.6%	-6.0%	-6.4%	-6.9%
Butter									
Production	-1.7%	-1.2%	0.3%	1.0%	1.2%	1.2%	1.2%	1.3%	1.4%
Domestic use	-0.6%	-0.7%	-0.5%	-0.4%	-0.4%	-0.5%	-0.6%	-0.6%	-0.8%
Whole sale price	-2.8%	-3.8%	-2.9%	-2.5%	-2.5%	-2.8%	-3.0%	-3.2%	-3.5%
SMP									
Production	-5.6%	-7.4%	-5.2%	-3.3%	-2.5%	-2.3%	-2.2%	-2.2%	-2.0%
Domestic use	0.5%	0.6%	0.4%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%
Whole sale price	-3.8%	-4.9%	-4.1%	-3.6%	-3.6%	-3.9%	-4.1%	-4.4%	-4.6%
WMP									
Production	0.9%	1.1%	1.1%	1.3%	1.4%	1.6%	1.7%	1.9%	2.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.3%	-3.0%	-2.4%	-2.1%	-2.1%	-2.3%	-2.5%	-2.7%	-2.8%
Cheese									
Production	1.4%	0.7%	-0.9%	-1.6%	-1.8%	-1.8%	-1.9%	-2.1%	-2.2%
Domestic use	0.0%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Whole sale price	0.0%	-2.7%	-5.7%	-7.0%	-7.6%	-8.1%	-8.7%	-9.3%	-9.9%

Source: Irish AGMEMOD Model (2006)

13 Italy

Roberto Esposti and Antonello Lobianco, Department of Economics, Università Politecnica delle Marche (UNIVPM), Ancona

13.1 Baseline

Table 13.1 shows the specific assumptions for Italy on the macroeconomic variables underlying the model's Baseline and scenario projections up to 2015. These projections assume quite a low growth rate for Italy (on average, about a yearly +0,9% of GDP per capita), even compared to most other EU countries, as well as very limited demographic growth rate and inflation rate, the latter being largely in line with projections made for other countries of the euro zone.

Table 13.1 : Assumptions on macroeconomic variables for Italy

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	56.9	58.2	58.3	58.5	58.5	58.6	58.6	58.7	58.7	58.7	58.7	58.6
GDP	bil. Euro97	1250	1289	1306	1321	1344	1363	1380	1396	1413	1430	1447	1464
GDP per capita	Euro97/cap	21949	22160	22387	22588	22968	23267	23529	23800	24080	24369	24668	24976
Inflation	1997=1	1.11	1.25	1.28	1.30	1.33	1.35	1.37	1.40	1.42	1.45	1.48	1.50

Source: DRI; Eurostat

The implementation of the CAP reform in Italy starts in 2005, with the exception of the dairy sector, where reform starts in 2006. Once applied to the dairy sector too, the "coupling rate" (as indicated in Table 13.2) declines sharply, to reach a level similar to other sectors in 2015.

Table 13.2 reports commodities that are all directly part of the reform, with a general substantial reduction of the coupled support, now included in the decoupled SFP. The supply-inducing multipliers have been calculated by the same methodology as in all other countries. Italian multipliers under the Baseline, however, may seem a little lower than most other countries. This is because in the implementation of the 2003 CAP reform, Italy decided to opt for full decoupling beginning in 2005. Nonetheless, as may be noticed, the decoupling rate for Italy is not full for two principal reasons.

In the first instance, it is assumed that the decoupled payments will retain some supply-inducing impacts on the agricultural sector, which will depend on:

- the distribution effects of payments to other sectors in comparison with the entitled hectares and animals in the reference years (in Italy, 43% of CAP payments in the reference period will go to land that originally did not attract subsidies);
- compulsory modulation effects (the modulation rate will reach 15% in 2015 in Italy) and
- shift rate effects (it is assumed that arable and livestock farmers will exit the Italian agricultural sector at an annual rate of 2.5% and 5% respectively).

Therefore multipliers in Table 13.2 are used to simulate the effect of the SFP by reducing the amounts of direct payments (as used under the old scheme) to 'synthetic' premium levels. As already mentioned, Italian multipliers are relatively low because a major part will be allocated to other land-related agricultural commodities than are covered in this study.
There is, however, a second reason for a non-full decoupling rate. In fact, though Italy chose full decoupling from the very beginning of the reform implementation procedure, even for commodities for which support is now "transferred" into the decoupled SFP, EC Regulation 1782/2003 still allows coupled support for some commodities and/or in some particular circumstances. For durum wheat, a specific quality premium (40€/ha according to Article 73)

is retained[2]. As is clearly evident from Table 13.2, among the commodities directly impacted by the Reform, durum wheat retains the maximum coupling rate of the support (still 45% in 2015).

Table 13.2 : Supply-inducing multipliers of Italian agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	0.56	0.54	0.51	0.49	0.48	0.46	0.44	0.43	0.41	0.39	0.38
Oilseeds	index	1.00	0.56	0.54	0.51	0.49	0.48	0.46	0.44	0.43	0.41	0.39	0.38
Durum wheat	index	1.00	0.61	0.59	0.57	0.55	0.54	0.52	0.51	0.49	0.48	0.46	0.45
Suckler cows	index	1.00	0.56	0.52	0.49	0.46	0.43	0.40	0.38	0.36	0.33	0.31	0.29
Milk	index	1.00	1.00	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31
Maize	index	1.00	0.56	0.54	0.51	0.49	0.48	0.46	0.44	0.43	0.41	0.39	0.38
Ewes	index	1.00	0.56	0.52	0.49	0.46	0.43	0.40	0.38	0.36	0.33	0.31	0.29
Sheep	index	1.00	0.56	0.52	0.49	0.46	0.43	0.40	0.38	0.36	0.33	0.31	0.29
Bulls	index	1.00	0.56	0.52	0.49	0.46	0.43	0.40	0.38	0.36	0.33	0.31	0.29

Source: Own calculations

Table 13.3 summarises the Baseline projections for the main agricultural commodities in Italy, driven by the macroeconomic variables and CAP reform implementation as outlined above. However, it must be remembered that here, results (for both Baseline and alternative scenarios) are generated using the EU15 combined model. They therefore incorporate not only the projections of Italian macroeconomic and policy variables, but also the indirect effects of the same variables as projected in all other countries, according to all the model inter-linkages between Italian agriculture and the rest of EU15, especially in terms of price transmission.[3] The figures below set out in detail the Baseline projections of the key market variables (domestic supply, demand and price) by group of commodities.

Grains and oilseed sectors

Baseline results for these commodities are largely in line with prior expectations. The decoupling of direct payments from production is expected to reduce the gross margin for crops and thus shift land allocation towards more profitable activities. With regard to cereals, and in comparison to 2000, projections of production levels in 2015 show a decline for most commodities, the largest production declines being for soft wheat (-21%), durum wheat (-2%), barley (-13%) and maize (-5%).

To counterbalance the supply side decline, all cereal prices increase from 2005 to 2015, with the largest price increase observed for durum wheat (+28%). However, it should be noted that over the longer term perspective, this increase merely brings prices back to more or less the 2000 levels. Only in the case of durum wheat is the 2015 price significantly above the 2000 level. As a consequence of these cereal price increases, however, domestic consumption remains stagnant (durum wheat, maize) or even declines (barley), with a significant increase in domestic consumption observed only for soft wheat (+8%). These supply and demand side projections may generate a notable increase in Italian net imports of soft wheat.

2 Other quality premiums applied to specific commodities (durum wheat included) may still imply a coupled support according to article 69 of regulation 1782/2003 and on the basis of individual country choices. However, countries are allowed to make these choices on a yearly base, so it is not possible to project if and how Italy will implement article 69 payments from now to 2015. For this main reason, these coupled payments are disregarded in the present analysis.

3 All relevant and detailed information (estimates, goodness of fit and validation) concerning the Italian AGMEMOD econometric model, can be found at http://www.agmemod.org under 5th Framework Research Programme.

For oilseeds, we observe a generalised pattern on the supply side. Production increases sharply, ranging from 40% to 55% for sunflower and soybeans respectively by 2015. When compared to 2000 production levels, this increase is even more remarkable for these commodities, while it represents a decline in rapeseed production. Rapeseed differs from the other two commodities, both because it is much less significant in Italian agriculture and because over the longer term there is no observable trend towards production growth. By contrast, domestic use of rapeseed declines steeply, while it increases sharply in the case of sunflower and soybeans (though the consumption changes are at lower rate compared to changes in production). Overall, this leads to a somewhat less negative level of Italian net exports of these commodities. In part these changes can be attributed to long-term trends as well as to the impact of the CAP reform, and a general trend towards higher prices. Besides supply growth oilseed prices keep pace strictly with world market prices, thus showing, in the 2005 to 2015 period, a 17% to 19% increase, the largest increase being for sunflowers.

Livestock and dairy sectors

For livestock production the projections indicate no dramatic change over the 2005-2015 period, or even over 2000-2015. Changes in production seem to follow quite a smooth pattern, with the impact of the 2003 CAP reform, particularly in comparison to 2000 figures, straddling pre-existing long-term trends on the supply and demand sides of the market. As expected in response to the reform, we observe two opposite tendencies in production. On the one hand, beef production will remain quite stable and sheep meat production will decline by 16%. The latter development is not particularly relevant as production in Italy is relatively marginal. On the other hand, pig and poultry meat production would increase (+33% and +10%, respectively) over the projection period.

These supply-side patterns are largely mirrored on the demand side, where beef and sheep meat consumption declines, while consumption increases for pig and poultry meat. These trends on either side of the market explain why prices remain quite stable, ranging between a maximum decline of 4% for poultry and a maximum growth of 5% for beef and veal.

Broadly, the dairy sector show less pronounced changes from 2005 to 2015 when compared to the crop sectors and even meat production. This is despite a significant decline in the size of Italian herds, at least partially induced by the CAP reform. Maintenance of the quota system in milk production largely stabilises milk production figures and, indirectly, prices. Fluid milk production declines by less than 1% while the milk price increases by 6%. The milk price increase is in itself not enough to explain a significant reduction in domestic demand (-12%), which is evidently an expression of longer-term consumption patterns.

We observe more significant dynamics for other dairy sector commodities. If we exclude SMP and WMP, where the level of production is almost irrelevant in Italy, we observe significant developments for both the butter and cheese markets. Butter production remains stable (–down 3% from 2005 to 2015, but 27% if compared to 2000 production), but demand increases sharply (11%). as does price (9%). Similarly, cheese production increases (6%), and there is similar growth on the demand side (7%); nevertheless, cheese price declines slightly, by 2%.

Agricultural income

While notable changes for particular commodities have been outlined in the projections above, the key figure which summarises the effect of the 2003 CAP reform and prevailing long-term trends in Italian agriculture is the final outcome in terms of agricultural income. It

must be emphasised here that the Italian AGMEMOD country model does not cover some of the elements making up overall agricultural production in Italy. In fact, the set of agricultural commodities modelled here covers less that 50% of the value of Italian agricultural output. Of necessity, some very important production items have been excluded (for instance wine, fruits and vegetables). Moreover, on the cost side, the model evaluates feed costs as the sole input variable, being directly linked to livestock and dairy production.

Nonetheless, the projections for production and price levels presented above provide input for a cautious description of the way gross agricultural sector income might develop (Table 13.3). This is based on the projected development of agricultural output value, subsidies (direct payments and SFP) and feed costs for the commodities under consideration. Table 13.3 looks at these projections in terms of indices based on 2000 levels.

Two major aspects should be emphasised. Firstly, the reform, in comparison to 2000 figures, generates income growth rather than decline, with agricultural income growing quite steadily from 2000 to 2015, with a 2% increase in the first five years and a 13% increase after the implementation of the Reform. Thus, the 2003 CAP Reform does not negatively impact on income. On the contrary, it appears to improve it.

Secondly, the ultimate effect on agricultural income is generated by a combination of factors. In the early years of the projection period, output value remains almost stagnant while subsidies increase significantly if compared to 2000 levels. From 2009 onward, on the other hand, we observe significant output growth while subsidies decline. Eventually the former increases by 11% with respect to 2000, the latter by just 9%.

In the final analysis, gross agricultural income grows due to a combination of three major forces. Of these, the increase in subsidies is the least relevant, while the combined effect of the above-mentioned output growth is of more importance. Costs of input use (at least feed costs) will decrease by 12% compared to 2000, though most of this decline is concentrated in the 2000-2005 period.

Table 13.3 : Agricultural output, subsidies, feed cost and gross income in Italy[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.98	0.97	0.99	1.02	1.02	1.04	1.05	1.06	1.07	1.09	1.11
Subsidies/SFP	2000=1	1.00	1.18	1.25	1.22	1.20	1.19	1.17	1.16	1.14	1.11	1.10	1.09
Feeding costs	2000=1	1.00	0.89	0.85	0.90	0.93	0.91	0.90	0.90	0.90	0.89	0.89	0.88
Gross agric. income	2000=1	1.00	1.02	1.02	1.04	1.05	1.06	1.08	1.09	1.10	1.11	1.13	1.15

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Own calculations on Italian AGMEMOD Model (2006)

Table 13.4 : Baseline results concerning main agricultural commodities of Italy

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	16410	13738	13811	14171	14527	14732	14787	14844	14906	14980	15090	15204
Domestic use	1,000 ton	22201	22993	22434	22557	22712	22704	22725	22774	22814	22735	22779	22828
Soft wheat													
Production	1,000 ton	2743	2185	2197	2237	2278	2278	2252	2222	2202	2190	2182	2173
Domestic use	1,000 ton	7719	8297	8441	8548	8606	8683	8751	8809	8856	8794	8856	8915
Producer price	euro/ton	126	119	119	122	124	123	123	123	124	125	125	126
Durum wheat													
Production	1,000 ton	4320	4187	4211	4299	4354	4351	4313	4288	4272	4262	4258	4254
Domestic use	1,000 ton	3223	3373	3301	3260	3263	3315	3313	3298	3287	3278	3270	3265
Producer price	euro/ton	173	156	167	179	184	178	179	184	188	192	196	199
Barley													
Production	1,000 ton	1042	789	782	805	829	845	851	859	868	879	893	909
Domestic use	1,000 ton	1881	1634	1586	1556	1513	1472	1436	1397	1353	1270	1228	1183
Producer price	euro/ton	131	117	119	121	124	125	125	126	127	129	130	132
Maize													
Production	1,000 ton	8305	6576	6621	6831	7066	7258	7370	7475	7565	7649	7757	7868
Domestic use	1,000 ton	9377	9689	9107	9192	9330	9234	9225	9270	9317	9393	9425	9465
Producer price	euro/ton	146	130	130	132	136	136	136	135	135	136	136	136
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	1901	2729	2815	2890	2996	3119	3242	3362	3483	3608	3736	3867
Domestic use	1,000 ton	2708	2922	2951	2979	3010	3047	3084	3122	3161	3203	3247	3294
Rapeseed													
Production	1,000 ton	83	42	45	48	51	54	56	56	57	57	58	59
Domestic use	1,000 ton	77	35	31	29	27	26	25	24	23	23	24	24
Producer price	euro/ton	186	193	194	220	235	221	213	213	214	217	218	219
Sunflower													
Production	1,000 ton	620	635	665	710	747	778	805	826	848	871	895	918
Domestic use	1,000 ton	736	790	802	814	825	837	849	860	872	885	898	912
Producer price	euro/ton	201	192	198	229	245	232	225	225	228	229	230	230
Soybeans													
Production	1,000 ton	1198	2052	2105	2132	2198	2288	2382	2479	2578	2680	2784	2890
Domestic use	1,000 ton	1896	2097	2118	2136	2158	2184	2211	2237	2265	2295	2326	2359
Producer price	euro/ton	213	196	189	217	236	225	218	221	224	227	229	231
Beef and veal													
Production	1,000 ton	1123	1134	1132	1136	1140	1140	1141	1139	1137	1136	1135	1134
Domestic use	1,000 ton	1501	1424	1420	1400	1390	1379	1361	1346	1332	1314	1294	1274
Producer price	euro/100 kg	142	132	131	137	139	135	133	133	134	135	137	139
Pig meat													
Production	1,000 ton	1471	1625	1652	1670	1686	1706	1731	1755	1775	1796	1819	1845
Domestic use	1,000 ton	2205	2308	2345	2370	2415	2453	2485	2518	2550	2580	2610	2639
Producer price	euro/100 kg	164	156	150	148	151	153	156	156	154	156	158	161
Poultry meat													
Production	1,000 ton	1188	1266	1281	1290	1302	1319	1336	1351	1367	1383	1399	1416
Domestic use	1,000 ton	1120	1147	1154	1162	1176	1186	1197	1205	1212	1221	1231	1240
Producer price	euro/100 kg	141	142	141	140	140	140	139	138	138	137	136	136
Sheep meat													
Production	1,000 ton	73	70	69	68	67	66	65	64	63	62	61	60
Domestic use	1,000 ton	108	103	103	102	104	105	106	106	106	107	107	107
Producer price	euro/100 kg	322	337	338	338	340	343	345	347	349	350	352	353
Fluid milk													
Production	1,000 ton	11417	11457	11430	11391	11381	11391	11398	11409	11419	11430	11442	11455
Domestic use	1,000 ton	3438	3855	3867	3863	3856	3846	3834	3820	3805	3789	3773	3755
Whole sale price	euro/100 kg	38	38	37	37	38	38	38	39	39	39	40	40
Butter													
Production	1,000 ton	71	94	98	99	99	99	100	99	97	96	95	94
Domestic use	1,000 ton	100	107	109	110	111	112	113	114	115	117	118	119
Whole sale price	euro/100kg	373	374	363	365	373	376	381	386	392	398	403	409
SMP													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	118	120	122	128	127	123	118	112	107	103	98	94
Whole sale price	euro/100kg	244	197	186	181	184	183	183	183	183	184	185	185
WMP													
Production	1,000 ton	1	1	1	1	1	1	1	1	1	1	1	1
Domestic use	1,000 ton	37	42	44	46	46	47	48	48	49	49	49	50
Whole sale price	euro/100kg	285	238	222	217	220	218	218	218	219	220	221	221
Cheese													
Production	1,000 ton	1103	1013	1000	994	1000	1004	1009	1015	1021	1027	1034	1041
Domestic use	1,000 ton	1138	1049	1058	1069	1078	1086	1093	1100	1107	1113	1119	1124
Whole sale price	euro/100kg	945	950	950	934	928	930	929	925	922	921	923	926

Source: Italian AGMEMOD Model (2006)

13.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU MS. Single Payment Scheme (SPS) payments in EU15 MS were subject to modulation on exceeding specific amounts. The 'Further CAP reform' scenario, described in detail in Report III AGMEMOD - Model description, effectively standardises the MS CAP implementation plans which are, under current policy, nationally differentiated. This is achieved by imposing full decoupling from 2007, while the rates of compulsory modulation associated with the current SPS are increased to 10% from 2007 onwards.

In 2004, Italy decided that from 2005 onward it would decouple almost all direct payments previously made to Italian farmers and introduce an SPS based strictly on historical entitlements. Italian farmers receiving Single Farm Payments (SFP) in excess of € 5 000 were, like other farmers in EU15 MS, subject to modulation at rates that from 2007 will reach the maximum level in 2015.

This further CAP reform scenario, involving the "full" decoupling of all CAP direct payments and increased rates of modulation, would not, *a priori*, be expected to have a major impact on the supply and use of agricultural commodities in Italy, with durum wheat the only exception. On the one hand, most commodity payments in this study are already fully decoupled under the Baseline starting from 2005, though a significant specific coupled support scheme remains for durum wheat under the Baseline scenario. In this FCR scenario, support is entirely decoupled, with the expected consequent effect of a reduction in durum wheat production. On the other hand, increases in the rate of compulsory modulation would, by decreasing the value of the SFP, be expected to have some (negative but) quite limited impact on supply. In addition, the full decoupling of CAP payments in all EU MS would be expected to alter the supply and use balance in EU agricultural commodity markets since many MS have chosen to only partially decouple some direct payments. Such an altered supply and use balance at the EU level would be expected to mean reduced indigenous production of those agricultural commodities that are still supported by coupled direct payments and to consequently have at least some positive impact on EU market prices for agricultural commodities.

Nonetheless, the result of this "further CAP reform", presented below, confirms that the impact on Italian agricultural commodity markets of full decoupling in all other MS, of decoupling of durum wheat specific premiums, and of the increased rate of modulation, is indeed rather limited.

Main Results

As mentioned, results obtained under the FCR scenario do not differ very much from the Baseline, simply because the scenario does not change the policy to any great extent. Under the Baseline we already have full decoupling for Italy; thus, the FCR scenario only means further decoupling on durum wheat and a slight increase in the degree of modulation. In the end, given the impact on durum wheat, the scenario seems to produce impacts which are relevant only for cereals. It should be emphasised that we do not include the coupled payments related to Article 69 of the Reform.

The impact of full decoupling in other EU MS, as well as of the specific durum wheat premium (40€/ha), on Italian agricultural commodity markets is reflected in the market clearing prices development, thus balancing Italian agricultural commodity supply and use.

However, the implementation of full decoupling across all EU MS leads to rather small increases in the supply-inducing prices that are used in the Italian AGMEMOD model. For most commodities, the percentage changes from the Baseline level projections for commodity prices are negligible (see also Table 13.5). The only Italian price acting as a key price in the EU market (that is, durum wheat) also reacts weakly to this change in scenario. As expected, due to the limited reduction in durum wheat production, in Italy as in the other producer countries, the price is slightly higher than the Baseline: by 1.5% in 2008 and by less than 1% in all other years; thus, as shown in Figure 13.1, the scenario impact on price is almost entirely dissipated after the first year of application.

Table 13.5 and Table 13.6 report the Italian AGMEMOD model's projections under the FCR scenario in comparison with the Baseline projections (differences in percentage terms with respect to the Baseline are reported). The remainder of this section comments on these results.

Grains and oilseed sectors

The impact of the FCR scenario on Italian grain markets when compared to the Baseline projections is, as expected, quite modest, as the 2003 CAP reform in Italy already implies full decoupling under the Baseline. Other indirect effects could be generated through prices. In fact, full decoupling applied in those countries for which decoupling is partial under the Baseline could generate, in principle, some effects on EU key prices and, consequently, through price transmission, even on Italian prices. As already emphasised, however, this happens only to a very limited extent.

Consequently, prices in the FCR scenario are almost unchanged relative to the Baseline, while production declines for all cereals between 1% and 2%. This decline can be explained merely by the increase in modulation of support. However, there is no effect on oilseed production. As expected, since prices remain constant, the demand side does not respond at all to this change in scenario.

The only commodity for which we could expect a significant impact from the FCR scenario is durum wheat. In this case, the change in scenario implies a reduction in coupled support, thus a negative impact on production. However, this effect will be less relevant with respect to other cereals, the decline being less than 1%. This counterintuitive outcome is explained by the contemporaneous response of price and by the cross-commodity linkages emerging within the model. Unlike other cereals, the durum wheat price rises (see Figure 13.1), thus simultaneously reducing the negative impact on production and generating a slight decline in domestic demand (less than 0.6%).

Livestock and dairy sectors

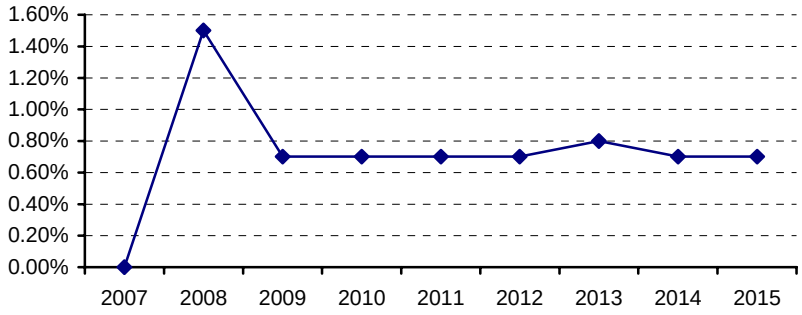
The Baseline shows that, in the beef and dairy sectors, the number of animals may significantly decline, whereas output is not affected to the same extent. On the contrary, other commodities (such as pig and poultry meat) maintain a long-term upward trend, which is apparently not very much affected by changes in the CAP regime.

Within these general patterns, the impact of the FCR scenario on Italian livestock markets when compared to the Baseline projections is really negligible. This is clearly because there are no differences in the decoupling rates of the animals covered in the Italian model between the two situations. Thus, at least in terms of direct effects, there is no significant change in scenario for these products. The introduction of full decoupling in other EU MS might indeed lead to a reduced indigenous EU supply of meats and somewhat higher EU prices for the

meats, thus indirectly also affecting Italian prices and production and consumption figures. But these indirect effects are very small. Only beef and sheep meat prices show a very limited increase (always less than 0.4% and 0.1%, respectively), still not affecting supply and demand behaviour in the former case, and only marginally in the latter (production and consumption down by less than 0.2%).

The impact on the dairy sectors is even more negligible: no change is registered between the two scenarios, with the only – almost irrelevant – change in SMP domestic use (+0.1%).

Figure 13.1 : Italian Durum Wheat Price: FCR Scenario (% Δ from Baseline)



Source: Italian AGMEMOD Model (2006)

Table 13.5 : Italy: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-1.5%	-1.4%	-1.1%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%	-0.9%
Domestic use	0.01%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soft wheat									
Production	-1.1%	-1.1%	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	-1.2%	-1.2%	-0.9%	-0.8%	-0.8%	-0.9%	-0.9%	-0.8%	-0.8%
Domestic use	0.0%	-0.6%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Producer price	0.0%	1.5%	0.7%	0.7%	0.7%	0.7%	0.8%	0.7%	0.7%
Barley									
Production	-1.4%	-1.4%	-1.1%	-1.1%	-1.1%	-1.1%	-1.1%	-1.1%	-1.1%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Maize									
Production	-1.8%	-1.7%	-1.2%	-1.1%	-1.1%	-1.1%	-1.1%	-1.0%	-1.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.4%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Italian AGMEMOD Model (2006)

Agricultural income

It should come as no surprise that, according to the results presented above, the impact of the

FCR scenario with respect to the Baseline in terms of agricultural output and income is itself very limited. The bottom line is that, even in commodities for which we observe slightly higher price (for instance, durum wheat), the effect on output value is offset by the contemporaneous modest decline in the level of production. Thus, Table 13.6 indicates that, compared to the Baseline, Italian agricultural income decreases very slightly under the FCR scenario, and this effect is entirely due to the lower subsidy receipts generated by the increase in the rate of modulation. In fact, the value of agricultural output remains almost unchanged, as do costs. On the other hand, we observe a significant and progressive reduction in subsidies, from -8% to -9% in 2015. This confirms that, at least in Italy, a limited reduction in decoupled subsidies (through modulation or other devices) should not generate major concerns in terms of agricultural income.

Table 13.6 : Italy: Agricultural output and income under FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Subsidies/SFP	-7.9%	-8.0%	-8.1%	-8.2%	-8.3%	-8.4%	-8.7%	-8.8%	-8.9%
Feeding costs	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%
Gross agric. income	-1.3%	-1.1%	-1.1%	-1.1%	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%

Source: Own calculations on Italian AGMEMOD Model (2006)

13.3 Exchange Rate Change (ERC)

The exchange rate between US dollar (US$) and euro is an important factor in determining the influence of agricultural commodity world prices on EU agricultural markets and, consequently, on the competitiveness of EU agricultural exports on world markets themselves. Under the Baseline, the exchange rate is fixed at 1.24 US$ per euro from 2007 onwards. In evaluating the impact of changes with respect to this key macroeconomic assumption, three alternative exchange rates are considered. Two of these involve a further depreciation of the US$ versus the euro, with the exchange rate moving to 1.30 and 1.40 US$ per euro in 2007, respectively, and then fixed there onward. The third considers a depreciation of the euro versus the US$, with the exchange rate fixed at parity (i.e. 1 US$ per euro) from 2007 onwards.

With the exception of durum wheat, Italian prices are not key prices in the AGMEMOD model structure. Thus, the influence of these alternative exchange rates on Italian agriculture operates mainly indirectly through their impact on the commodity key-price projections, as generated by the combined AGMEMOD model, then transmitted to Italian domestic prices.

For a number of commodities and for some countries, such as oilseeds and their associated meals and oils in the Italian case, price is not generated endogenously within the country AGMEMOD model. In these cases, as already underlined, prices for European farmers are assumed to be world prices (in US$), then converted into national currency equivalents. Therefore, for such products, the model is expected to be particularly responsive to world price changes; in this respect, any variation in the exchange rate has a direct impact on domestic prices and on associated supply and demand side variables. Considering that Italy is a net importer of most oilseeds or oilseed products, the impact of the varying exchange rate is expected to be of relevance to the domestic price but then, however, more significant for the consumption figures rather than on the supply side.

A different situation may occur for durum wheat. In this case, the Italian price is the EU key price. Consequently, it is driven directly by world market price so that, even in this case,

changes in the US$/€ exchange rate operates directly in the Italian market. Italy being a major durum wheat producer, however, bigger effects are expected on the supply side.

Main Results

This section summarises the projection results generated for Italy under the Exchange Rate Change (ERC-*) scenarios as depicted above. We have labelled these scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 13.7 to Table 13.9 provide the detailed results of the impact of the three scenarios relative to the Baseline in terms of percentage changes. Below, we discuss the most relevant evidence emerging from these results.

The general picture is that the AGMEMOD model responds to the exchange rate changes as expected. We can note that the ERC-1 scenario corresponds to an increase in world market prices and this price growth effect is then transmitted to the EU and Italian internal markets, albeit with a different impact across commodities. In any case, prices rise in all markets generate, in general terms, the expected effects on the supply (production increase) and demand (consumption decline) side, though the linkages between commodity markets (for instance, substitution effects) may also generate some slightly counterintuitive results in a few cases (e.g. sheep meat). In addition, the impact is larger when the exchange rate shock is bigger; by comparing projections of ERC-2 and ERC-3 scenarios, it clearly emerges that prices decline more in the latter case, as expected.

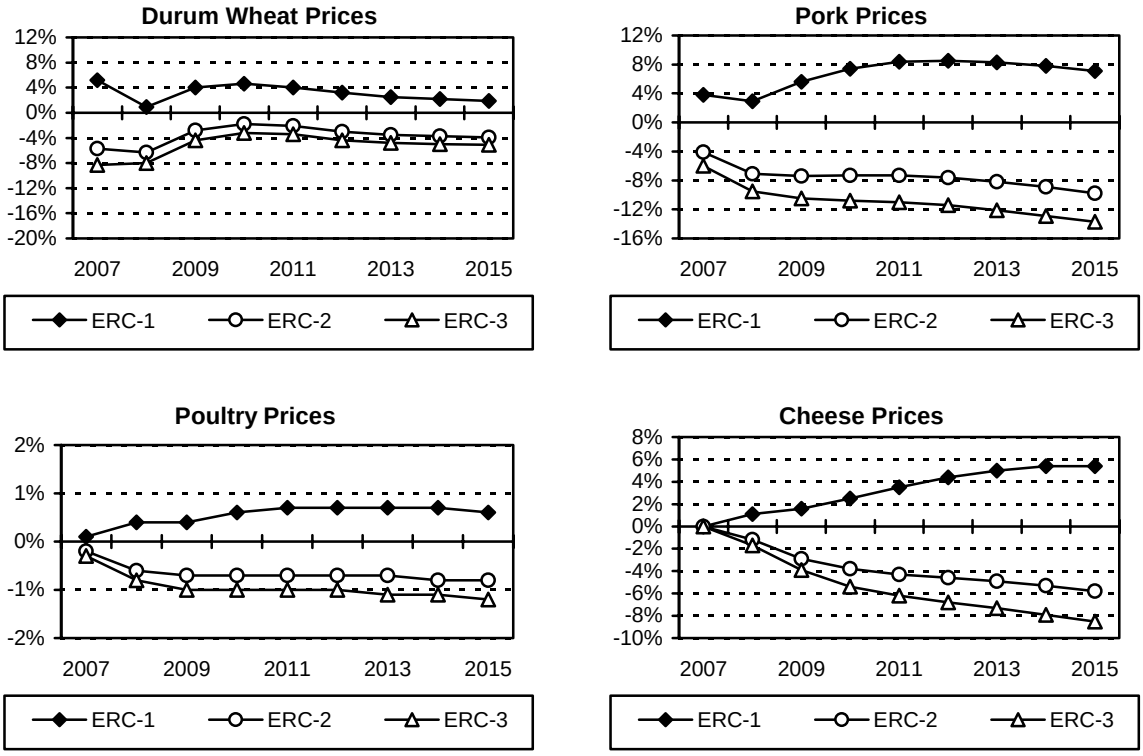
Looking in more detail at individual markets, we see that in general terms the impact of ERC scenarios on prices are less than proportional with respect to the original change induced on world market prices. This attenuation clearly depends on price transmission mechanisms and on the national market's dependency on world markets. For this reason it may be of interest to focus on some selected commodities (Figure 13.2). One is durum wheat since, as has been mentioned, the Italian market is directly linked to the world market price, so the attenuation effects due to price transmission should be quite limited. Results confirm that the durum wheat price is the most respondent among cereals to ERC scenarios.

Similarly, oilseeds are another interesting group of products. Here, as expected, the exchange rate shocks are entirely transmitted to prices, so the impact of the ERC scenarios is exactly the same over all oilseeds, and the size of this impact corresponds to the percentage variation on world prices induced by the new exchange rates. Nevertheless, the impact of this price change on supply and domestic consumption differs among commodities and is negligible in most cases (less than 1.2%), with the sole exception of rapeseed domestic use, that responds almost proportionally, though in the opposite direction, to price shocks.

Regarding the livestock sector, only the pig meat market seems to react to a greater extent, and this may be explained by the fact that this market is one of the less protected and is largely exposed to international competition. Another interesting case is the cheese market, in which Italy is either a major importer and exporter and where the price impacts of the ERC scenarios are quite relevant, too, whereas these are almost negligible in other dairy sectors (milk and butter, for instance). Finally, it may be interesting also to focus on the poultry meat market, which is, as in the case of pork, less protected and more open to world competition, but which is also the only meat product for which Italy is a major net exporter. For this latter reason, we expect more limited effects on domestic price induced by the ERC scenarios than pig meat, and this expectation is fully confirmed by results.

Figure 13.2 reports the price changes for these selected commodities, comparing the ERC scenarios with the Baseline. The percentage change with respect to the Baseline tends to stabilise after 2010 in most cases, with the exception of the pork and poultry price in the ERC-3 scenario.

Figure 13.2 : Italian Selected Commodity Prices: ERC Scenarios (% Δ from Baseline)



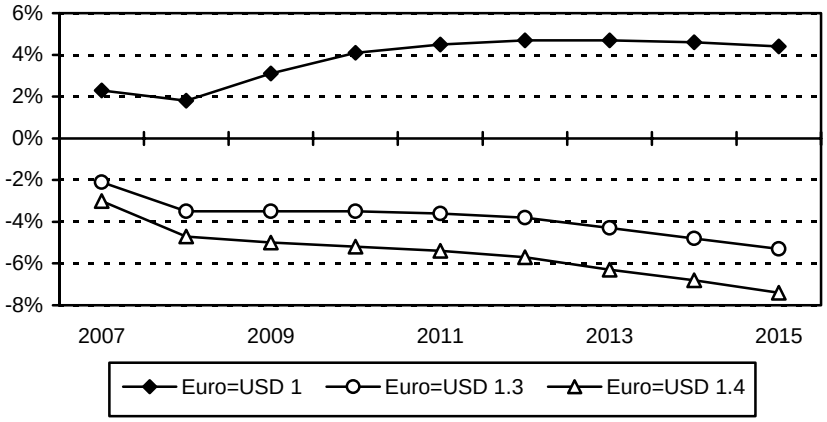
Source: Italian AGMEMOD Model (2006)

Agricultural income

The expected impact of these ERC scenarios on agricultural income emerges quite clearly from the above discussion. These scenarios do not directly affect CAP payments, so subsidies should remain constant (at least those that are decoupled). On the other hand, major effects are expected in terms of the value of agricultural output. Since ERC-1 generates increasing prices, and this in turn implies a supply-inducing effect, this scenario is expected to improve the value of output, albeit to only a limited extent in the case of costs. Consequently, gross agricultural income is expected to increase. For the same arguments, under the ERC-2 and ERC-3 scenarios, income is expected to decline, faster in the latter case. Figure 13.3 fully confirms these expectations. Compared to the Baseline, in 2015 income is 4% higher under the ERC-1 scenario, while we observe a 6% and 8% decline, respectively, when ERC-2 and ERC-3 apply. In ERC-1 most income variation is observed before 2011, while in ERC-2 and ERC-3 the impact continues, and even quickens, during the 2010-2015 period.

This effect on agricultural income is much more relevant than under the FCR scenario. This means that the debate on further CAP reforms and their impact on farmers' income is somewhat overstated, relative to the role of world market changes, e.g. changing exchange rates.

Figure 13.3: Italy: Gross agriculture income in ERC Scenarios. (% Δ from Baseline)



Source: Own calculations on Italian AGMEMOD Model (2006)

Table 13.7 : Italy: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	1.5%	1.2%	2.3%	2.7%	3.3%	3.2%	3.0%	2.7%
Domestic use	0.19%	0.3%	0.2%	0.4%	0.4%	0.3%	0.2%	0.2%	0.1%
Soft wheat									
Production	0.0%	1.7%	1.2%	2.2%	2.4%	2.8%	2.5%	2.1%	1.8%
Domestic use	-0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	-0.2%	-0.2%	-0.3%
Producer price	2.8%	1.4%	2.8%	3.6%	3.6%	3.3%	2.9%	2.6%	2.3%
Durum wheat									
Production	0.0%	1.1%	0.7%	1.4%	1.5%	1.8%	1.7%	1.5%	1.3%
Domestic use	-3.0%	-0.1%	-2.3%	-2.3%	-2.0%	-1.7%	-1.3%	-1.2%	-1.0%
Producer price	10.3%	1.6%	8.9%	9.6%	8.6%	7.4%	6.1%	5.4%	4.6%
Barley									
Production	0.0%	1.5%	1.5%	2.6%	3.2%	4.0%	4.1%	4.0%	3.8%
Domestic use	1.1%	0.5%	1.3%	1.6%	1.6%	1.3%	0.7%	0.5%	0.4%
Producer price	2.1%	1.9%	2.9%	4.0%	4.5%	4.5%	4.3%	3.9%	3.6%
Maize									
Production	0.0%	1.8%	1.6%	2.9%	3.5%	4.2%	4.2%	3.9%	3.5%
Domestic use	1.4%	0.6%	1.2%	1.5%	1.4%	1.2%	1.1%	0.9%	0.8%
Producer price	1.9%	1.7%	2.5%	3.4%	3.8%	3.7%	3.4%	3.0%	2.7%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.2%	0.2%	0.4%	0.4%	0.5%	0.5%	0.4%	0.4%
Domestic use	0.0%	0.1%	0.1%	0.2%	0.3%	0.4%	0.4%	0.5%	0.5%
Rapeseed									
Production	0.0%	0.2%	0.3%	0.4%	0.4%	0.5%	0.5%	0.4%	0.4%
Domestic use	1.5%	2.1%	3.5%	5.4%	7.0%	8.2%	9.0%	9.3%	9.3%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Sunflower									
Production	0.0%	0.2%	0.2%	0.3%	0.3%	0.4%	0.3%	0.3%	0.3%
Domestic use	0.1%	0.1%	0.2%	0.3%	0.4%	0.5%	0.6%	0.6%	0.7%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Soybeans									
Production	0.0%	0.2%	0.3%	0.4%	0.5%	0.5%	0.5%	0.5%	0.4%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.4%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Beef and veal									
Production	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Domestic use	-0.8%	-0.4%	-1.0%	-1.3%	-1.4%	-1.3%	-1.3%	-1.2%	-1.1%
Producer price	3.9%	1.9%	3.6%	4.4%	4.3%	3.8%	3.4%	3.0%	2.7%
Pig meat									
Production	0.1%	0.2%	0.4%	0.7%	1.1%	1.5%	1.8%	2.2%	2.4%
Domestic use	-0.3%	-0.1%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%
Producer price	3.8%	2.9%	5.6%	7.4%	8.4%	8.5%	8.3%	7.8%	7.1%
Poultry meat									
Production	-0.3%	-0.2%	-0.3%	-0.4%	-0.4%	-0.3%	-0.3%	-0.2%	-0.2%
Domestic use	0.3%	0.2%	0.4%	0.5%	0.6%	0.6%	0.5%	0.5%	0.5%
Producer price	0.1%	0.4%	0.4%	0.6%	0.7%	0.7%	0.7%	0.7%	0.6%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.3%	0.0%	0.0%	0.0%	0.2%	0.3%	0.3%	0.3%	0.3%
Producer price	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Fluid milk									
Production	-0.2%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	0.0%
Domestic use	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Whole sale price	0.6%	0.6%	0.9%	1.3%	1.5%	1.7%	1.8%	1.8%	1.7%
Butter									
Production	-1.2%	-0.6%	-1.2%	-1.5%	-1.6%	-1.4%	-1.3%	-1.2%	-1.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.8%	0.3%	0.6%	0.7%	0.6%	0.5%	0.4%	0.3%	0.2%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.4%	1.8%	0.4%	1.1%	1.4%	1.2%	0.6%	0.1%	-0.3%
Whole sale price	2.0%	1.0%	2.0%	2.6%	2.6%	2.4%	2.2%	1.9%	1.7%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-1.2%	-0.6%	-1.1%	-1.4%	-1.4%	-1.3%	-1.2%	-1.0%	-0.9%
Whole sale price	1.8%	0.9%	1.8%	2.3%	2.4%	2.2%	2.0%	1.7%	1.5%
Cheese									
Production	0.2%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Domestic use	0.0%	-0.1%	-0.2%	-0.3%	-0.5%	-0.6%	-0.6%	-0.7%	-0.7%
Whole sale price	0.0%	1.1%	1.6%	2.5%	3.5%	4.4%	5.0%	5.4%	5.4%

Source: Italian AGMEMOD Model (2006)

Table 13.8 : Italy: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-1.7%	-3.0%	-3.2%	-2.7%	-2.4%	-2.6%	-3.0%	-3.3%
Domestic use	-0.20%	-0.5%	-0.5%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%
Soft wheat									
Production	0.0%	-1.9%	-3.1%	-2.9%	-2.1%	-1.6%	-1.9%	-2.3%	-2.6%
Domestic use	0.1%	0.0%	-0.2%	-0.2%	-0.1%	0.1%	0.3%	0.4%	0.5%
Producer price	-3.1%	-4.5%	-3.3%	-2.5%	-2.6%	-2.9%	-3.3%	-3.6%	-3.9%
Durum wheat									
Production	0.0%	-1.3%	-2.0%	-1.8%	-1.4%	-1.2%	-1.4%	-1.7%	-2.0%
Domestic use	3.3%	3.3%	1.3%	1.1%	1.3%	1.7%	1.9%	2.0%	2.1%
Producer price	-11.2%	-12.3%	-6.6%	-5.2%	-5.7%	-7.1%	-7.9%	-8.3%	-8.8%
Barley									
Production	0.0%	-1.6%	-3.2%	-3.7%	-3.5%	-3.3%	-3.5%	-3.9%	-4.3%
Domestic use	-1.2%	-1.7%	-1.6%	-1.2%	-1.1%	-1.2%	-0.8%	-0.7%	-0.6%
Producer price	-2.3%	-4.3%	-4.3%	-3.8%	-3.6%	-3.8%	-4.2%	-4.7%	-5.3%
Maize									
Production	0.0%	-1.9%	-3.6%	-4.0%	-3.6%	-3.2%	-3.4%	-3.7%	-4.2%
Domestic use	-1.6%	-2.1%	-1.2%	-0.9%	-0.9%	-1.1%	-1.3%	-1.4%	-1.5%
Producer price	-2.1%	-3.9%	-3.7%	-3.1%	-2.9%	-3.1%	-3.4%	-3.8%	-4.1%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	-0.2%	-0.5%	-0.6%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%
Domestic use	0.0%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	-0.5%	-0.6%
Rapeseed									
Production	0.0%	-0.2%	-0.5%	-0.6%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%
Domestic use	-1.6%	-4.0%	-5.5%	-6.3%	-7.1%	-8.0%	-9.0%	-10.2%	-11.3%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Sunflower									
Production	0.0%	-0.2%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%	-0.5%	-0.6%	-0.7%	-0.8%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Soybeans									
Production	0.0%	-0.2%	-0.6%	-0.6%	-0.5%	-0.4%	-0.4%	-0.4%	-0.5%
Domestic use	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Beef and veal									
Production	-0.2%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%
Domestic use	0.9%	1.4%	1.2%	1.2%	1.2%	1.3%	1.4%	1.6%	1.8%
Producer price	-4.2%	-5.9%	-4.2%	-3.1%	-3.1%	-3.4%	-3.8%	-4.2%	-4.6%
Pig meat									
Production	-0.1%	-0.3%	-0.7%	-1.1%	-1.5%	-1.8%	-2.1%	-2.4%	-2.8%
Domestic use	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%
Producer price	-4.1%	-7.1%	-7.4%	-7.3%	-7.3%	-7.6%	-8.2%	-8.9%	-9.8%
Poultry meat									
Production	0.4%	0.6%	0.4%	0.3%	0.3%	0.3%	0.3%	0.4%	0.4%
Domestic use	-0.4%	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%
Producer price	-0.2%	-0.6%	-0.7%	-0.7%	-0.7%	-0.7%	-0.7%	-0.8%	-0.8%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.4%	0.3%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Producer price	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%
Fluid milk									
Production	0.2%	0.3%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%
Whole sale price	-0.6%	-1.2%	-1.3%	-1.4%	-1.5%	-1.7%	-1.8%	-1.9%	-2.1%
Butter									
Production	1.5%	2.2%	1.6%	1.3%	1.3%	1.4%	1.6%	1.7%	1.9%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-0.8%	-1.1%	-0.6%	-0.3%	-0.3%	-0.4%	-0.4%	-0.5%	-0.6%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.4%	-1.6%	-2.6%	-1.4%	-0.4%	-0.1%	-0.2%	-0.2%	-0.3%
Whole sale price	-2.5%	-3.5%	-2.6%	-2.1%	-2.1%	-2.4%	-2.6%	-2.9%	-3.1%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.5%	2.1%	1.5%	1.2%	1.2%	1.3%	1.5%	1.6%	1.7%
Whole sale price	-2.2%	-3.1%	-2.3%	-1.8%	-1.8%	-2.1%	-2.3%	-2.5%	-2.8%
Cheese									
Production	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%
Domestic use	0.0%	0.2%	0.4%	0.5%	0.6%	0.6%	0.7%	0.7%	0.8%
Whole sale price	0.0%	-1.2%	-2.9%	-3.8%	-4.3%	-4.6%	-4.9%	-5.3%	-5.8%

Source: Italian AGMEMOD Model (2006)

Table 13.9 : Italy: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-2.5%	-4.0%	-4.5%	-4.0%	-3.7%	-4.0%	-4.4%	-4.8%
Domestic use	-0.30%	-0.7%	-0.7%	-0.5%	-0.5%	-0.4%	-0.3%	-0.3%	-0.2%
Soft wheat									
Production	0.0%	-2.7%	-4.1%	-4.1%	-3.1%	-2.7%	-2.9%	-3.3%	-3.7%
Domestic use	0.2%	0.0%	-0.2%	-0.2%	-0.1%	0.1%	0.4%	0.5%	0.7%
Producer price	-4.5%	-5.9%	-4.7%	-4.0%	-4.0%	-4.4%	-4.7%	-5.1%	-5.4%
Durum wheat									
Production	0.0%	-1.8%	-2.7%	-2.7%	-2.1%	-1.9%	-2.2%	-2.5%	-2.8%
Domestic use	4.8%	4.1%	2.2%	1.8%	2.0%	2.5%	2.7%	2.7%	2.8%
Producer price	-16.3%	-15.6%	-10.2%	-8.7%	-8.9%	-10.5%	-11.1%	-11.5%	-11.9%
Barley									
Production	0.0%	-2.4%	-4.3%	-5.2%	-5.1%	-5.0%	-5.3%	-5.7%	-6.3%
Domestic use	-1.8%	-2.2%	-2.3%	-1.9%	-1.8%	-1.7%	-1.1%	-1.0%	-0.8%
Producer price	-3.3%	-5.8%	-6.0%	-5.6%	-5.6%	-5.8%	-6.3%	-6.8%	-7.4%
Maize									
Production	0.0%	-2.8%	-4.8%	-5.6%	-5.2%	-4.8%	-5.1%	-5.5%	-6.0%
Domestic use	-2.3%	-2.8%	-1.8%	-1.4%	-1.5%	-1.7%	-1.9%	-2.0%	-2.1%
Producer price	-3.1%	-5.2%	-5.2%	-4.7%	-4.5%	-4.7%	-5.0%	-5.4%	-5.7%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	-0.3%	-0.7%	-0.8%	-0.7%	-0.6%	-0.6%	-0.6%	-0.6%
Domestic use	0.0%	-0.2%	-0.3%	-0.4%	-0.5%	-0.5%	-0.6%	-0.8%	-0.9%
Rapeseed									
Production	0.0%	-0.4%	-0.6%	-0.8%	-0.7%	-0.6%	-0.6%	-0.6%	-0.6%
Domestic use	-2.4%	-5.5%	-7.6%	-9.1%	-10.5%	-11.9%	-13.3%	-14.8%	-16.2%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Sunflower									
Production	0.0%	-0.4%	-0.5%	-0.6%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%
Domestic use	-0.1%	-0.3%	-0.4%	-0.5%	-0.6%	-0.7%	-0.9%	-1.0%	-1.2%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Soybeans									
Production	0.0%	-0.3%	-0.8%	-0.9%	-0.7%	-0.6%	-0.6%	-0.6%	-0.7%
Domestic use	0.0%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	-0.5%	-0.6%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Beef and veal									
Production	-0.3%	-0.5%	-0.5%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%
Domestic use	1.4%	1.9%	1.8%	1.8%	1.9%	2.0%	2.1%	2.3%	2.6%
Producer price	-6.2%	-7.8%	-6.0%	-4.9%	-4.8%	-5.1%	-5.5%	-5.9%	-6.3%
Pig meat									
Production	-0.1%	-0.4%	-0.9%	-1.5%	-2.1%	-2.6%	-3.1%	-3.6%	-4.1%
Domestic use	0.4%	0.5%	0.5%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%
Producer price	-6.0%	-9.5%	-10.5%	-10.8%	-11.0%	-11.4%	-12.1%	-12.9%	-13.7%
Poultry meat									
Production	0.6%	0.7%	0.6%	0.5%	0.4%	0.5%	0.5%	0.5%	0.5%
Domestic use	-0.5%	-0.7%	-0.8%	-0.8%	-0.8%	-0.8%	-0.9%	-0.9%	-1.0%
Producer price	-0.3%	-0.8%	-1.0%	-1.0%	-1.0%	-1.0%	-1.1%	-1.1%	-1.2%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%
Domestic use	0.5%	0.3%	-0.2%	-0.4%	-0.5%	-0.4%	-0.4%	-0.5%	-0.5%
Producer price	0.0%	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Fluid milk									
Production	0.3%	0.4%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
Whole sale price	-0.9%	-1.6%	-1.9%	-2.1%	-2.3%	-2.5%	-2.6%	-2.8%	-3.0%
Butter									
Production	2.3%	2.9%	2.4%	2.1%	2.1%	2.2%	2.3%	2.5%	2.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.2%	-1.4%	-0.9%	-0.6%	-0.5%	-0.6%	-0.6%	-0.7%	-0.7%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.6%	-2.5%	-3.3%	-2.0%	-0.9%	-0.4%	-0.4%	-0.3%	-0.3%
Whole sale price	-3.7%	-4.7%	-3.9%	-3.4%	-3.4%	-3.7%	-3.9%	-4.2%	-4.4%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	2.2%	2.8%	2.3%	2.0%	2.0%	2.1%	2.2%	2.3%	2.4%
Whole sale price	-3.2%	-4.2%	-3.4%	-2.9%	-2.9%	-3.2%	-3.4%	-3.6%	-3.9%
Cheese									
Production	-0.3%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%
Domestic use	0.0%	0.2%	0.5%	0.7%	0.8%	0.9%	1.0%	1.1%	1.1%
Whole sale price	0.0%	-1.7%	-3.9%	-5.4%	-6.2%	-6.8%	-7.3%	-7.9%	-8.5%

Source: Italian AGMEMOD Model (2006)

14 Latvia

Guna Salputra and Ludmila Fadejeva. Latvian State Institute of Agrarian Economics (LSIAE). Riga

14.1 Baseline

During this period of radical political and economic reforms, projections based on the AGMEMOD modelling approach are particularly influenced by factors exogenous to the agricultural sector. Table 14.1 reflects the main macroeconomic assumptions used for the Baseline projections of the Latvian agricultural sector during the simulation period from 2005 to 2015. Macroeconomic projections from FAPRI are used in the simulations. Of note is the projected strong rate of GDP growth and the projected decline in population.

Table 14.1 : Assumptions on macroeconomic variables for Latvia

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	2.4	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2
GDP	bil. Euro97	8	9	9	9	9	10	10	11	11	12	13	13
GDP per capita	Euro97/cap	3568	3953	4086	3985	4185	4274	4561	4862	5172	5497	5841	6185
Inflation	1997=1	1.06	1.34	1.44	1.54	1.63	1.69	1.76	1.83	1.90	1.97	2.05	2.12

Sources: LSIAE calculations based on Latvian CSB data and FAPRI projections

Table 14.2 shows the main policy variables which are the reference quantities agreed between Latvia and the EU during the accession negotiations. These reference amounts were determined on the basis of production levels recently achieved in Latvia in advance of accession. In the simulations, it was assumed that all reference quantities would be kept unchanged up to 2015.

Table 14.2: Assumptions on national policy variables for Latvia

	Unit	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Cereal reference yield	tonne/ha	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Oilseed reference yield	tonne/ha	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Milk quota	1000 tonne	695.0	695.0	728.6	728.6	728.6	728.6	728.6	728.6	728.6	728.6	728.6
Animal density threshold	LU/ha	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Suckler cow quota	1000 head	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4

Source: CAP Monitor

Since accession, direct support in Latvia has been in the form of SAPS. This means that there are separate procedures for funding coming from the EU budget and for complementary national direct payments (CNDP) financed by the national budget.

The EU element of direct support is paid on an annually increasing basis as part of the phasing-in rates in the SAPS.

The national complementary element of direct support is administrated on the basis of a specific financial envelope calculated for arable crops, fodder areas, bovine animals and ewes, starch potatoes, milk and seeds. Separate top-up rates of CNDP per hectare/animal are defined for each agricultural sub-sector according to Council Decision 2004/281/EC adapting Act of Accession 143c 2. (b) (i).

In line with the official position of the Ministry of Agriculture, the introduction of the Single Payment Scheme (SPS) will be postponed until 2009. Until then, direct support will be in the form of the SAPS and CNDP for each particular sector in Latvia.

All policy simulations using the Latvian AGMEMOD model were carried out up to a 2015 time horizon for two scenarios: a *Baseline and a CAP reform (FCR) scenario*. The *Baseline scenario* assumes that up to 2009 direct support will be administrated through SAPS, and from 2009 onward the SPS will apply. However Latvia will partially maintain the coupling of some payments to production (25% crop payments, 100% suckler cow premium, 40% calves slaughter premium, 50% sheep payments, 100% seed payment). The *CAP reform (FCR) scenario,* on the other hand, assumes that from 2009 direct payments will be fully decoupled from production. Three additional *Exchange rate scenarios* are applied to the Baseline scenario assumptions in order to evaluate the impact of shocks related to changes in the US$/euro exchange rate on agricultural commodity markets.

The modulation measure is not built into the model directly through lower support rates. However the threshold for farms subject to modulation is quite low, and assumed to apply on all farms. In the Latvian model the modulation rate does not reduce the subsidies incentive factor, but is applied outside the model in order to adjust the total volume of support distributed within the agricultural sectors.

As the production of commodities has become more independent in terms of direct support since introduction of SAPS, three different types of multipliers were used in the calculations to assess the impact of the direct support on production (see Table 14.3). In both scenarios the multiplier rates applied for subsidies are dependent on the nature of support payment:

- 0.3 - for decoupled area payments (SAP and SP);
- 0.6 - for top-ups in SAP scheme paid for fodder area (not allowed in SP scheme);
- - 1 - for payments coupled to definite production.

Table 14.3: Multiplier rates reflecting the money kept in the agricultural sector in Latvia

	SAP scheme (2004-2008)	SP scheme (2009-2013) decoupled payment	SP scheme (2009-2013) coupled payment
EU suppport			
- grains	0,3	0,3	1
- rapeseeds	0,3	0,3	1
- suckler cows			1
- fodder crops	0,3	0,3	
National suppport (CNDP)			
- grains	1	0,3	1
- rapeseeds	1	0,3	1
- suckler cows	1		1
- fodder crops	0,6	0,3	

Source: Assumptions of Latvian AGMEMOD model.

After 2009 Latvian agricultural producers will be able to get a part (in the Baseline scenario) or all of the support (in the FCR scenario) of each hectare of eligible land without any obligation to produce a particular type of agricultural product. For this reason the impact of direct support on production decisions (supply-inducing impact) will decrease. Therefore when calculating planned subsidy allocations in the agricultural sector or the impact of support on production levels, there are two options that may be applied. The first is the total sum of payments paid in the sector (according to the commodities modelled) which directly affect the level of the farmer's income without reference to the level of production. The second option is to evaluate the impact of different types of payment (coupled or decoupled) via the introduction of impact coefficients – multipliers. A multiplier with a value of 0.3 is

introduced into the model in order to reduce the impact of the fully decoupled support on production. If part of the payment is kept coupled with production (CNDP for SAP scheme up to 2008; coupled payment in part from the EU and in part from the national budget in the case of CAP reform scenario implementation from 2009) the multiplier is set at 1. For the CNDP for fodder crops in the SAP scheme the multiplier is set at 0.6 since fodder payments are, in the cattle model, an incentive factor for beef production.

The direct support for the cattle sector comes from payments for suckler cows and fodder crops. Under the AGMEMOD modelling approach, payments for fodder crops are recalculated per tonne of beef based on assumptions of the animal density threshold. These payments are added to the market price for beef to obtain an incentive price. Through the mechanism of incentive prices, the support to the cattle sector is implemented in the model using different multipliers for the types of support available before and following the CAP reform.

All support schemes (SAPS and SPS) for arable crops are incorporated in the model through the calculations of expected gross return.

EU compensatory payments for milk are imposed in the model through an increase in milk prices, which are formalised in the Latvian AGMEMOD model with the help of an EU and Latvian price convergence mechanism. During the period from 2004 to 2008 the Latvian butter price is projected to achieve 95% of the EU price level. The rate of convergence of the cheese price is slower, achieving 75% of the EU price level by 2015.

The Baseline scenario for Latvia means that from 2009 the complete CAP reform will be implemented in the form that is closest to the transitional SAP scheme. Support from both the national and the EU budget will be coupled to production to the maximum degree, and along with a gradual increase in the level of support this may lead to growth in production levels. The narrowing of the price gap between Latvia and other EU countries could create an additional motivation for Latvian producers to develop their economic activities, particularly in the case of the dairy and meat sectors.

At the same time, partial or full decoupling of direct support from production (according to the post-2008 scenario assumptions), as well as quota constraints, might be the factors which could impede the subsequent growth of Latvian agriculture.

Table 14.5 summarises the Baseline projections for the main agricultural commodities in Latvia.

Grain and oilseed sectors

In Latvia, domestic prices are driven by external prices. All prices, excluding prices for rapeseeds, rape meal and rape oil, are linked to the EU key prices. Therefore, any projected increase in French and German crop prices directly affects the Latvian crop sector.

During the period from 2005 to 2015 the total grain area in Latvia is projected to decrease by nearly 11%. Gross return for grains and rapeseed area are the two main factors affecting this decline in grain area. Despite the increase in subsidies per hectare, this represents a decrease in real terms due to the high inflation rate. This, together with a sharp increase in rapeseed area, results in a gradual reduction in grain area. The annual reduction in grain area is projected to be around 1%, although the sharp decrease in direct payments per ha in 2009 due

to the shift from the SAP scheme to SPS would lead to a 5% reduction in grain area in Latvia in 2009, which means that production of grains is more elastic to the changes in the level of support compared with changes in European prices.

Higher prices together with yield growth are projected to have a positive effect on growth in the grain sector and, despite decreasing area harvested, this is projected to lead to a 7% increase in total production by 2015 relative to 2005. It is projected that soft wheat production may increase by 11% by 2015, and production of oats is projected to increase by 18%, whereas rye production would decrease by about 10%. Barley production is projected to remain stable, reflecting a combination of an increase in yields and a decrease in area harvested.

The total domestic use of grains in Latvia is projected to grow (by 7%) despite the projected increase in grain prices. Soft wheat feed use is projected to report larger growth compared with other grains (up 20%) due to the lower price increase, which in turn is projected to lead to a 6% increase in the share of wheat in total grain feed use. Rye feed use falls by 30% and is replaced by barley and oats for feed purposes. Food consumption of oats and rye is not projected to change significantly. Wheat food use demand is projected to increase by around 9% by 2015.

Rape production sees the greatest projected change in Latvian agriculture. The relatively high price level for oilseeds on the European market facilitates steady growth in the rape sector over the simulation period. The biological limit of rape areas in Latvia is around 120 000 ha, and it is projected that this could be reached by 2015. Latvian rape production is strongly geared to the export market, even though rape crushing in Latvia might increase by 190% by 2015, which will fully satisfy domestic demand for rape oil and rape meal.

Livestock and dairy sectors

The Baseline projections show that the Latvian dairy cow herd may decrease over the simulation period. From 2005 the number of cows is projected to decrease by 9%, mostly due to increasing milk yields (up 13% during the simulation period) along with a stable milk quota. Total milk production is projected to be bound by the milk sales quota, while some milk is still projected to be produced for feed use. During the period 2005-2015 milk feed use is expected to decrease by 8%, mostly due to the increase in milk prices but also to the decrease in herd numbers. Nonetheless the share of milk feed use in total milk production will be 16% in 2015.

The slight decrease in fluid milk use is projected to increase the volumes of milk for factory use by 13%.

At the end of simulation period, the projections indicate that the production and export of cheese may increase by 37%. Butter production is not projected to change significantly, fluctuating around the 2005 level. Production of skim milk powder is projected to decline, with greater emphasis on the production of other more profitable dairy products.

Projections show a slight rise in the domestic consumption of butter (10%), whereas the domestic consumption of cheese is expected to grow by almost one third.

Beef production in Latvia is largely a by product of the dairy sector. Despite the fact that suckler cow numbers are projected to increase by 13% during the projection period, beef production would remain largely determined by the number of animals in the (declining) milk

herd. Overall beef production is projected to decrease by 4%. The domestic supply of beef is lower than the level of domestic consumption requirements, although the increase of beef price might influence consumer preferences in future and reduce the demand for beef.

Production of poultry and pig meat in Latvia is projected to increase during the next decade. As these two sectors are not the subject of major support measures in the EU, introducing CAP reform with a particular emphasis on decoupling direct support from production would not impact on production in these two sectors. Poultry meat production is projected to increase by 100% and pig meat production by 9%. However the self-sufficiency rate in these sectors would remain below 100%. Increasing beef prices together with a forecast decrease in poultry prices and stable pig prices are projected to lead to an increase in domestic consumption of poultry and pork of 13% and 2% respectively.

Agricultural income

Only those agricultural sub-sectors simulated in the Latvian AGMEMOD model can be used in calculating income in the agricultural sector. Production of grain (wheat, barley, rye and oats), rape, milk and dairy products, beef, pork and poultry meat comprise the total agricultural output value that can be used in assessing sectoral income.

Feed costs (projected through the sub-sector modelling) and direct subsidies under SAP or SP schemes can also be taken into account. Therefore, gross agricultural income in Table 14.4 represents the level of profitability for the major part of Latvian agriculture, assuming that feed costs are the main component of production costs in the sector.

According to Table 14.4, gross agricultural income in Latvia is expected to roughly double by 2015. Actual amounts of coupled and decoupled subsidies paid to producers are shown in the second line of the table. Only areas or number of livestock used for agricultural production, which receive direct support, are taken into account when calculating the support that will be distributed in the agricultural sector. The additional distribution effect of direct payments to other sectors is not applied. These additional effects depend on the decoupling levels (reflected by multipliers), which should be considered when the influence of different type of subsidies on production decisions is evaluated. The share of subsidies to producers of agricultural commodities modelled in the total envelope (ceiling for SP) in 2015 is expected to be 55%.

Table 14.4: Agricultural output, subsidies, feed cost and gross income in Latvia[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.20	1.23	1.32	1.42	1.45	1.48	1.52	1.55	1.59	1.63	1.66
Subsidies/SFP	2000=1	1.00	23.61	27.64	29.63	30.08	19.76	22.53	23.04	23.59	23.44	23.74	24.05
Feeding costs	2000=1	1.00	0.99	1.00	1.05	1.08	1.08	1.09	1.11	1.12	1.15	1.17	1.19
Gross agric. income	2000=1	1.00	1.52	1.60	1.72	1.84	1.74	1.82	1.86	1.91	1.95	1.99	2.03
Subsidies/SFP *	2000=1	1.00	19.03	22.26	23.54	22.78	9.31	10.63	10.90	11.19	11.14	11.31	11.48
Gross agric. Income *	2000=1	1.00	1.46	1.54	1.65	1.75	1.61	1.67	1.71	1.75	1.79	1.83	1.88

* - adjusted with multipliers

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.

Source: Latvian AGMEMOD Model (2006)

Comparing actual gross agricultural income with the income level where support is adjusted by multipliers, the former is 8% higher. The "adjusted" subsidies and income mean that multipliers (impact coefficients) are included in the support calculation (instead of using only

production levels multiplied by support rates). For example, the decoupled area payment rate has a coefficient of 0.3. The figures are shown at the bottom of Table 14.4.

All main agricultural sectors (crops, livestock products, milk) would show an increase in output value. The output of the crop sector (up 50%) might grow both due to increases in price and sown area. Livestock sector output (up 21.8%) might be positively influenced by the increase in beef price (8.7%) and a rise in production volumes of pork (9.2%) and poultry (102.4%). Milk sector output would be determined by the increase in milk price (37.3%).

With higher production efficiency, feed costs are expected to increase only in absolute terms, but their share in agricultural output value would be reduced from 16% in 2005 to 11% in 2015.

Total feed costs are expected to increase, while their share in agricultural output value would fall from 16% in 2005 to 11% in 2015.

After the accession of Latvia to the EU, the rise in support levels is the main driver of agricultural production and of sector income. The share of total subsidies in output value is projected to remain at 24% until 2008 and to decline to 16% after implementation of the reformed Single Payment scheme.

Table 14.5: Baseline results concerning main commodities of Latvia

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 tor	834	943	950	956	970	926	960	967	974	980	987	993
Domestic use	1,000 tor	880	907	909	911	917	925	934	942	949	956	964	972
Soft wheat													
Production	1,000 tor	416	505	516	524	536	527	536	541	546	551	555	559
Domestic use	1,000 tor	398	396	404	407	411	417	424	428	433	438	443	448
Producer price	euro/ton	103	98	98	100	102	101	101	101	101	102	102	103
Durum wheat													
Production	1,000 tor	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 tor	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 tor	247	249	245	242	242	234	234	235	235	236	237	238
Domestic use	1,000 tor	281	306	302	303	305	307	311	315	318	321	325	329
Producer price	euro/ton	95	80	80	81	83	83	83	83	83	84	84	85
Maize													
Production	1,000 tor	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 tor	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Rye													
Production	1000 ton	93	96	95	94	94	90	90	89	88	87	87	86
Domestic use	1000 ton	109	99	97	95	94	93	91	90	89	88	87	86
Producer price	euro/ton	96	89	89	91	92	92	91	92	92	92	93	93
Other grains (oats)													
Production	1000 ton	78	93	95	96	99	98	100	102	104	106	108	110
Domestic use	1000 ton	92	106	106	107	107	107	108	108	109	109	110	110
Producer price	euro/ton	88	74	75	76	77	77	77	77	78	78	79	79
Total oilseeds													
Production	1,000 tor	19	105	120	139	163	173	192	212	234	258	282	307
Domestic use	1,000 tor	8	73	82	97	115	121	133	147	162	179	196	213
Rapeseed													
Production	1,000 tor	19	105	120	139	163	173	192	212	234	258	282	307
Domestic use	1,000 tor	8	73	82	97	115	121	133	147	162	179	196	213
Producer price	euro/ton	211	192	193	207	215	207	203	203	204	205	205	206
Sunflower													
Production	1,000 tor	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 tor	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 tor	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 tor	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 tor	20	21	20	19	19	20	20	20	20	20	20	20
Domestic use	1,000 tor	26	26	25	24	24	23	23	22	21	21	21	20
Producer price	euro/100	131	109	110	111	112	113	114	115	116	117	118	119
Pig meat													
Production	1,000 tor	36	39	39	39	39	39	40	40	41	41	42	42
Domestic use	1,000 tor	62	64	65	66	66	66	66	66	66	66	66	66
Producer price	euro/100	169	136	135	135	135	136	136	136	135	136	136	136
Poultry meat													
Production	1,000 tor	6	14	16	17	18	20	21	23	24	26	27	29
Domestic use	1,000 tor	42	44	45	46	47	47	48	48	49	49	49	49
Producer price	euro/100	140	127	124	122	122	121	120	117	115	114	113	112
Sheep meat													
Production	1,000 tor	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 tor	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/100	0	0	0	0	0	0	0	0	0	0	0	0
Fluid milk													
Production	1,000 tor	856	777	771	780	787	792	795	797	798	798	798	797
Domestic use *	1,000 tor	156	144	144	142	141	140	140	140	139	139	139	138
Whole sale price	euro/100	14	22	22	24	27	27	28	28	29	29	29	30
Butter													
Production	1,000 tor	7	8	7	7	8	7	7	7	7	7	7	7
Domestic use	1,000 tor	6	5	5	5	5	5	5	5	5	5	6	6
Whole sale price	euro/100	182	217	220	237	253	252	251	251	252	253	254	255
SMP													
Production	1,000 tor	3	2	1	1	1	1	0	0	0	0	0	0
Domestic use	1,000 tor	1	1	1	1	1	1	1	1	1	1	1	1
Whole sale price	euro/100	217	174	168	166	167	166	166	166	166	166	167	167
WMP													
Production	1,000 tor	1	1	2	2	2	2	2	2	2	2	2	2
Domestic use	1,000 tor	0	0	1	1	1	1	1	1	1	1	1	1
Whole sale price	euro/100	240	193	186	184	185	185	184	184	184	185	185	185
Cheese													
Production	1,000 tor	8	26	30	33	35	35	36	36	36	36	36	36
Domestic use	1,000 tor	12	12	13	13	14	14	14	14	15	15	16	16
Whole sale price	euro/100	260	276	287	295	310	328	339	347	352	359	361	369

* - processed milk and milk for direct sales

Source: Latvian AGMEMOD Model (2006)

14.2 Further CAP Reform Scenario (FCR)

The core aim of CAP reform is to increase significantly the effectiveness of income aid while leaving the actual amounts of support paid to farmers relatively unchanged. Decoupling of direct payments was identified as the main tool for achieving this outcome. However, the opportunity given to EU-10 to apply the SAPS as a transitional measure before the reform, along with the right to pay coupled top-ups from the national budget to production, meant that the reformed policy in Latvia would have an effect only from 2009 onward. At the same time increased amounts of direct support to agricultural producers up to 2013 could have a positive impact on agricultural production levels.

The CAP reform scenario (FCR) assumes that from 2009 onwards direct payments will be fully decoupled from production. The 'full' decoupling of all CAP direct payments would be expected to have some impact on the supply and use (mostly grains for feed) of agricultural commodities in Latvia.

Grain and oilseed sectors
Having a uniform payment per hectare would decrease the gross return of grain areas. As the cut in payment is equal for all kind of grains, the structure of area harvested would not change and the decrease in area would be equivalent.

In Latvia, there is no significant impact of the reform on yields. Changes in area harvested determine the change in production volumes. In the CAP reform scenario it is projected that area harvested will decrease by around 2% compared to Baseline scenario results. For crops the impact on the demand side would be smaller than on the supply side. The decrease in the number of animals leads to a decrease in the derived demand for feed and to a slight increase in prices, engendering some negative impact on domestic demand.

The implementation of the reform is projected to have a slightly stronger impact on rapeseed production in Latvia compared to grain production. The price for rapeseed is determined directly by the world price. The change in EU policy would not affect the world price level, while there is a projected increase in grain prices. Thus, any decline in support levels for grains is expected to be offset by an increase in grain prices, but this is unlikely to happen in the case of rapeseed. Rapeseed processing in Latvia is strictly dependent on production volumes, which explains the reform impact on the demand side of the rape sector.

Livestock and dairy sectors
In general the introduction of CAP reform measures is not projected to have an effect on the development of the Latvian milk sector. The restriction which the milk quota places on milk production means that production and the number of dairy cows are similar to the levels in the Baseline.

As beef production in Latvia is a by product of the dairy sector, the projected impact of the Latvian beef sector of the abolition of coupled payments is not projected to be substantial. The suckler cow herd is projected to decrease in size on average by 3% comparing to Baseline projections, which would result in just a 0.1% decrease in the number of animals slaughtered. In fact, a more important effect of decoupling payments from production is the projected decrease in the slaughter weight of animals by 3%, which is the main driver of the projected decrease in beef production.

Changes in direct payments are not expected to significantly alter the relative prices of different livestock and dairy commodities, and as a consequence there is little change in the supply and use balance in poultry, pork, beef and dairy commodity markets in Latvia.

Table 14.6 reports the Latvian AGMEMOD model's projections under the FCR scenario in comparison with the Baseline projections for the main agricultural commodities (differences in percentage terms with respect to the Baseline).

Table 14.6: Latvia: FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.0%	-1.0%	-2.4%	-2.4%	-2.3%	-2.3%	-2.2%	-2.2%
Domestic use	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%
Soft wheat									
Production	0.0%	0.0%	-2.2%	-2.4%	-2.4%	-2.3%	-2.3%	-2.2%	-2.2%
Domestic use	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.0%	-2.2%	-2.4%	-2.4%	-2.3%	-2.3%	-2.2%	-2.2%
Domestic use	0.0%	0.0%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.0%	-2.2%	-2.4%	-2.4%	-2.3%	-2.3%	-2.2%	-2.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains (oats)									
Production	0.0%	0.0%	-2.2%	-2.4%	-2.4%	-2.3%	-2.3%	-2.2%	-2.2%
Domestic use	0.0%	0.0%	-0.3%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.0%	-3.5%	-3.6%	-3.3%	-3.0%	-2.8%	-2.5%	-2.3%
Domestic use	0.0%	0.0%	-3.5%	-3.5%	-3.3%	-3.0%	-2.7%	-2.5%	-2.3%
Rapeseed									
Production	0.0%	0.0%	-3.5%	-3.6%	-3.3%	-3.0%	-2.8%	-2.5%	-2.3%
Domestic use	0.0%	0.0%	-3.5%	-3.5%	-3.3%	-3.0%	-2.7%	-2.5%	-2.3%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.0%	0.0%	-2.6%	-3.1%	-3.1%	-3.1%	-3.1%	-3.0%	-3.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use *	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

* - processed milk and milk for direct sales

Source: Latvian AGMEMOD Model (2006)

Agriculture income
The decoupling of direct payments from production is projected to reduce the total subsidy receipts for the agricultural sectors analysed. The reduction in subsidies leads to a decrease in the incentive price, which in turn affects production.

The projected 9% reduction in the total level of subsidies is projected to reduce Latvian gross agricultural income by 2% in 2009. On the other hand, getting rid of the obligation on farmers to produce might shift part of the money to other sectors.

The "adjusted" subsidies and income (in the last two rows of Table 14.7) means that multipliers (impact coefficients) are now included in the support calculation (so it is not only a multiplication of production levels and support rates). For example, the decoupled area payment rate is included with a coefficient of 0.3. This approach to income evaluation leads to the conclusion that gross agricultural income might be reduced by 4% in comparison with the Baseline scenario.

Table 14.7: Agricultural output and income in Latvia: FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.0%	0.0%	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%	-0.9%	-0.8%
Subsidies/SFP	0.0%	0.0%	-9.0%	-9.3%	-9.5%	-9.6%	-7.0%	-11.8%	-12.9%
Feeding costs	0.0%	0.0%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Gross agric. income	0.0%	0.0%	-2.1%	-2.3%	-2.3%	-2.3%	-1.9%	-2.6%	-2.7%
Subsidies/SFP *	0.0%	0.0%	-42.0%	-42.4%	-42.6%	-42.8%	-44.8%	-45.6%	-46.5%
Gross agric. Income *	0.0%	0.0%	-3.9%	-4.3%	-4.3%	-4.3%	-4.4%	-4.4%	-4.4%

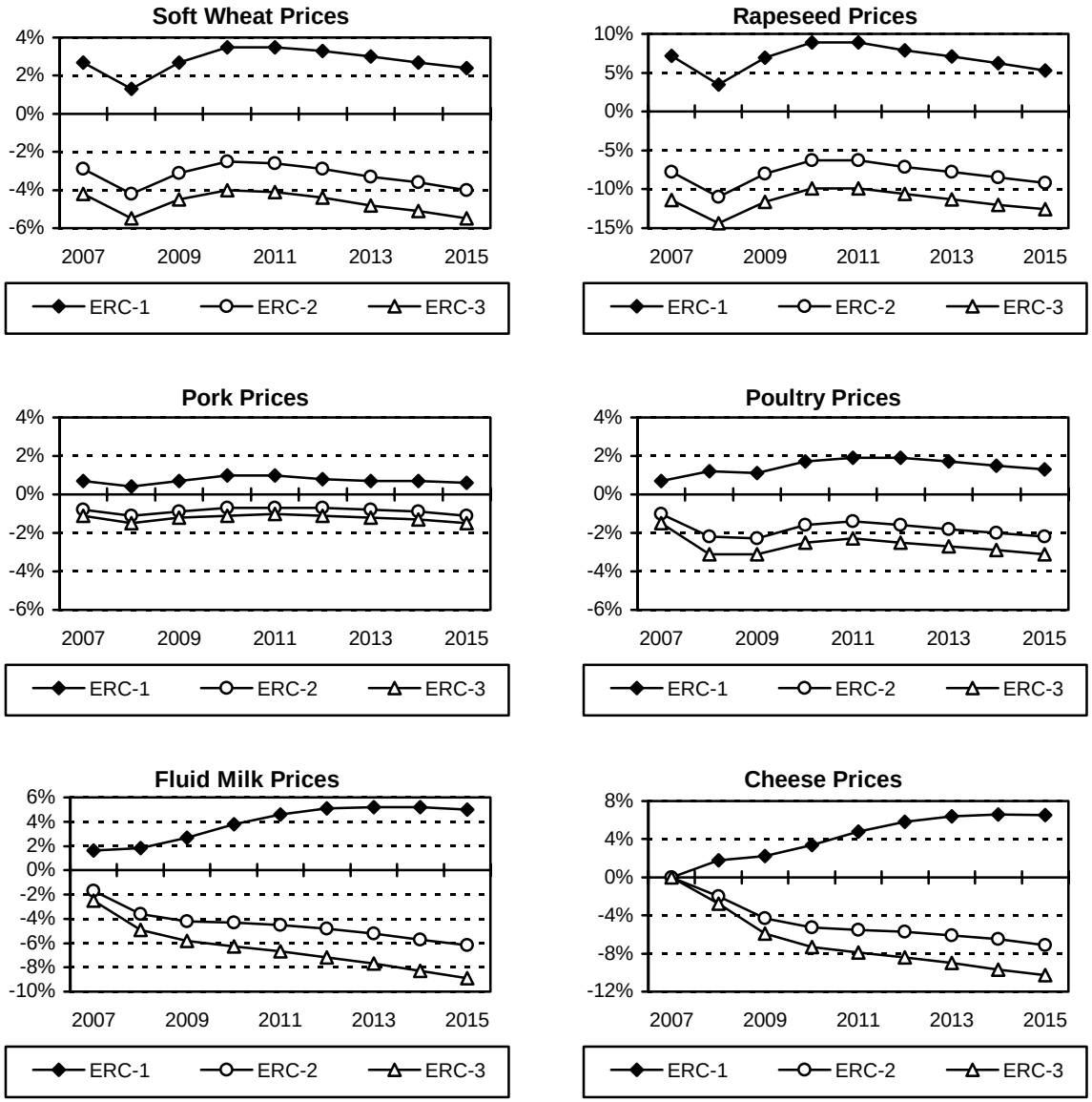
* - adjusted with multipliers
Source: Latvian AGMEMOD Model (2006)

14.3 Exchange Rate Change (ERC)

Main Results
The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed – US dollar versus the euro with the exchange rate moving to rates of 1.30 and 1.40 US dollar per euro, and depreciating to 1.00 US dollar per euro in 2007.

All Latvian prices, excluding prices for rapeseeds, rape meal and rape oil, are derived from EU key prices. Change in Latvian prices under the ERC scenarios are determined by the development of EU prices under the exchange rate assumptions. Figure 14.1 shows the percentage change in Latvian prices for soft wheat, rapeseed, pork, poultry, milk and cheese in comparison with the Baseline projections.

Figure 14.1: Latvian Commodity Prices: ERC Scenarios (% Change from Baseline)



Source: Latvian AGMEMOD Model (2006)

The impact of the three ERC scenarios, when compared with one another and with the Baseline projections, indicates that the Latvian model reacts to changes in EU key prices. Key prices under the ECR-1 scenario (where the euro and US dollar are equal in value from 2007 onward) generally increase in euro terms. Under the ERC-2 and ERC-3 scenarios (where the euro appreciates against the US dollar), prices will decline in euro terms compared with the Baseline level. Table 14.9 to Table 14.11 set out the results of the ECR scenarios relative to the Baseline projections in terms of percentage changes.

Lower prices for commodities are projected to reduce production volumes and increase domestic consumption. Most of the modelled commodities for Latvia behave in this way. In the case of barley and rye, the projected decrease in domestic use, together with the decrease in price, could be explained by changes in feed structure, while food demand changes as expected.

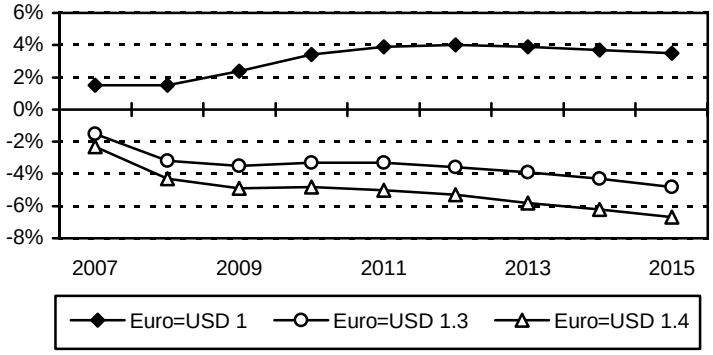
Production of cheese is projected to increase in the ERC-2 and ERC-3 scenarios despite the lower prices. This is due to excess milk protein resulting from the decrease in the production volumes of other milk commodities.

In percentage terms there are likely to be notable fluctuations in SMP production due to price changes in the key market. In absolute terms, production of SMP in Latvia is extremely low, and any differences from the Baseline scenario in ERC scenarios are insignificant (comprising an increase from 77 to 184 tonnes). Meat production is highly influenced by feed crop prices through the input cost indexes. Consequently the increase in meat price would not always result in a decrease in production.

Agriculture income

The main influence on gross agricultural income arises from the change in agricultural output value. The total amount of subsidy receipts is influenced by the change in production volumes. Higher prices and production levels in the ECR-1 scenario (€ = US$1.00) is projected to lead to an increase in agricultural output value, while the opposite is the case with the ECR-2 (€ = US$=1.30) and ECR-3 (€ = US$1.40) scenarios (see Table 14.8 and Figure 14.2).

Figure 14.2: Latvia: Gross agriculture income in ERC Scenarios (% Δ from Baseline)



Source: Latvian AGMEMOD Model (2006)

The last three lines in Table 14.8 show the gross agricultural income change under the exchange rate scenarios, taking into account the distribution effect of direct payments to other sectors.

Table 14.8: Latvia: Gross agriculture income in Exchange Rate Scenarios. % Δ from Baseline

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Euro=USD 1	1.5%	1.5%	2.4%	3.4%	3.9%	4.0%	3.9%	3.7%	3.5%
Euro=USD 1.3	-1.5%	-3.2%	-3.5%	-3.3%	-3.3%	-3.6%	-3.9%	-4.3%	-4.8%
Euro=USD 1.4	-2.3%	-4.3%	-4.9%	-4.8%	-5.0%	-5.3%	-5.8%	-6.2%	-6.7%
Euro=USD 1 *	1.5%	1.6%	2.6%	3.6%	4.1%	4.3%	4.2%	4.0%	3.7%
Euro=USD 1.3 *	-1.6%	-3.4%	-3.8%	-3.5%	-3.5%	-3.8%	-4.2%	-4.6%	-5.1%
Euro=USD 1.4 *	-2.3%	-4.5%	-5.2%	-5.1%	-5.3%	-5.7%	-6.2%	-6.7%	-7.2%

*- adjusted with multipliers

Source: Latvian AGMEMOD Model (2006)

Table 14.9 : Latvia: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.2%	0.3%	0.0%	0.5%	0.6%	0.6%	0.6%	0.5%	0.5%
Domestic use	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%
Soft wheat									
Production	0.3%	0.5%	0.6%	0.8%	1.0%	1.0%	1.0%	0.9%	0.8%
Domestic use	-0.9%	-0.3%	-0.7%	-0.8%	-0.8%	-0.6%	-0.5%	-0.5%	-0.4%
Producer price	2.7%	1.3%	2.7%	3.5%	3.5%	3.3%	3.0%	2.7%	2.4%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	0.5%	0.1%	0.3%	0.4%	0.3%	0.2%	0.2%	0.1%	0.1%
Producer price	1.1%	1.0%	1.6%	2.1%	2.4%	2.4%	2.2%	2.1%	1.9%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.2%	0.2%	0.3%	0.4%	0.5%	0.5%	0.4%	0.4%	0.3%
Domestic use	0.2%	0.4%	0.5%	0.6%	0.8%	0.8%	0.7%	0.7%	0.6%
Producer price	2.3%	1.2%	2.4%	3.1%	3.1%	2.9%	2.6%	2.4%	2.1%
Other grains (oats)									
Production	0.1%	0.2%	0.2%	0.4%	0.4%	0.4%	0.4%	0.4%	0.3%
Domestic use	0.7%	-0.1%	0.3%	0.2%	0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	1.2%	1.1%	1.6%	2.2%	2.5%	2.5%	2.3%	2.1%	1.9%
Total oilseeds									
Production	2.4%	3.1%	2.9%	4.0%	4.2%	3.7%	3.0%	2.5%	2.0%
Domestic use	5.4%	4.3%	5.1%	6.5%	6.4%	5.4%	4.5%	3.6%	2.9%
Rapeseed									
Production	2.4%	3.1%	2.9%	4.0%	4.2%	3.7%	3.0%	2.5%	2.0%
Domestic use	5.4%	4.3%	5.1%	6.5%	6.4%	5.4%	4.5%	3.6%	2.9%
Producer price	7.2%	3.5%	6.9%	8.9%	8.9%	7.9%	7.1%	6.2%	5.3%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.9%	-0.5%	-0.9%	-1.2%	-1.2%	-1.1%	-1.0%	-0.9%	-0.8%
Domestic use	0.5%	0.8%	0.7%	1.0%	1.1%	1.1%	0.9%	0.8%	0.7%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pig meat									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.3%	-0.1%	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%
Producer price	0.7%	0.4%	0.7%	1.0%	1.0%	0.8%	0.7%	0.7%	0.6%
Poultry meat									
Production	-0.3%	-0.1%	-0.2%	-0.3%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.2%	-0.4%	-0.3%	-0.5%	-0.5%	-0.5%	-0.4%	-0.3%	-0.3%
Producer price	0.7%	1.2%	1.1%	1.7%	1.9%	1.9%	1.7%	1.5%	1.3%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use *	-0.2%	-0.3%	-0.4%	-0.6%	-0.7%	-0.7%	-0.7%	-0.7%	-0.6%
Whole sale price	1.6%	1.8%	2.7%	3.8%	4.6%	5.1%	5.2%	5.2%	5.0%
Butter									
Production	3.8%	1.1%	2.0%	2.6%	2.7%	2.6%	2.4%	2.1%	1.7%
Domestic use	-1.0%	-0.5%	-1.0%	-1.2%	-1.1%	-1.0%	-0.9%	-0.8%	-0.6%
Whole sale price	1.7%	0.9%	1.7%	2.2%	2.2%	2.1%	1.9%	1.7%	1.5%
SMP									
Production	15.0%	8.7%	19.6%	29.0%	32.0%	30.9%	29.1%	26.5%	23.3%
Domestic use	-0.2%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%
Whole sale price	1.1%	0.6%	1.1%	1.5%	1.5%	1.4%	1.3%	1.2%	1.0%
WMP									
Production	-0.6%	-0.7%	-1.2%	-1.5%	-1.4%	-1.2%	-1.1%	-0.9%	-0.6%
Domestic use	-2.3%	-1.1%	-1.8%	-2.1%	-2.0%	-1.7%	-1.5%	-1.2%	-1.0%
Whole sale price	1.1%	0.6%	1.1%	1.4%	1.5%	1.4%	1.3%	1.2%	1.0%
Cheese									
Production	0.9%	-0.3%	-0.6%	-0.7%	-0.7%	-0.6%	-0.5%	-0.3%	0.0%
Domestic use	0.0%	-2.1%	-2.7%	-4.0%	-5.3%	-6.1%	-6.3%	-6.0%	-5.7%
Whole sale price	0.0%	1.8%	2.2%	3.4%	4.8%	5.8%	6.4%	6.6%	6.5%

* - processed milk and milk for direct sales

Source: Latvian AGMEMOD Model (2006)

Table 14.10 : Latvia: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.2%	-0.5%	0.0%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.7%
Domestic use	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%
Soft wheat									
Production	-0.3%	-0.8%	-1.0%	-0.9%	-0.8%	-0.9%	-1.0%	-1.1%	-1.2%
Domestic use	1.0%	1.2%	0.7%	0.5%	0.5%	0.6%	0.6%	0.7%	0.7%
Producer price	-2.9%	-4.2%	-3.1%	-2.5%	-2.6%	-2.9%	-3.3%	-3.6%	-4.0%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Domestic use	-0.5%	-0.6%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
Producer price	-1.2%	-2.3%	-2.3%	-2.0%	-1.9%	-2.0%	-2.2%	-2.5%	-2.8%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	-0.2%	-0.4%	-0.5%	-0.4%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%
Domestic use	-0.2%	-0.7%	-0.8%	-0.7%	-0.6%	-0.6%	-0.7%	-0.8%	-0.9%
Producer price	-2.6%	-3.7%	-2.8%	-2.2%	-2.3%	-2.6%	-2.9%	-3.2%	-3.5%
Other grains (oats)									
Production	-0.1%	-0.4%	-0.4%	-0.4%	-0.3%	-0.4%	-0.4%	-0.4%	-0.5%
Domestic use	-0.7%	-0.5%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%
Producer price	-1.3%	-2.4%	-2.4%	-2.1%	-2.0%	-2.1%	-2.3%	-2.6%	-2.9%
Total oilseeds									
Production	-2.6%	-5.6%	-5.4%	-3.7%	-3.0%	-2.9%	-3.0%	-3.1%	-3.1%
Domestic use	-5.9%	-9.4%	-7.9%	-5.4%	-4.5%	-4.5%	-4.6%	-4.6%	-4.7%
Rapeseed									
Production	-2.6%	-5.6%	-5.4%	-3.7%	-3.0%	-2.9%	-3.0%	-3.1%	-3.1%
Domestic use	-5.9%	-9.4%	-7.9%	-5.4%	-4.5%	-4.5%	-4.6%	-4.6%	-4.7%
Producer price	-7.8%	-11.0%	-8.0%	-6.3%	-6.3%	-7.1%	-7.8%	-8.5%	-9.2%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	1.0%	1.5%	1.2%	0.9%	0.9%	1.0%	1.1%	1.3%	1.4%
Domestic use	-0.7%	-1.4%	-1.4%	-1.0%	-0.8%	-0.9%	-1.0%	-1.0%	-1.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pig meat									
Production	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.3%	0.4%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%
Producer price	-0.8%	-1.1%	-0.9%	-0.7%	-0.7%	-0.7%	-0.8%	-0.9%	-1.1%
Poultry meat									
Production	0.3%	0.4%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.3%	0.7%	0.7%	0.5%	0.4%	0.4%	0.4%	0.4%	0.5%
Producer price	-1.0%	-2.2%	-2.3%	-1.6%	-1.4%	-1.6%	-1.8%	-2.0%	-2.2%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use *	0.3%	0.6%	0.6%	0.6%	0.7%	0.7%	0.7%	0.8%	0.8%
Whole sale price	-1.7%	-3.6%	-4.2%	-4.3%	-4.5%	-4.8%	-5.2%	-5.7%	-6.2%
Butter									
Production	-4.4%	-3.3%	-2.7%	-2.2%	-2.2%	-2.4%	-2.6%	-2.8%	-2.7%
Domestic use	1.1%	1.7%	1.1%	0.9%	0.8%	0.9%	1.0%	1.0%	1.1%
Whole sale price	-1.8%	-2.7%	-2.0%	-1.6%	-1.6%	-1.9%	-2.1%	-2.3%	-2.6%
SMP									
Production	-18.0%	-27.8%	-24.8%	-23.1%	-25.2%	-29.3%	-33.3%	-36.9%	-39.9%
Domestic use	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Whole sale price	-1.3%	-1.9%	-1.4%	-1.2%	-1.2%	-1.3%	-1.5%	-1.6%	-1.8%
WMP									
Production	0.7%	2.2%	1.5%	1.1%	1.0%	1.1%	1.2%	1.3%	1.1%
Domestic use	2.7%	3.4%	2.3%	1.7%	1.6%	1.6%	1.7%	1.7%	1.7%
Whole sale price	-1.3%	-1.8%	-1.4%	-1.2%	-1.2%	-1.3%	-1.5%	-1.6%	-1.8%
Cheese									
Production	-0.8%	1.1%	0.7%	0.5%	0.5%	0.6%	0.6%	0.7%	0.2%
Domestic use	0.0%	2.3%	5.2%	6.1%	6.1%	6.0%	6.0%	6.0%	6.2%
Whole sale price	0.0%	-2.0%	-4.3%	-5.3%	-5.5%	-5.7%	-6.1%	-6.5%	-7.1%

* - processed milk and milk for direct sales

Source: Latvian AGMEMOD Model (2006)

Table 14.11 : Latvia: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.3%	-0.7%	0.0%	-0.8%	-0.7%	-0.8%	-0.8%	-0.9%	-0.9%
Domestic use	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Soft wheat									
Production	-0.5%	-1.2%	-1.4%	-1.3%	-1.3%	-1.3%	-1.4%	-1.5%	-1.6%
Domestic use	1.5%	1.6%	1.1%	0.8%	0.8%	0.9%	0.9%	0.9%	0.9%
Producer price	-4.2%	-5.5%	-4.5%	-4.0%	-4.1%	-4.4%	-4.8%	-5.1%	-5.5%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.2%	0.3%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%
Domestic use	-0.8%	-0.7%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%
Producer price	-1.8%	-3.1%	-3.2%	-3.0%	-2.9%	-3.1%	-3.3%	-3.6%	-3.9%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	-0.2%	-0.6%	-0.6%	-0.6%	-0.5%	-0.6%	-0.6%	-0.7%	-0.7%
Domestic use	-0.4%	-0.9%	-1.1%	-1.1%	-1.0%	-1.0%	-1.1%	-1.1%	-1.2%
Producer price	-3.7%	-4.9%	-4.0%	-3.5%	-3.6%	-3.9%	-4.2%	-4.5%	-4.8%
Other grains (oats)									
Production	-0.2%	-0.5%	-0.6%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%
Domestic use	-1.0%	-0.6%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.1%
Producer price	-1.9%	-3.2%	-3.3%	-3.1%	-3.0%	-3.2%	-3.4%	-3.7%	-4.0%
Total oilseeds									
Production	-3.8%	-7.6%	-7.4%	-5.5%	-4.7%	-4.5%	-4.4%	-4.4%	-4.4%
Domestic use	-8.6%	-12.6%	-11.0%	-8.3%	-7.1%	-6.8%	-6.7%	-6.6%	-6.5%
Rapeseed									
Production	-3.8%	-7.6%	-7.4%	-5.5%	-4.7%	-4.5%	-4.4%	-4.4%	-4.4%
Domestic use	-8.6%	-12.6%	-11.0%	-8.3%	-7.1%	-6.8%	-6.7%	-6.6%	-6.5%
Producer price	-11.4%	-14.4%	-11.6%	-9.9%	-9.9%	-10.6%	-11.3%	-12.0%	-12.6%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	1.4%	2.0%	1.7%	1.4%	1.4%	1.6%	1.7%	1.8%	1.9%
Domestic use	-1.0%	-2.0%	-2.0%	-1.5%	-1.4%	-1.4%	-1.5%	-1.5%	-1.6%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pig meat									
Production	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	0.4%	0.5%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Producer price	-1.1%	-1.5%	-1.2%	-1.1%	-1.0%	-1.1%	-1.2%	-1.3%	-1.5%
Poultry meat									
Production	0.5%	0.4%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.5%	1.0%	1.0%	0.8%	0.6%	0.6%	0.6%	0.6%	0.6%
Producer price	-1.5%	-3.1%	-3.1%	-2.5%	-2.3%	-2.5%	-2.7%	-2.9%	-3.1%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Domestic use *	0.4%	0.8%	0.9%	0.9%	1.0%	1.0%	1.1%	1.1%	1.2%
Whole sale price	-2.5%	-4.9%	-5.8%	-6.3%	-6.7%	-7.2%	-7.7%	-8.3%	-8.9%
Butter									
Production	-6.4%	-4.4%	-3.8%	-3.4%	-3.4%	-3.6%	-3.8%	-4.0%	-3.8%
Domestic use	1.6%	2.2%	1.6%	1.3%	1.3%	1.4%	1.4%	1.4%	1.5%
Whole sale price	-2.6%	-3.6%	-2.9%	-2.5%	-2.6%	-2.8%	-3.0%	-3.3%	-3.5%
SMP									
Production	-26.8%	-37.0%	-35.6%	-35.6%	-38.9%	-43.9%	-48.5%	-52.4%	-55.4%
Domestic use	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Whole sale price	-1.9%	-2.5%	-2.0%	-1.8%	-1.8%	-2.0%	-2.1%	-2.3%	-2.5%
WMP									
Production	1.0%	2.9%	2.1%	1.7%	1.6%	1.7%	1.8%	1.8%	1.5%
Domestic use	4.1%	4.6%	3.3%	2.6%	2.5%	2.4%	2.4%	2.4%	2.4%
Whole sale price	-1.9%	-2.4%	-2.0%	-1.8%	-1.8%	-2.0%	-2.1%	-2.3%	-2.4%
Cheese									
Production	-1.2%	1.4%	1.0%	0.8%	0.8%	0.8%	0.9%	0.9%	0.3%
Domestic use	0.0%	3.4%	7.1%	8.5%	8.9%	8.8%	8.9%	8.9%	9.1%
Whole sale price	0.0%	-2.8%	-5.9%	-7.3%	-7.9%	-8.4%	-9.0%	-9.7%	-10.3%

* - processed milk and milk for direct sales

Source: Latvian AGMEMOD Model (2006)

15 Lithuania

Irena Krisciekaitiene, Salomeja Andrikiene, Aiste Galnaityte, Andrej Jedik and William Meyers, Lithuanian Institute of Agrarian Economics (LAEI), Vilnius

15.1 Baseline

A summary of the specific assumptions for Lithuania on the macroeconomic and policy variables that underlie the model's Baseline projections up to 2015 are given in Table 15.1 and Table 15.2. Of note are the considerable projected growth in GDP and the projected slight decline in population.

Table 15.1: Assumptions on macroeconomic variables for Lithuania

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	3.5	3.4	3.4	3.4	3.4	3.4	3.3	3.3	3.3	3.3	3.3	3.3
GDP	bil. Euro97	12	18	20	21	22	23	25	26	27	28	29	31
GDP per capita	Euro97/cap	3569	5416	5746	6110	6523	6965	7359	7749	8141	8538	8954	9388
Inflation	1997=1	1.06	1.14	1.13	1.16	1.19	1.22	1.25	1.27	1.30	1.33	1.35	1.38

Source: National projections, except later years use FAPRI rates of change for macro

Table 15.2: Assumptions on national policy variables for Lithuania

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Cereal reference yield	tonne/ha	na	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Oilseed reference yield	tonne/ha	na	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Milk quota	1,000 tonne	na	1646.9	1646.9	1704.8	1704.8	1704.8	1704.8	1704.8	1704.8	1704.8	1704.8	1704.8
direct marketing allowance	1,000 tonne		367.2	367.2	367.2	367.2	367.2	367.2	367.2	367.2	367.2	367.2	367.2
Suckler cow quota	1,000 head	na	47.23	47.23	47.23	47.23	47.23	47.23	47.23	47.23	47.23	47.23	47.23

Source: Lithuanian Ministry of Agriculture

With the implementation of SAPS after accession and the assumed implementation of the Luxembourg Agreement in 2009, most premiums have been decoupled in Lithuania since 2004, the year that Lithuania joined the EU. The payments which will not be decoupled until 2009 are headage premiums for suckler cows, bulls, and ewes as well as milk payments per tonne up to 2008 (except for 2005). Lithuania chose to implement SAPS rather than the standard CAP programmes and also decided to use the top-up under CNDP, which is primarily focused on beef cattle, milk, ewes and sensitive crops. The top-up was about half the allowed maximum in the first year, after which it increases gradually so that total support reaches 100% of EU-15 levels by 2009. The CNDP was used to add payments to sensitive crops and livestock, which get extra payments up to 2008 (Table 15.3). From 2009 onward, payments per hectare are equal, and no livestock or milk payments are to be made. Beginning in 2013, modulation decreases the payments per hectare.

Thus, to take account of the differing levels of decoupling under different policy instruments, we make a set of assumptions as to the degree to which the payment affects the incentive price and is supply-inducing. These are summarised in Table 15.4 and described in more detail below.

Table 15.3: SAPS, CNDP and SFP payments in Lithuania

Land Payments	UNITS	**2003 pre access**	**2004** SAPS	**2005** SAPS	**2006** SAPS	**2007** SAPS	**2008** SAPS	**2009** SFP	**2010** SFP	**2011** SFP	**2012** SFP	**2013** SFP	**2014** SFP	**2015** SFP
Grains	Euro/ha	0	89	97	106	119	136	157	174	180	186	143	141	140
Rye for less favorable land	Euro/ha	43	145	154	163	176	193	214	230	236	243	199	141	140
Rapeseed - average	Euro/ha	23	89	97	106	119	136	157	174	180	186	143	141	140
Flax	Euro/ha	401	166	165	170	170	170	157	174	180	186	143	141	140
Buckwheat	Euro/ha	101	89	97	106	119	136	157	174	180	186	143	141	140
Legumes	Euro/ha	9	89	121	140	158	181	157	174	180	186	143	141	140
Potatoes	Euro/ha	0	32	41	50	57	71	157	174	180	186	143	141	140
Potatoes for starch	Euro/ha	52	82	97	106	116	134	157	174	180	186	143	141	140
Grassland and pasture	Euro/ha	0	32	41	50	57	71	157	174	180	186	143	141	140
Sugar beets and set aside	Euro/ha	0	32	41	50	57	71	157	174	180	186	143	141	140
Livestock and Dairy														
Cattle grassland equivalent	Euro/head	0	45	57	70	80	100	220	243	252	261	200	198	196
Special premium - bulls	Euro/head	42	145	110	188	217	248	0	0	0	0	0	0	0
Slaughter premium- adults	Euro/head	42	26	41	56	65	75	0	0	0	0	0	0	0
Suckler cow premium	Euro/head	155	146	153	198	227	259	0	0	0	0	0	0	0
Pasture payment + Direct	Euro/100kg	0	113	121	155	178	205	47	52	54	56	43	42	42
Milk Direct payment	Euro/ton	13	10	14	21	35	35	0	0	0	0	0	0	0
Pasture payment + Direct	Euro/100kg	1.3	1.4	1.8	2.6	4.0	4.2	1.3	1.5	1.5	1.5	1.2	1.1	1.1
Sheep grassland equivalent	Euro/head	0.0	9.0	11.4	14.0	16.0	20.0	44.0	48.6	50.4	52.1	40.0	39.6	39.2
Sheep Direct payment	Euro/head	18.2	8.7	11.0	17.7	20.3	23.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pasture payment + Direct	Euro/100kg	62.3	38.9	49.2	74.6	85.6	99.6	45.1	49.8	51.6	53.4	40.9	40.5	40.1

Source: Lithuanian Ministry of Agriculture

Table 15.4: Multipliers used in all scenarios for Lithuania

Crop sector	SAP Scheme	SFP Scheme
SAP portion	0,3	
CNDP portion	0,8	
Combined multiplier	0,6	
SFP payments		0,3
Animal sector		
SAP for grassland	0,3	
CNDP for animals	1,0	
SFP payments		0,3

Source: Own assumptions

- Crops with basic payment only (vegetables, potatoes, pasture, sugar beet): We assume a high level of decoupling and apply the multiplier of 0.3 to payments.
- Crops with top-up payments (grains, rapeseed, potatoes for starch, flax, buckwheat, and legumes): We assume a 0.8 coupling multiplier for the top-up portion and 0.3 for the basic payment, or a weighted average of 0.6 for total area payments.
- Milk and dairy cows (milk quota is given in Table 15.2): Payments per tonne of milk were continued under CNDP, and these are considered to be fully coupled with a multiplier of 1. Pasture payments received are considered a highly decoupled form of support for dairy farming, with a multiplier of 0.3, and these are converted to headage and milk equivalent payments by using 1.4 hectares per cow and the yield per cow.
- Livestock and sheep: For animal premiums paid under CNDP, we assume a coupling multiplier of 1.0, and for grassland equivalents (for cattle, sheep and milk) we assume a 0.3 multiplier. Sheep meat equivalents of pasture payments are calculated using 0.28 hectare per sheep and 2004 slaughter weight.
- When SFP is introduced in 2009, all payments will go to land, and all agricultural land will receive the same payment level, so we assume that all payments influence production decisions with a 0.3 coupling multiplier. The only payments to cattle, sheep and milk are indirect ones through grassland and pasture payments. Thus, for all products, the decoupling multiplier of 0.3 is applied to all payments from 2009 onward.
- Because of the large price adjustment that is already happening with effect from 2004 in cattle and dairy markets, we introduce price convergence assumptions for the

number of years and the degree of convergence for each of these products only (Table 15.5). These are similar to those used in the AGMEMOD 5th Framework project but are adjusted according to what has been observed up to 2005. All other prices are linked to key prices with estimated linear equations.

Table 15.5: Price convergence assumptions by commodity

Commodity	Direction	Years	% of EU Price
Rye	Up	4	100
Beef	Up	5	85
Sheep	Up	4	90
Butter	Up	7	100
Cheese	Up	7	85
SMP	Up	7	100
WMP	Up	7	100

Source: Lithuanian AGMEMOD Model (2006)

Main results

Results of the AGMEMOD analysis are driven primarily by changes in prices and technology (Table 15.6). Yields and animal productivity change more rapidly as a consequence of being part of the Single Market. Market integration also means that there is increasing price convergence between Lithuania and other European markets, as represented by the linkages to key prices used in the model and in some cases also the convergence assumptions. The price changes from 2000 to 2015 reflect this realignment. Grain and SMP prices were similar before accession, but most other prices increased significantly after accession. Exceptions were pig meat and poultry, which had tariff protection in Lithuania prior to accession. Prices of these two commodities decline by 20% or more during the 2000 to 2015 period. In the period after accession, from 2005 to 2015, Lithuanian prices move mostly with the key prices of the EU to which they are linked. The exceptions are rye, beef and veal, sheep meat, milk, cheese and butter, which increase by more or decline by less, when compared to EU prices, because there are still upward influences from the price convergence process.

Grain and oilseed sectors

Prices are relatively stable in the grain and oilseeds sectors, except for rye, which needs to align with EU prices as it becomes an imported commodity; but there are some area shifts. Grain and rapeseed area and production increase from 2000 and 2005 levels, though rye does not return to the 2000 to 2002 levels. Though grain demand also increases, net exports increase over the projection period. Rapeseed production increases rapidly, and most of this is for the expanding export market, since domestic crushing capacity is virtually non-existent.

Livestock and dairy sectors

Pork production grows only slowly after a large 2000 to 2005 increase, but poultry production continues to increase more rapidly. The poultry production growth seems high, but much of it had occurred by 2005. Pork imports are projected to rise substantially, while poultry imports remain small and decline over the projection period. Growing beef prices would seem to induce more production, but this is constrained by declining cattle numbers. Farmers follow their milk quotas and are reducing cow numbers as yields increase. Lithuania seems likely to remain a small net exporter of beef and veal products. On the dairy side, butter production is projected to decline as CAP Reform reduces butter prices in the future. However, cheese production fares better, and both products, as well as SMP and WMP, remain important export products. Cheese continues to be the leading export product. . Though milk production increases after accession, it peaks in 2008 and declines very slightly

after that. Checking against the dairy quota indicates that total factory purchases plus direct sales never exceed the milk quota. Since feed use, losses and home consumption are still significant, total production does exceed the quota, but the quota does not constrain these uses. These quantities are declining, but in 2005 were still more than 30% of total production.

Table 15.6: Baseline results concerning main agricultural commodities of Lithuania

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	2409	2436	2606	2699	2797	2591	2865	2937	3010	3049	3117	3184
Domestic use	1,000 ton	2079	2181	2318	2440	2511	2531	2499	2466	2434	2417	2407	2400
Soft wheat													
Production	1,000 ton	1238	1379	1461	1518	1578	1577	1625	1670	1716	1742	1785	1826
Domestic use	1,000 ton	938	992	1058	1112	1146	1157	1145	1132	1120	1114	1112	1111
Producer price	euro/ton	116	104	104	106	108	107	107	107	108	108	109	109
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	860	948	988	1020	1054	1049	1075	1099	1124	1137	1160	1183
Domestic use	1,000 ton	862	936	998	1056	1088	1095	1078	1061	1044	1035	1029	1024
Producer price	euro/ton	106	95	96	98	100	100	100	101	102	102	103	104
Maize													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Rye													
Production	1000 tons	311	108	157	161	165	163	165	167	170	170	173	175
Domestic use	1000 tons	279	253	262	272	278	279	276	273	270	268	267	265
Producer price	euro/ton	92	94	97	100	103	103	103	104	104	105	106	108
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	81	201	192	213	233	249	267	286	307	328	350	372
Domestic use	1,000 ton	28	29	30	31	32	33	34	35	36	37	38	40
Rapeseed													
Production	1,000 ton	81	201	192	213	233	249	267	286	307	328	350	372
Domestic use	1,000 ton	28	29	30	31	32	33	34	35	36	37	38	40
Producer price	euro/ton	177	190	191	210	220	210	205	205	206	207	208	209
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	60	47	47	52	54	55	52	50	48	47	46	44
Domestic use	1,000 ton	42	37	29	27	27	29	30	30	31	31	32	32
Producer price	euro/100 kg	116	175	221	244	254	248	245	245	246	248	251	254
Pig meat													
Production	1,000 ton	74	106	93	94	96	99	101	102	102	104	106	109
Domestic use	1,000 ton	84	128	127	131	132	134	135	139	143	145	147	149
Producer price	euro/100 kg	177	144	130	131	144	150	157	150	142	149	156	162
Poultry meat													
Production	1,000 ton	25	57	53	55	58	60	62	65	67	69	72	74
Domestic use	1,000 ton	34	54	57	61	64	66	69	71	73	76	78	80
Producer price	euro/100 kg	154	113	121	117	117	116	113	108	105	103	101	99
Sheep meat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/100 kg	241	249	285	284	284	283	283	283	282	281	280	279
Fluid milk													
Production	1,000 ton	1725	1862	1974	2052	2082	2043	2050	2048	2043	2031	2025	2019
Domestic use	1,000 ton	1200	1134	1134	1143	1155	1170	1183	1195	1207	1218	1230	1242
Whole sale price	euro/100 kg	14	18	19	20	20	20	20	20	20	21	21	21
Butter													
Production	1,000 ton	19	21	24	25	26	22	22	20	19	18	16	15
Domestic use	1,000 ton	9	10	10	10	10	10	10	10	10	10	10	10
Whole sale price	euro/100kg	168	243	251	258	264	265	264	264	265	266	268	268
SMP													
Production	1,000 ton	10	14	13	12	12	11	11	11	10	10	9	9
Domestic use	1,000 ton	2	1	1	2	2	2	2	2	2	2	2	2
Whole sale price	euro/100kg	181	194	185	181	183	182	181	181	182	182	183	183
WMP	wmp/smp												
Production	1,000 ton	3	4	4	4	4	4	4	4	4	4	4	4
Domestic use	1,000 ton	1	1	1	1	1	1	1	1	1	1	1	1
Whole sale price	euro/100kg	188	204	167	190	211	201	194	197	202	206	211	215
Cheese													
Production	1,000 ton	42	56	64	70	73	73	76	77	78	80	81	83
Domestic use	1,000 ton	11	20	21	22	24	25	27	29	31	33	35	36
Whole sale price	euro/100kg	254	285	359	381	394	403	406	405	405	407	410	413

Source: Lithuanian AGMEMOD Model (2006)

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities

and cover feedstuffs as the sole input variable, it is possible to approximate the path of gross agricultural sector income. This is based on the path of agricultural output value, subsidies (direct payments and SFP) made to producers of the included commodities and feed costs, respectively (Table 15.7 and Table 15.8).

Table 15.7: Agricultural output, subsidies, feed cost and gross income in Lithuania[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	million euro	752	910	962	1042	1109	1117	1131	1131	1134	1153	1178	1202
Subsidies/SFP	million euro	23	129	165	195	238	277	315	336	357	345	347	350
Feeding costs	million euro	127	140	153	168	177	179	176	173	171	170	171	171
Gross agric. income	million euro	648	899	974	1,070	1,170	1,215	1,271	1,294	1,320	1,327	1,355	1,382
% subsidies/SFP of gross income		3.6%	14.3%	16.9%	18.2%	20.3%	22.8%	24.8%	25.9%	27.0%	26.0%	25.6%	25.3%

1) Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Own calculations

Table 15.8: Index of Agricultural output, subsidies, feed cost and gross income in Lithuania[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.21	1.28	1.39	1.47	1.49	1.50	1.50	1.51	1.53	1.57	1.60
Subsidies/SFP	2000=1	1.00	5.48	7.02	8.31	10.12	11.79	13.43	14.30	15.20	14.70	14.81	14.92
Feeding costs	2000=1	1.00	1.10	1.20	1.32	1.39	1.41	1.38	1.36	1.34	1.34	1.34	1.34
Gross agric. income	2000=1	1.00	1.39	1.50	1.65	1.80	1.87	1.96	2.00	2.04	2.05	2.09	2.13

1) Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Own calculations

The share of subsidies/SFP in the estimated agricultural output value is set to increase from 3.6% in 2000 to 25% in 2015. This is due to the introduction of EU payments in 2004 and the steady increase in these subsidies over time. From 2005 to 2015, the Baseline shows a 32% increase in agricultural output value, which comes from all sub-sectors, crops, livestock and milk. In crops, the value increase comes more from production than price, while in livestock and milk it is mostly due to rising prices. Hence, gross agricultural income is projected to increase by more than 50% in the projection period (excluding. returns for other agricultural commodities, other inputs, depreciation, and taxes).

15.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU MS. The 'Further CAP reform' scenario, described in Report III AGMEMOD - Model description, involves effectively standardising the currently nationally differentiated CAP implementation plans by imposing full decoupling from 2009, while the rates of compulsory modulation that are associated with the current SFP are increased for the EU-10 to 6% in 2013, 8% in 2014 and 10% in 2015.

When adopting SFP in 2009 Lithuania chose to decouple from production all direct payments previously made to farmers and to introduce an SFP based strictly on historical entitlements. Farmers receiving single farm payments (SFP) in excess of € 5 000 were, like other farmers in the new MS, subject to modulation at rates as specified above.

The "further CAP reform" scenario, involving the "full" decoupling of all CAP direct payments and increased rates of modulation, would not, *a priori*, be expected to have a major impact on the supply and use of agricultural commodities in Lithuania. On the one hand, the commodities in this study were already fully decoupled under the Baseline from 2009 onward. On the other, raising the rate of compulsory modulation by decreasing the value of the SFP would be expected to have some (negative) impact on the supply of agricultural commodities but only affect a small portion of recipients. In addition, the full decoupling of

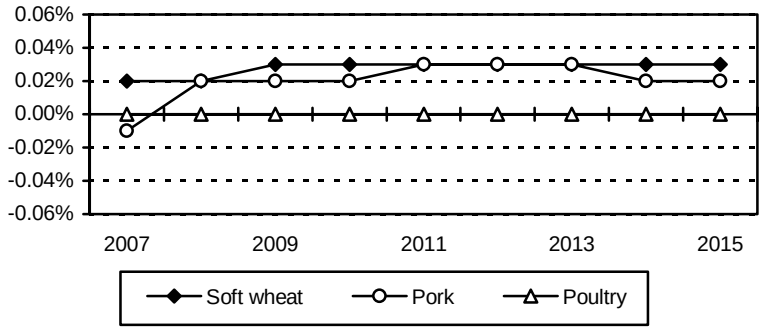
CAP payments in all EU MS would be expected to alter the supply and use balance in EU agricultural commodity markets since many MS have chosen to only partially decouple some direct payments. An altered supply and use balance at EU level would be expected to reduce production of those agricultural commodities that are still supported by coupled direct payments and to consequently have at least some small positive impact on EU market prices for agricultural commodities.

The further CAP reform scenario results presented below show that the impacts on Lithuanian agricultural commodity markets of introducing full decoupling in all MS and the increased rates of compulsory modulation are extremely small.

Main Results

The impact of full decoupling in other EU MS on Lithuanian agricultural commodity markets is reflected in the path of prices. However, full decoupling across EU Member States leads to very small increases in the supply-inducing prices that are used in the Lithuanian AGMEMOD sub-model. The percentage changes from the Baseline level projections for the prices of four key commodities in the AGMEMOD model (soft wheat, pork and poultry) are set out in Figure 15.1.

Figure 15.1: Lithuanian Prices: FCR Scenario (% Δ from Baseline)



Source: Lithuanian AGMEMOD Model (2006)

The Lithuanian AGMEMOD model's projections under the FCR scenario are compared with the Baseline projections in Table 15.9 and Table 15.10. The remainder of this section comments on these results.

Grain and oilseed sectors

The impact of the FCR scenario on Lithuanian grain markets when compared to the Baseline projections are, as expected, quite modest. One important reason is that the AGMEMOD crop commodities in this study were already fully decoupled in the Baseline; hence, the main effect of decoupling direct payments was already projected in Section 15.1. Under the FCR scenario, EU grain prices would show a slight increase due to the full decoupling of arable land direct payments in all Member States. The result is that the impact on Lithuanian grain prices is negligible when compared to Baseline levels.

A modest increase in prices would be expected, *ceteris paribus*, to contract the domestic use of cereals somewhat when compared with the Baseline, but price changes are so small that the only conclusion one can make is there is almost no change. What change there is, comes from the increased modulation that reduces direct payments and production slightly in the last three years.

Livestock and dairy sectors

The impact of the FCR scenario on Lithuanian livestock markets when compared to the Baseline projections is quite small. This is because there are no differences in the decoupling rates for animal product support in the Lithuanian model between the two scenarios. As for crops, the most general change is a slight decline in production for some products in the last three years of the projection period due to increased modulation. There is a slight increase in beef and veal production and a decline in consumption from a price increase that is slightly higher than for other commodities.

The increased rate of modulation of SFP is projected to lead to only a very small contraction in the total volume of milk and dairy products produced in Lithuania. Changes in the rate of modulation are not expected to change the relative prices of different dairy commodities, and as a consequence changes in the supply and use balance in dairy commodity markets in Lithuania and the Lithuanian farm gate milk price, under the FCR scenario, are negligible.

Agricultural income

It was expected that the somewhat higher agricultural commodity prices under the FCR scenario and the modest increases in the levels of production in response to the projected price would lead to a slight increase in Lithuanian agricultural income. However, in the last three years of the projection period even this small increase disappears when modulation reduces the direct payment. Compared to the Baseline, Lithuanian agricultural incomes increase slightly until 2013 under the FCR scenario, then decrease (Table 15.9), which is entirely due to the lower subsidy receipts of 5 to 7% (from the increased rate of modulation). This reduction more than offsets the small increase in agricultural output value in the last three years and leads to a net decline in gross income net of feed costs, which also increased slightly. The change in gross income went from near zero to minus -2% in the last year.

Table 15.9: Lithuania: Agricultural output and income under FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.01%	0.09%	0.07%	0.08%	0.07%	0.07%	0.03%	0.01%	-0.02%
Subsidies/SFP	0.00%	0.05%	0.04%	0.05%	0.04%	0.04%	-3.00%	-4.97%	-6.90%
Feeding costs	0.02%	0.17%	0.15%	0.16%	0.16%	0.15%	0.15%	0.13%	0.10%
Gross agric. income	0.00%	0.07%	0.06%	0.06%	0.06%	0.05%	-0.77%	-1.28%	-1.78%

Source: Lithuanian AGMEMOD Model (2006)

Table 15.10: Lithuania: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%
Soft wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.2%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.0%	0.3%	0.2%	0.2%	0.2%	0.2%	0.3%	0.2%	0.2%
Domestic use	0.0%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%
Producer price	0.0%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
Domestic use	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.2%	-0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Lithuanian AGMEMOD Model (2006)

15.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the projected exchange rate ranged from US$ 1.24 to 1.10 per euro from 2006 onwards. In evaluating the impact of changes in this key macroeconomic assumption, three alternative paths were analysed. Two of these involve a depreciation of the US dollar versus the euro, with the exchange rate moving to rates of 1.30 and 1.40 US dollars per euro in 2007 and continuing to 2015. The third is for the euro to depreciate against the dollar to a parity

exchange rate of US$ 1 per euro.

Since all key prices are external to Lithuania, the influence of the alternative exchange rate paths examined in this scenario operates through the impact of the different exchange rates on the key commodity price projections generated by the AGMEMOD model.

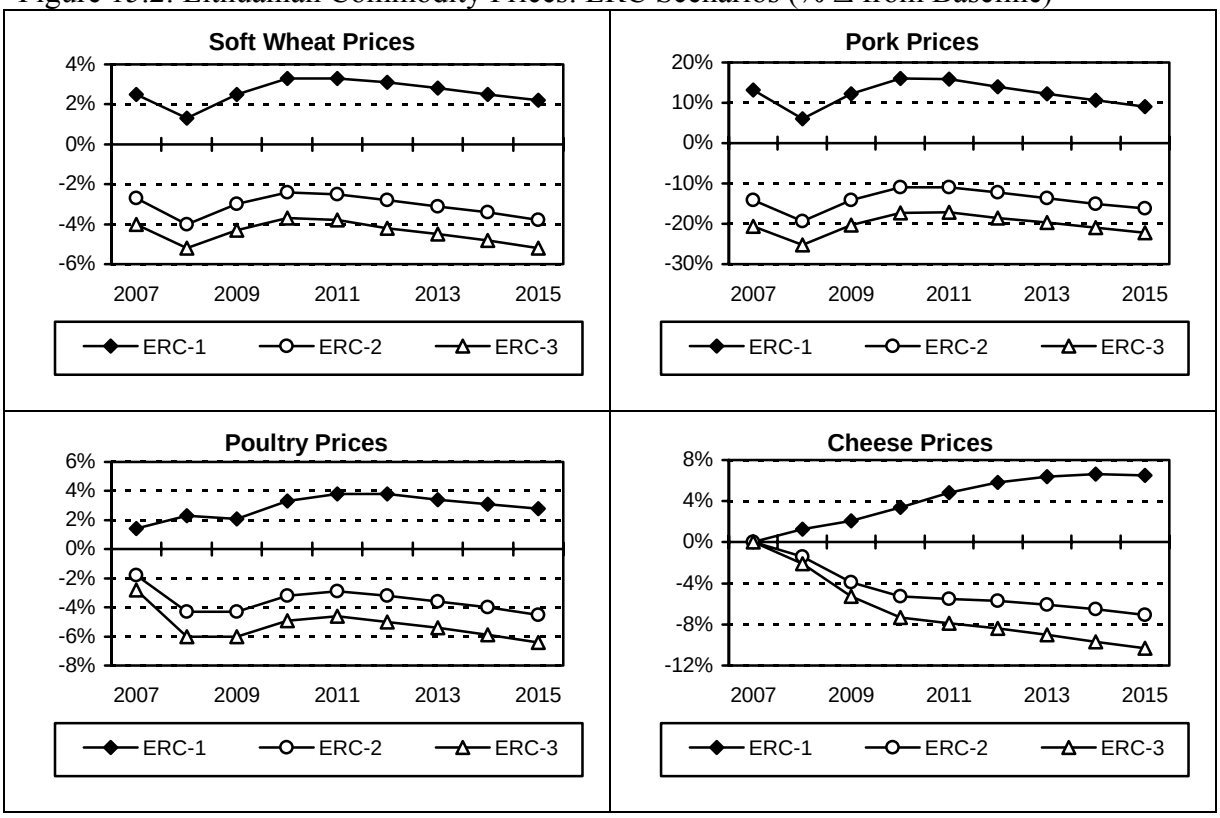
Main Results

This section gives a summary of the Exchange Rate Change (ERC) scenario projection results for Lithuania. The three exchange rate sub-scenarios are labelled ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). The results of the scenarios relative to the Baseline projections in terms of percentage changes are set out in Table 15.11 to Table 15.13 and Figure 15.2 and Figure 15.3.

The impact of the three ERC scenarios when compared with one another and with the Baseline projections indicate that the AGMEMOD model performs as one would have expected. Key prices under the ECR-1 scenario increase when the euro depreciates to parity with the US dollar from 2007. When compared with Baseline price projections for Lithuania, prices under both the ERC-2 and ERC-3 scenarios decline as expected when the euro appreciates against the dollar. The size of the increases in the key prices that are endogenously determined within the AGMEMOD modelling system are, in general, smaller than the percentage changes in prices that are determined exogenously to the AGMEMOD model. For these exogenous prices the percentage change in the exchange rate from Baseline levels is fully reflected in the euro prices for these commodities (oilseeds and oil seed meals and oils).

The impact of the changed exchange rate on the commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities. The percentage change in four Lithuanian prices under each of the three ERC scenarios is shown in the Figure 15.2 graphs. The commodity prices chosen for review are soft wheat, pork, poultry and milk. These prices are endogenously determined in the AGMEMOD model and range from relatively smaller changes for wheat and poultry to relatively larger effects for pork and cheese prices.

Figure 15.2: Lithuanian Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: Lithuanian AGMEMOD Model (2006)

When the projections for Lithuanian commodity markets under the ECR-1 scenario are compared with those under the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use. Sheep meat is an exception, since price changes very little, so larger changes in input prices cause production to decrease and larger changes in other meats cause consumption to increase. The same effects obtain to a larger degree in ECR-2 and ECR-3.

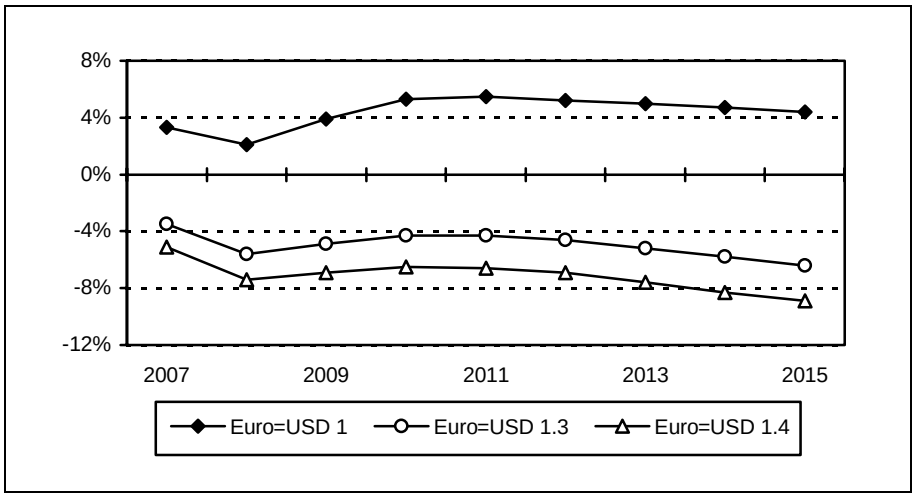
The two exchange rate change scenarios labelled ECR-2 and ECR-3 involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under ECR-2 the euro exchange rate is $1.30, while under ECR-3 it is assumed to be $1.40 from 2007 onward. As expected, the projections for Lithuania under both scenarios, when compared with those under the Baseline, show similar changes in prices, quantities supplied and demand. But impacts are proportionately larger in ECR-3. As in the ECR-1 scenario, the impact of the exchange rate changes are most fully expressed in the prices of those commodities exogenous to the AGMEMOD model system, such as oilseeds, pig meat and WMP. For the majority of agricultural commodities in the AGMEMOD modelling system, prices are determined endogenously together with all of the elements of supply and use balances. Under each of the exchange rate scenarios, market prices of all commodities in Lithuania are projected to be lower than under the Baseline, which causes production to be lower and consumption higher in most cases. Grain and rapeseed demand, however, declines due to reduced feed demand. The exceptions to this pattern are sheep meat and SMP, where price changes are much smaller, so cross price effects dominate the own-price effects.

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. The main

influence on gross agricultural income arises from changes in agricultural output value and feed costs. Higher prices and production levels in the ERC-1 scenario would lead to increased values of agricultural output, partly offset by higher feed costs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 15.3).

Figure 15.3: Lithuania: Gross agriculture income in Exchange Rate Scenarios. (% Δ from Baseline)



Source: Lithuanian AGMEMOD Model (2006)

Table 15.11: Lithuania: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.4%	0.3%	0.2%	0.7%	0.8%	0.8%	0.7%	0.7%	0.6%
Domestic use	1.2%	0.7%	1.4%	2.0%	2.1%	2.1%	2.1%	2.0%	1.9%
Soft wheat									
Production	0.5%	0.2%	0.5%	0.7%	0.7%	0.7%	0.7%	0.6%	0.6%
Domestic use	1.0%	0.8%	1.3%	1.9%	2.1%	2.1%	2.0%	2.0%	1.9%
Producer price	2.5%	1.3%	2.5%	3.3%	3.3%	3.1%	2.8%	2.5%	2.2%
Barley									
Production	0.3%	0.3%	0.5%	0.7%	0.8%	0.8%	0.8%	0.7%	0.7%
Domestic use	1.5%	0.8%	1.7%	2.3%	2.4%	2.3%	2.3%	2.3%	2.1%
Producer price	1.6%	1.5%	2.2%	3.0%	3.4%	3.4%	3.2%	2.9%	2.6%
Rye									
Production	0.2%	0.4%	0.6%	0.8%	1.0%	1.1%	1.1%	1.0%	0.9%
Domestic use	1.0%	0.4%	1.0%	1.4%	1.4%	1.3%	1.3%	1.3%	1.2%
Producer price	1.9%	1.7%	2.5%	3.5%	3.9%	3.8%	3.6%	3.3%	3.0%
Total oilseeds									
Production	2.0%	0.9%	1.7%	2.0%	1.8%	1.5%	1.3%	1.1%	0.9%
Domestic use	0.4%	0.3%	0.5%	0.7%	0.8%	0.7%	0.7%	0.7%	0.6%
Rapeseed									
Production	2.0%	0.9%	1.7%	2.0%	1.8%	1.5%	1.3%	1.1%	0.9%
Domestic use	0.4%	0.3%	0.5%	0.7%	0.8%	0.7%	0.7%	0.7%	0.6%
Producer price	9.3%	4.5%	8.9%	11.6%	11.6%	10.4%	9.2%	8.1%	6.9%
Beef and veal									
Production	1.8%	0.9%	1.6%	2.3%	2.2%	2.1%	2.1%	2.1%	2.0%
Domestic use	-0.4%	-0.3%	-0.4%	-0.1%	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%
Producer price	3.1%	1.8%	3.4%	4.3%	4.2%	3.7%	3.3%	2.9%	2.6%
Pig meat									
Production	2.2%	1.4%	2.7%	3.7%	3.8%	3.5%	3.3%	3.0%	2.7%
Domestic use	-2.2%	-0.9%	-2.1%	-2.8%	-2.5%	-1.9%	-1.7%	-1.5%	-1.3%
Producer price	13.1%	6.0%	12.2%	16.0%	15.9%	14.0%	12.3%	10.6%	9.1%
Poultry meat									
Production	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%
Domestic use	0.5%	-0.3%	0.3%	0.2%	0.0%	-0.1%	0.0%	0.0%	0.0%
Producer price	1.4%	2.3%	2.1%	3.3%	3.8%	3.8%	3.4%	3.1%	2.8%
Sheep meat									
Production	0.0%	-0.1%	-0.2%	-0.3%	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%
Domestic use	2.5%	1.3%	2.5%	3.2%	3.0%	2.5%	2.2%	1.9%	1.6%
Producer price	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Fluid milk									
Production	-0.2%	0.0%	0.2%	0.4%	0.6%	0.9%	1.0%	1.1%	1.1%
Domestic use	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Whole sale price	0.6%	1.1%	1.8%	2.7%	3.3%	3.7%	3.8%	3.8%	3.7%
Butter									
Production	0.1%	0.2%	1.0%	1.8%	2.3%	2.8%	3.3%	3.7%	4.1%
Domestic use	-0.4%	-0.4%	-0.6%	-0.8%	-0.8%	-0.7%	-0.6%	-0.6%	-0.5%
Whole sale price	1.0%	0.9%	1.6%	2.2%	2.2%	2.1%	1.9%	1.7%	1.5%
SMP									
Production	0.5%	-0.1%	0.0%	-0.2%	-0.6%	-0.9%	-1.2%	-1.3%	-1.4%
Domestic use	-5.2%	-2.7%	-4.7%	-5.5%	-5.3%	-4.7%	-4.1%	-3.6%	-3.0%
Whole sale price	1.9%	1.0%	2.0%	2.6%	2.7%	2.5%	2.3%	2.1%	1.8%
WMP									
Production	0.2%	0.0%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%
Domestic use	-6.1%	-3.3%	-5.9%	-7.1%	-7.1%	-6.4%	-5.6%	-5.0%	-4.2%
Whole sale price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Cheese									
Production	-0.6%	0.3%	0.5%	1.0%	1.7%	2.3%	2.6%	2.8%	2.8%
Domestic use	0.0%	-0.6%	-0.8%	-1.3%	-1.6%	-1.8%	-1.8%	-1.8%	-1.6%
Whole sale price	0.0%	1.3%	2.1%	3.4%	4.8%	5.8%	6.4%	6.6%	6.5%

Source: Lithuanian AGMEMOD Model (2006)

Table 15.12: Lithuania: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.4%	-0.7%	-0.3%	-0.6%	-0.6%	-0.7%	-0.8%	-0.9%	-1.0%
Domestic use	-1.3%	-2.3%	-1.8%	-1.7%	-1.9%	-2.1%	-2.2%	-2.5%	-2.7%
Soft wheat									
Production	-0.5%	-0.8%	-0.6%	-0.5%	-0.5%	-0.6%	-0.7%	-0.8%	-0.9%
Domestic use	-1.1%	-2.1%	-1.7%	-1.7%	-1.8%	-2.0%	-2.2%	-2.4%	-2.6%
Producer price	-2.7%	-4.0%	-3.0%	-2.4%	-2.5%	-2.8%	-3.1%	-3.4%	-3.8%
Barley									
Production	-0.4%	-0.7%	-0.7%	-0.6%	-0.6%	-0.7%	-0.8%	-0.9%	-1.0%
Domestic use	-1.6%	-2.7%	-2.0%	-1.8%	-2.1%	-2.3%	-2.5%	-2.8%	-3.1%
Producer price	-1.8%	-3.3%	-3.3%	-2.8%	-2.7%	-2.9%	-3.2%	-3.5%	-3.9%
Rye									
Production	-0.2%	-0.7%	-1.0%	-0.9%	-0.9%	-0.9%	-1.0%	-1.2%	-1.3%
Domestic use	-1.1%	-1.6%	-1.0%	-1.0%	-1.2%	-1.4%	-1.5%	-1.6%	-1.8%
Producer price	-2.0%	-3.8%	-3.7%	-3.2%	-3.1%	-3.3%	-3.6%	-4.0%	-4.5%
Total oilseeds									
Production	-2.2%	-2.9%	-1.9%	-1.3%	-1.3%	-1.4%	-1.4%	-1.5%	-1.5%
Domestic use	-0.4%	-0.8%	-0.6%	-0.5%	-0.5%	-0.6%	-0.8%	-0.9%	-1.0%
Rapeseed									
Production	-2.2%	-2.9%	-1.9%	-1.3%	-1.3%	-1.4%	-1.4%	-1.5%	-1.5%
Domestic use	-0.4%	-0.8%	-0.6%	-0.5%	-0.5%	-0.6%	-0.8%	-0.9%	-1.0%
Producer price	-10.2%	-14.1%	-10.4%	-8.2%	-8.3%	-9.2%	-10.2%	-11.1%	-12.0%
Beef and veal									
Production	-2.0%	-3.3%	-1.7%	-1.4%	-1.9%	-2.2%	-2.5%	-2.7%	-3.0%
Domestic use	0.4%	1.4%	0.3%	0.1%	0.1%	0.3%	0.2%	0.2%	0.1%
Producer price	-3.4%	-5.8%	-4.0%	-3.0%	-3.0%	-3.3%	-3.7%	-4.1%	-4.5%
Pig meat									
Production	-2.4%	-3.8%	-3.4%	-3.1%	-3.0%	-3.1%	-3.4%	-3.8%	-4.1%
Domestic use	2.3%	3.2%	2.3%	1.9%	1.7%	1.7%	1.9%	2.1%	2.3%
Producer price	-14.2%	-19.3%	-14.1%	-10.9%	-10.9%	-12.3%	-13.6%	-15.0%	-16.2%
Poultry meat									
Production	-0.1%	-0.4%	-0.5%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	-0.4%	-0.1%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	-0.1%
Producer price	-1.8%	-4.3%	-4.3%	-3.2%	-2.9%	-3.2%	-3.6%	-4.0%	-4.5%
Sheep meat									
Production	0.0%	0.1%	0.4%	0.6%	0.5%	0.4%	0.4%	0.5%	0.5%
Domestic use	-2.7%	-4.1%	-2.9%	-2.2%	-2.0%	-2.2%	-2.4%	-2.6%	-2.9%
Producer price	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Fluid milk									
Production	0.2%	0.1%	-0.3%	-0.7%	-0.9%	-1.0%	-1.0%	-1.1%	-1.2%
Domestic use	0.1%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%
Whole sale pric	-0.6%	-1.9%	-2.8%	-3.2%	-3.3%	-3.5%	-3.8%	-4.1%	-4.5%
Butter									
Production	-0.1%	-0.6%	-1.2%	-1.8%	-2.6%	-3.1%	-3.6%	-4.2%	-4.9%
Domestic use	0.4%	0.9%	0.8%	0.6%	0.6%	0.6%	0.7%	0.8%	0.8%
Whole sale pric	-1.1%	-2.2%	-2.0%	-1.6%	-1.6%	-1.9%	-2.1%	-2.3%	-2.6%
SMP									
Production	-0.6%	-0.5%	0.4%	0.9%	1.0%	1.0%	1.1%	1.2%	1.4%
Domestic use	6.2%	8.5%	5.9%	4.4%	4.2%	4.5%	4.7%	5.0%	5.2%
Whole sale pric	-2.3%	-3.3%	-2.5%	-2.1%	-2.1%	-2.4%	-2.6%	-2.9%	-3.2%
WMP									
Production	-0.2%	-0.3%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Domestic use	6.7%	10.3%	6.9%	5.1%	5.0%	5.6%	6.2%	6.8%	7.3%
Whole sale pric	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Cheese									
Production	0.7%	0.4%	-1.2%	-2.2%	-2.4%	-2.4%	-2.5%	-2.6%	-2.8%
Domestic use	0.0%	0.6%	1.6%	1.9%	1.8%	1.8%	1.7%	1.7%	1.8%
Whole sale pric	0.0%	-1.4%	-3.9%	-5.3%	-5.5%	-5.7%	-6.1%	-6.5%	-7.1%

Source: Lithuanian AGMEMOD Model (2006)

Table 15.13: Lithuania: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.6%	-1.0%	-0.5%	-0.9%	-0.9%	-1.0%	-1.1%	-1.2%	-1.4%
Domestic use	-1.9%	-3.0%	-2.5%	-2.5%	-2.8%	-3.0%	-3.3%	-3.5%	-3.8%
Soft wheat									
Production	-0.8%	-1.0%	-0.9%	-0.8%	-0.8%	-0.9%	-1.1%	-1.2%	-1.3%
Domestic use	-1.6%	-2.8%	-2.5%	-2.5%	-2.8%	-3.0%	-3.2%	-3.4%	-3.7%
Producer price	-4.0%	-5.2%	-4.3%	-3.7%	-3.8%	-4.2%	-4.5%	-4.8%	-5.2%
Barley									
Production	-0.5%	-0.9%	-1.0%	-0.9%	-1.0%	-1.0%	-1.1%	-1.3%	-1.4%
Domestic use	-2.4%	-3.5%	-2.8%	-2.8%	-3.1%	-3.4%	-3.7%	-4.0%	-4.3%
Producer price	-2.6%	-4.5%	-4.6%	-4.3%	-4.2%	-4.4%	-4.7%	-5.1%	-5.5%
Rye									
Production	-0.3%	-1.0%	-1.4%	-1.4%	-1.3%	-1.4%	-1.5%	-1.7%	-1.9%
Domestic use	-1.6%	-2.1%	-1.5%	-1.5%	-1.8%	-2.0%	-2.1%	-2.3%	-2.5%
Producer price	-3.0%	-5.1%	-5.2%	-4.9%	-4.8%	-5.0%	-5.4%	-5.8%	-6.3%
Total oilseeds									
Production	-3.2%	-3.9%	-2.7%	-2.1%	-2.0%	-2.0%	-2.1%	-2.1%	-2.1%
Domestic use	-0.6%	-1.0%	-0.9%	-0.8%	-0.9%	-0.9%	-1.1%	-1.2%	-1.4%
Rapeseed									
Production	-3.2%	-3.9%	-2.7%	-2.1%	-2.0%	-2.0%	-2.1%	-2.1%	-2.1%
Domestic use	-0.6%	-1.0%	-0.9%	-0.8%	-0.9%	-0.9%	-1.1%	-1.2%	-1.4%
Producer price	-14.8%	-18.6%	-15.1%	-13.0%	-13.0%	-13.9%	-14.8%	-15.6%	-16.5%
Beef and veal									
Production	-2.9%	-4.3%	-2.6%	-2.3%	-2.9%	-3.3%	-3.6%	-3.9%	-4.2%
Domestic use	0.6%	1.7%	0.5%	0.1%	0.2%	0.4%	0.3%	0.2%	0.2%
Producer price	-4.9%	-7.6%	-5.8%	-4.8%	-4.7%	-4.9%	-5.3%	-5.7%	-6.1%
Pig meat									
Production	-3.5%	-5.1%	-4.9%	-4.7%	-4.6%	-4.7%	-5.0%	-5.4%	-5.7%
Domestic use	3.4%	4.1%	3.4%	2.9%	2.6%	2.5%	2.8%	3.0%	3.2%
Producer price	-20.7%	-25.3%	-20.3%	-17.3%	-17.2%	-18.5%	-19.7%	-21.0%	-22.2%
Poultry meat									
Production	-0.2%	-0.5%	-0.6%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
Domestic use	-0.6%	0.0%	0.4%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%
Producer price	-2.8%	-6.0%	-6.0%	-4.9%	-4.6%	-5.0%	-5.4%	-5.9%	-6.4%
Sheep meat									
Production	0.0%	0.2%	0.6%	0.8%	0.7%	0.7%	0.7%	0.7%	0.7%
Domestic use	-4.0%	-5.3%	-4.1%	-3.4%	-3.2%	-3.2%	-3.5%	-3.7%	-3.9%
Producer price	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Fluid milk									
Production	0.3%	0.1%	-0.5%	-1.0%	-1.3%	-1.4%	-1.5%	-1.6%	-1.8%
Domestic use	0.1%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Whole sale pric	-0.9%	-2.6%	-3.9%	-4.5%	-4.8%	-5.2%	-5.6%	-6.0%	-6.4%
Butter									
Production	-0.2%	-0.8%	-1.7%	-2.6%	-3.7%	-4.5%	-5.3%	-6.1%	-7.1%
Domestic use	0.6%	1.2%	1.1%	0.9%	0.9%	1.0%	1.0%	1.1%	1.1%
Whole sale pric	-1.5%	-3.0%	-2.9%	-2.5%	-2.6%	-2.8%	-3.0%	-3.3%	-3.5%
SMP									
Production	-0.9%	-0.6%	0.5%	1.2%	1.4%	1.6%	1.7%	2.0%	2.2%
Domestic use	9.3%	11.3%	8.5%	6.8%	6.5%	6.7%	6.9%	7.1%	7.2%
Whole sale pric	-3.4%	-4.4%	-3.6%	-3.2%	-3.3%	-3.5%	-3.8%	-4.1%	-4.4%
WMP									
Production	-0.4%	-0.3%	-0.3%	-0.3%	-0.4%	-0.5%	-0.5%	-0.5%	-0.6%
Domestic use	9.7%	13.5%	10.0%	8.0%	7.9%	8.5%	9.0%	9.6%	10.1%
Whole sale pric	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Cheese									
Production	1.0%	0.4%	-1.6%	-3.0%	-3.4%	-3.6%	-3.8%	-4.0%	-4.2%
Domestic use	0.0%	0.9%	2.2%	2.7%	2.7%	2.6%	2.6%	2.6%	2.6%
Whole sale pric	0.0%	-2.1%	-5.3%	-7.3%	-7.9%	-8.4%	-9.0%	-9.7%	-10.3%

Source: Lithuanian AGMEMOD Model (2006)

16 Poland

Katarzyna Kowalska, Sylwia Krawczynska and Tomasz Wnuk, Warsaw School of Economics (WSE), Warsaw

16.1 Baseline

The simulation made with the AGMEMOD model for Poland reflects different sets of assumptions concerning the form of agricultural policy as well as national and international economic conditions. All the scenarios reflect the macroeconomic projections for Poland set out in Table 16.1.

Table 16.1: Assumptions on macroeconomic variables for Poland

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	38.6	38.3	38.1	38.0	38.0	37.9	37.9	37.8	37.8	37.7	37.7	37.6
GDP	bil. Euro97	146.8	165.2	171.0	176.2	184.8	194.7	205.8	216.7	228.2	239.9	251.6	264.4
GDP per capita	Euro97/cap	3807	4319	4492	4633	4866	5135	5435	5731	6043	6360	6682	7028
Inflation	1997=1	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.9	1.9

Source: CSO, Ministry of Economy

To calculate the value of support in each sector, first the total area eligible for payments is divided between crops and animals based on the share of crops (grains and oilseeds) area harvested and the area used for animal production (grassland, fodder crops). Then, payment per hectare for crop production is calculated. To estimate the value of subsidies in the animal sector, firstly the support per head and then the payment per kg for livestock (cattle, sheep) are calculated. These values comprise the prices of crop and animal production, forming a type of incentive price that is taken into account in the farmer's calculation of his gross market return.

The extent of coupling (the coupling rate) in the model depends on the nature of payment (EU or national support). The difference between the SAP/SFP and CNDP in the model assumptions for the scenarios is reflected in their perception by farmers. It is assumed that SAP, which is fully decoupled, has a relatively weak supply-inducing effect on the production of agricultural commodities. National payments in the Baseline, which are partly coupled in nature (they are applied to a certain group of eligible sectors, such as grains, oilseeds, protein crops or pasture crops, and constitute per hectare payments), may have more effect on the volume of agricultural production in the subsidised sectors. However, in the CAP reform scenario they become decoupled as well. The extent of this supply-inducing effect is implemented in the model in the form of *multipliers*. The multipliers can be interpreted as the share of payment that would influence the expected gross return per hectare associated with the specific type of production. In this way the payment could stimulate production of the particular commodity, providing an additional income to the farmer. The rest of the payment is assumed to be spent outside agriculture and therefore to have no effect on agricultural production. The value of multipliers used in the model is set out in Table 16.2.

Table 16.2: Multipliers in Baseline scenario and FCR scenario for Poland

	SAP scheme	SPS scheme	
EU support	0.3	0.3	Baseline & Further CAP reform
National support (CNDP)	0.6	0.6 0.3	Baseline Further CAP reform

Source: own calculations

The general rule which determines the value of the multiplier is that the more a payment is coupled to production, the stronger the incentive towards production and therefore the higher the multiplier. Fully decoupled payments, that have EU support under SAPS, SPS for Poland and CNDP in the FCR scenario, are associated with a multiplier of 0.3. By contrast, a partially coupled measure, such as CNDP in the Baseline, is associated with a multiplier of 0.6.

Grain and oilseeds sectors

Under the Baseline assumptions, production in the grain sector is projected to increase by 10% between 2005 and 2015. This result is mostly attributable to the steady growth in all crop yields (13% for wheat and 9% for barley), while the total grain area harvested is not expected to change markedly (after a decrease of about 9% between 2001 and 2005, the area harvested would remain relatively stable until the end of the horizon period). However, yields are not projected to reach the EU-15 average level, since the extensive nature of Polish farming is expected to be maintained.

The positive impact of direct payments on grain area (through the real gross market return for cereals) is moderated on the one hand by the rate of inflation and on the other by the fall in Polish cereal prices, along with the process of price convergence toward EU key prices.

For cereals, the production volume of wheat should show a steady positive trend in line with the relatively stable area harvested and the yield increase. On the other hand, rye production would decrease relatively quickly, because of its declining share in the total area harvested. This is projected on the basis that rye prices will be lower than in advance of accession and that farmers' interest in rye production would decline in the absence of intervention. The negative trend in rye production would therefore act in favour of barley, production of which is projected to increase steadily. As domestic demand for barley is projected to grow at a more moderate rate (feed use of this cereal would grow rather slowly), the surplus will lead to increased stock and export levels. At the same time Polish production of maize is projected to stay at a relatively constant level by 2015.

The domestic use of grains is projected to grow slowly, stimulated mostly by accelerating feed use demand. Increasingly, cereal production is projected be used for feed, as production in the pig and poultry meat sectors is set to increase. The increase in feed use would counterbalance a slight decrease in human consumption, mainly for rye.

The rapeseed sector is projected to expand production relative to the pre-accession period (15% growth in production from 2003 to 2015). Polish rapeseed prices are projected to converge with the relatively higher EU key prices (27% growth between 2000 and 2015); farmers are being encouraged to invest in this profitable sector of production. The effect is

reinforced by direct supports, which increase rapeseed's gross market return. It is projected that domestic use for this crop should increase (one third between 2005 and 2015), for industrial purposes as well as for crushing.

Livestock and dairy sector

The Baseline projections indicate that the decrease in cattle numbers may be arrested in the early years after EU accession. Rapid convergence of Polish beef prices to the higher EU level are projected to sustain cattle numbers[4]. Even though dairy cows numbers are set to decline (by almost 16% as a consequence of the milk quota and increasing milk yields), the profitability of the sector offsets the decline in cattle production. At the same time, cattle slaughter weights are projected to increase towards EU average levels due to fattening of relatively more suckler cows and other cattle. As a result, beef and veal production would be set to grow by 15%, in advance of accession and up to the end of the simulation period. However, production will be 7% down compared with the 2000 level. With a substantial increase in prices (accounting for almost 80% of growth), domestic beef and veal consumption is projected to decline, with the excess supply going to exports, as Polish prices remain slightly below the EU key price level.

Milk deliveries in Poland are expected to be constrained by the milk quota. The total domestic use of cow's milk is relatively stable. Private consumption and the feed use of fluid milk tend to decrease, while the demand for factory use increases. Cheese production is projected to grow in the years after accession, mainly to service export markets. Also, butter production is projected to increase and satisfy domestic demand by the end of the study period. WMP and SMP production are projected to remain at a level that assures self-sufficiency.

Positive developments are projected for the pig meat sector. With a relatively stable number of sows and a growing number of piglets per sow (which remain relatively low relative to the major meat producers in the EU), pig meat supply is projected to grow by about 10% between 2005 and 2015. Domestic pig meat demand is projected to increase too (substituting for beef consumption), with the excess supply being redirected towards foreign markets.

Poultry shows a similar tendency as broiler production, with a projected growth of 4% between 2005 and 2015. This effect is stimulated by a relatively favourable price/input cost ratio following accession. On the demand side, domestic consumption is supposed to grow during the post-accession period, but some of this growth goes to exports as domestic consumption does not keep pace with production growth.

The results of the Baseline scenario simulation for the main agricultural commodities are set out in Table 16.3.

Agricultural income

The structure of agricultural output value has changed since accession took place. In 2000 crops, livestock and milk production made a more or less comparable contribution to output value. However, projected changes in prices as well as changes in production structure are expected to increase the importance of livestock output at the expense of grains production.

4 The beef and veal price in the Polish AGMEMOD model is the price of live weight per 100 kg, which constitutes about 55% of the slaughter weight price. The European key price is given in terms of slaughter weight. That is the reason for the differences between the key price and the Polish beef price, which, after recalculating, become comparable.

At the moment, the share of crops, livestock and meat in the total output value are, respectively, 32%, 35% and 33%. By 2015 livestock output value is projected to account for almost 40% of total output value in agriculture.

After a sudden rise in output value after EU accession, total output value in agriculture is projected to grow steadily in the next five years. Thereafter it should stabilise at a level that is expected to be about 32-35% higher than in 2000.

The value of subsidies in the pre-accession period was incomparably lower than the level of support guaranteed to Polish farmers in an EU situation. In the period preceding accession, direct payments were distributed to tobacco and starch producers, as well as in the milk sector to stimulate the process of quality improvement. Yet these were minor agricultural policy instruments (in comparison to the fund for intervention on agricultural markets) and are not included in the model. The value of EU subsidies, together with CNDP after accession, should almost double by 2015. As feed costs after accession are projected to remain stable, gross agricultural income is projected to rise considerably. It is expected that in 2015 it will be about 40% higher than in 2005, and income value will almost double in the projection period relative to the level in 2000.

Projected agricultural output value, direct support, feed costs and gross agricultural income are set out in Table 16.3.

Table 16.3: Agricultural output value, subsidies, feed costs and income in Poland (Baseline) [1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.12	1.13	1.18	1.23	1.25	1.28	1.28	1.27	1.29	1.31	1.33
Subsidies/SFP	2004=1	0.00	1.19	1.24	1.51	1.72	1.92	2.10	2.08	2.07	1.99	1.97	1.95
Feeding costs	2000=1	1.00	1.01	1.09	1.11	1.11	1.11	1.11	1.11	1.11	1.12	1.12	1.13
Gross agric. income	2000=1	1.00	1.45	1.46	1.59	1.70	1.78	1.87	1.86	1.85	1.84	1.86	1.89

[1)] Output, subsidies, costs and income are related to the commodities analysed in the study carried out for IPTS
Source: Own calculations

Table 16.4: Baseline results concerning main commodities of Poland

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	16212	17549	17773	18136	18204	18354	18548	18729	18905	19055	19225	19396
Domestic use	1,000 ton	18918	19514	19698	19700	19592	19729	19865	19920	19862	19812	19817	19862
Soft wheat													
Production	1,000 ton	8503	8517	8695	8908	8902	8955	9042	9142	9229	9290	9370	9455
Domestic use	1,000 ton	9604	9826	9812	9849	9844	9839	9847	9838	9829	9829	9830	9836
Producer price	euro/ton	140	113	125	125	127	126	123	125	125	125	125	125
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	2783	3774	4110	4233	4335	4438	4530	4601	4681	4756	4833	4901
Domestic use	1,000 ton	3400	4293	4337	4352	4364	4405	4462	4512	4559	4596	4629	4661
Producer price	euro/ton	121	92	93	95	98	98	98	98	99	100	101	103
Maize													
Production	1,000 ton	923	1864	1785	1843	1885	1899	1940	1967	1994	2027	2054	2083
Domestic use	1,000 ton	1435	1961	2106	2154	2039	2065	2083	2081	2063	2070	2071	2067
Producer price	euro/ton	426	377	378	380	386	388	386	386	385	386	387	387
Rye													
Production	1000 tons	4003	3394	3183	3152	3082	3062	3036	3019	3002	2982	2967	2956
Domestic use	1000 tons	4479	3434	3443	3345	3345	3420	3472	3489	3411	3317	3286	3297
Producer price	euro/ton	103	91	89	92	96	96	96	97	98	99	100	102
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	959	1395	1384	1426	1467	1508	1549	1584	1618	1653	1688	1727
Domestic use	1,000 ton	915	1084	1120	1149	1185	1225	1267	1305	1343	1380	1417	1456
Rapeseed													
Production	1,000 ton	959	1395	1384	1426	1467	1508	1549	1584	1618	1653	1688	1727
Domestic use	1,000 ton	915	1084	1120	1149	1185	1225	1267	1305	1343	1380	1417	1456
Producer price	euro/ton	201	234	227	258	275	259	250	250	251	254	255	256
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	409	331	354	369	378	382	390	384	382	381	381	381
Domestic use	1,000 ton	354	319	321	328	323	317	308	300	292	286	281	276
Producer price	euro/100 kg	72	82	90	105	118	129	142	141	142	143	145	147
Pig meat													
Production	1,000 ton	1952	2330	2338	2310	2361	2460	2551	2610	2577	2519	2524	2568
Domestic use	1,000 ton	1865	1949	1992	2018	2014	2019	2025	2042	2061	2058	2055	2057
Producer price	euro/100 kg	92	87	84	88	94	97	100	97	93	96	99	102
Poultry meat													
Production	1,000 ton	370	431	438	444	448	451	451	451	450	449	448	447
Domestic use	1,000 ton	375	377	376	382	396	408	422	430	437	447	457	467
Producer price	euro/100 kg	88	115	126	140	140	139	137	133	131	129	128	126
Sheep meat													
Production	1,000 ton	3	4	4	4	4	4	4	4	4	4	4	4
Domestic use	1,000 ton	2	2	2	2	2	2	2	2	2	2	2	2
Producer price	euro/100 kg	139	137	138	139	139	139	139	138	138	137	137	136
Fluid milk													
Production-quota	1,000 ton	11830	11593	11252	11010	10869	10796	10769	10781	10813	10873	10956	11064
Domestic use	1,000 ton	11835	11598	11257	11015	10874	10801	10774	10786	10818	10878	10961	11069
Whole sale price	euro/100 kg	19	23	23	24	24	24	24	24	24	24	24	24
Butter													
Production	1,000 ton	169	182	180	179	180	183	187	191	195	200	205	211
Domestic use	1,000 ton	166	170	178	182	184	189	193	197	201	205	209	213
Whole sale price	euro/100kg	359	281	259	252	255	253	252	253	254	254	255	256
SMP													
Production	1,000 ton	139	116	113	112	113	113	113	114	115	116	117	118
Domestic use	1,000 ton	50	57	55	52	53	54	56	57	59	60	62	64
Whole sale price	euro/100kg	180	152	164	182	185	184	183	183	184	184	185	185
WMP													
Production	1,000 ton	30	26	27	29	29	28	28	28	28	28	28	28
Domestic use	1,000 ton	30	30	30	30	30	30	30	30	30	30	30	30
Whole sale price	euro/100kg	208	227	219	222	225	223	222	223	223	224	225	226
Cheese													
Production	1,000 ton	148	165	158	153	151	151	152	153	156	159	163	168
Domestic use	1,000 ton	144	148	148	149	150	150	151	152	153	154	155	156
Whole sale price	euro/100kg	401	432	456	469	469	476	477	476	476	479	482	486

Source: Polish AGMEMOD Model (2006)

16.2 Further CAP Reform (FCR)

Further CAP reform, as considered in this scenario, aims to simplify agricultural policy in the EU. It assumes the full decoupling of direct payments, from both the EU budget and from

national sources – CNDP. As a consequence, the funds directed to Polish agriculture, once fully decoupled from production, should have a smaller impact on agricultural output. The domestic supply of agricultural commodities would be more strongly driven by market forces. In the scenario, the further CAP reform takes effect in 2009. It is also assumed that from 2013 a higher share of direct payments would be deducted, due to modulation, and redirected to finance rural development policies.

Grain and oilseed sectors

Having a uniform payment per hectare would not markedly change the outlook for the grain and oilseed sectors in Poland. EU support is already decoupled in the Baseline, and CNDP support becomes decoupled in the FCR scenario. The impact of the reform would be expected mainly in crop production but, as the results show, it is rather limited. Changes in areas harvested (from more than 6% decrease in the 3-grain area harvested in 2009 to almost 1% decrease in 2015) drive the change in production volumes. The CAP reform scenario projections suggest a small decrease in production of around 0.2% on average in 2015 relative to the Baseline results. The simulation shows that decoupling the CNDP would reduce the positive influence of direct support on production in the initial years after the policy change (the share of CNDP in total direct payments is the highest so reducing it would have a stronger impact on production). The impact on the demand side is practically negligible (in the case of maize impacts come from the substitution effect due to wheat price growth). As for oilseeds, the change in the CAP would affect production less than in case of cereals. The reason lies in the importance of direct support in determining the real gross market return of each sector, which is lower in the case of rapeseed.

Livestock and dairy sectors

In general the introduction of CAP reform measures is projected to have a modest effect on the livestock and dairy sector. There is a negative impact on production in the beef sector, which stems from the fact that a smaller direct payment reduces the profitability of meat production (cattle slaughter weight depends on the return/input ratio; with lower direct payments the return would obviously be smaller). A slight impact is also observed in the production of sheep meat, but this sector is very small in Poland (sheep account for 1.3% of total slaughter of animals, in live weight). Some impact can be seen in the demand for pigmeat, which can be explained by the change in relative prices of other meats such as beef.

Table 16.6 sets out the % Δ in the FCR Scenario relative to the Baseline.

Agricultural income

In the aftermath of the FCR scenario (decoupling of the CNDP in the case of Poland), agricultural output value is projected to decrease, mostly as a result of a slight contraction in crop production. Total subsidies are not projected to change in value until 2013. The national envelope does not change, but the assumption is that a smaller share would be left in the agriculture sector. From 2013, the total sum of direct support is reduced for the higher modulation rate. Relative to the Baseline, feed costs are supposed to rise slightly and – from 2011 – to fall. In consequence, as would be expected, gross agricultural income is projected to decrease, with a reduction of about 1.5% in 2015 in comparison to the Baseline scenario (Table 16.5).

Table 16.5 : Poland gross agricultural income under FCR Scenario (% Δ relative to Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Subsidies/SFP	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-3.1%	-4.2%	-5.3%
Feeding costs	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Gross agric. income	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.8%	-1.1%	-1.4%

Source: Polish AGMEMOD Model (2006)

Table 16.6: Poland: Impact of Further CAP Reform Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soft wheat									
Production	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%
Rye									
Production	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-1.6%	-1.0%	-1.0%	-0.8%	-0.4%	-0.1%	0.2%	0.2%	0.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.4%	0.3%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.17%	-0.23%	-0.28%	-0.78%	-0.90%	0.17%	0.12%	-0.05%	0.02%
Producer price	0.00%	0.02%	0.01%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	-0.6%	-0.7%	-0.8%	-0.9%	-0.8%	-0.7%	-0.6%	-0.5%	-0.5%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Polish AGMEMOD Model (2006)

16.3 Exchange Rate Change (ERC)

The exchange rate scenarios aim to assess the impact of various changes in the euro/US dollar exchange rate. The AGMEMOD model simulates the reaction of the Polish agriculture

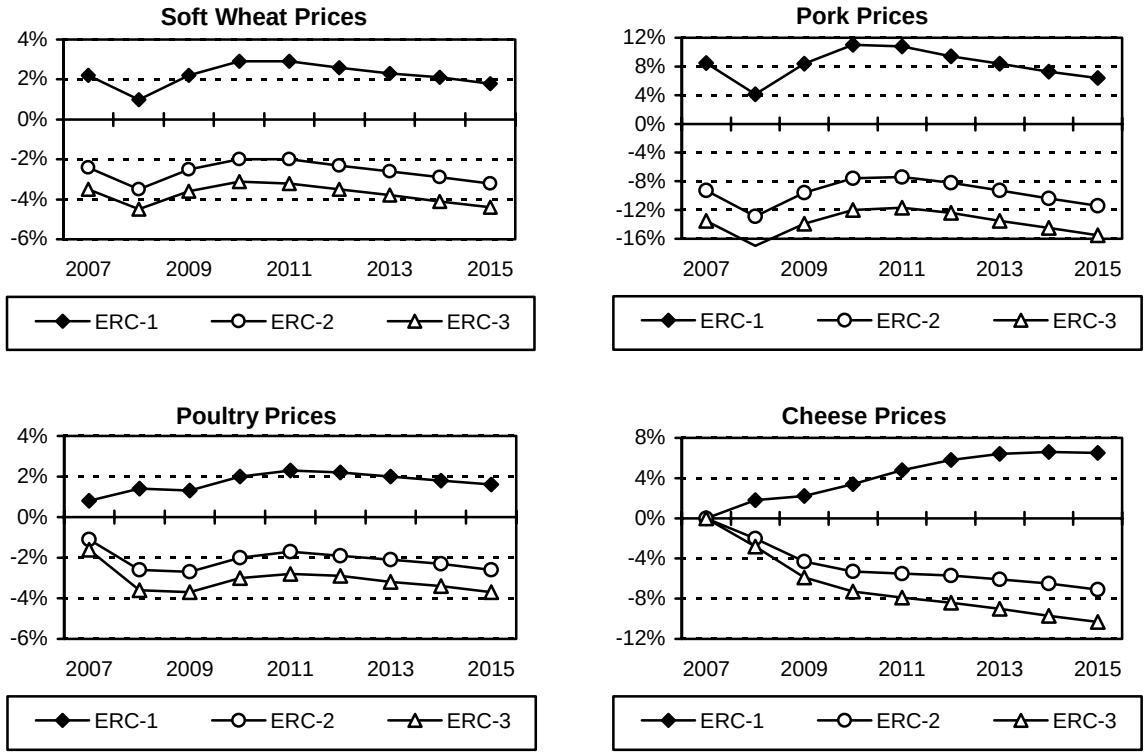
sector to the appreciation and depreciation of the euro versus the dollar. This shock appears through the change in the EU key prices in response to a relative increase in world prices expressed in euros. The exchange rate shock is expected to affect all the agricultural sectors in which the national prices are closely related to the European key prices. At a second stage other branches of the agricultural production, which are simply linked with the "open" sectors with the chain of interdependences, could be affected.

The first exchange rate scenario is that from 2007, the euro would depreciate against the dollar (€ = 1.00 US$). As a result, most of the key prices rise. This brings about changes in the real side of the agricultural sector in Poland, which is set out in Table 16.7.

The other two shocks assume an appreciation of the euro on a different scale (€ = 1.30 US$ and € = 1.40 US$). As a response, the key prices should fall below the level observed in the Baseline scenario. Their impact on production and domestic use is set out in Table 16.8 and Table 16.9.

The changes in domestic prices of wheat, pork, poultry and cheese are depicted in Figure 16.1.

Figure 16.1: Polish Commodity Prices: ERC Scenario (% Δ from Baseline)



Source: Polish AGMEMOD Model (2006)

Changes in domestic prices result in a different trend in production and domestic use among the sectors. With a euro/dollar exchange rate depreciation the rise in prices is expected to lead to an increase in production compared to the Baseline. At the same time domestic consumption is likely to fall, responding negatively to the higher price level. However, if domestic production reacts in the foreseen manner for most commodities (except only for barley), domestic use depends strongly on the commodity. Different price developments

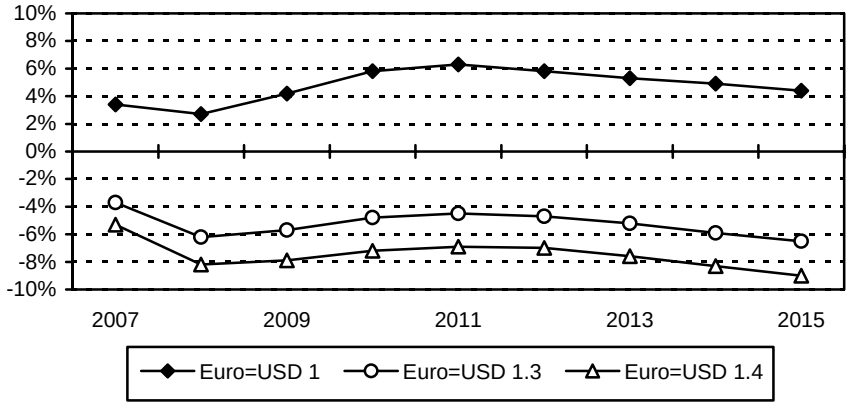
cause substitution effects in consumption patterns for several goods, such as poultry meat or beef meat, that substitute for pork when its price grows more than other prices.

In the case of depreciation, as domestic prices are supposed to fall, there should be a contraction in production due to its lower output value and an expansion of domestic use. In the Polish model, the situation is similar to the appreciation scenario: most of the production variables behave in the expected way, while domestic consumption's reaction may vary.

Agricultural Income

In all three exchange rate scenarios the predominant factor determining gross agricultural income is agricultural output value. Price developments are strengthened by the change in production in the same direction. This relation results in a "soft" conclusion that in the AGMEMOD model for Poland the power of the exchange rate shock is positively correlated with the extent of the output value reaction. With the modification of prices feeding cost change as well, this could be the element reducing the positive effect of the output value increase. However, this tendency is never strong enough to revert it. Figure 16.2 shows the change in agricultural output value under each of the exchange rate scenarios compared to the Baseline.

Figure 16.2 : Poland: Gross Agricultural Income under ERC Scenarios (% Δ from Baseline)



Source: Polish AGMEMOD Model (2006)

Table 16.7: Poland: Impact of ERC-1 Scenario €=US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.4%	0.3%	0.5%	0.7%	0.7%	0.6%	0.6%	0.5%
Soft wheat									
Production	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%
Producer price	2.3%	1.1%	2.3%	3.0%	3.1%	2.8%	2.6%	2.3%	2.1%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-0.6%	-0.6%	-0.9%	-1.2%	-1.3%	-1.3%	-1.3%	-1.1%	-1.0%
Domestic use	-0.9%	-0.9%	-1.2%	-1.6%	-1.7%	-1.7%	-1.5%	-1.4%	-1.2%
Producer price	2.1%	1.9%	2.9%	3.9%	4.4%	4.4%	4.1%	3.8%	3.4%
Maize									
Production	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%
Domestic use	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	1.6%	1.4%	2.1%	2.8%	3.1%	2.9%	2.7%	2.4%	2.1%
Rye									
Production	0.2%	0.4%	0.5%	0.7%	0.9%	0.9%	0.9%	0.9%	0.8%
Domestic use	0.9%	2.9%	2.9%	4.4%	5.6%	5.7%	5.3%	4.8%	4.3%
Producer price	2.4%	2.3%	3.3%	4.5%	5.1%	5.0%	4.7%	4.3%	3.9%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	1.2%	0.7%	1.3%	1.6%	1.7%	1.5%	1.4%	1.2%	1.0%
Domestic use	-0.1%	0.2%	0.2%	0.3%	0.4%	0.5%	0.5%	0.5%	0.4%
Rapeseed									
Production	1.2%	0.7%	1.3%	1.6%	1.7%	1.5%	1.4%	1.2%	1.0%
Domestic use	-0.1%	0.2%	0.2%	0.3%	0.4%	0.5%	0.5%	0.5%	0.4%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.5%	0.1%	0.2%	0.1%	0.0%	-0.2%	-0.3%	-0.3%	-0.2%
Domestic use	0.7%	0.8%	0.9%	1.3%	1.5%	1.4%	1.2%	1.1%	1.0%
Producer price	4.2%	2.1%	3.8%	4.8%	4.7%	4.1%	3.7%	3.3%	2.9%
Pig meat									
Production	0.9%	3.8%	3.5%	5.3%	6.7%	6.8%	6.2%	5.6%	4.9%
Domestic use	-1.0%	-0.7%	-1.4%	-2.2%	-2.3%	-1.0%	-1.0%	-1.0%	-0.8%
Producer price	8.5%	4.1%	8.4%	11.0%	10.8%	9.4%	8.4%	7.3%	6.4%
Poultry meat									
Production	0.0%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	1.0%	0.3%	0.9%	1.1%	1.0%	0.8%	0.7%	0.6%	0.5%
Producer price	0.8%	1.4%	1.3%	2.0%	2.3%	2.2%	2.0%	1.8%	1.6%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.2%	0.6%	1.1%	1.7%	1.7%	1.7%	1.1%	1.1%	1.1%
Producer price	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Fluid milk									
Production-quota	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Whole sale price	0.7%	0.9%	1.4%	1.9%	2.3%	2.5%	2.6%	2.6%	2.5%
Butter									
Production	0.0%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%
Domestic use	-0.6%	-0.3%	-0.5%	-0.7%	-0.7%	-0.6%	-0.6%	-0.5%	-0.5%
Whole sale price	1.6%	0.8%	1.6%	2.0%	2.0%	1.9%	1.7%	1.5%	1.3%
SMP									
Production	0.2%	0.0%	0.1%	0.1%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%
Domestic use	-0.7%	-0.3%	-0.6%	-0.8%	-0.7%	-0.6%	-0.5%	-0.4%	-0.3%
Whole sale price	2.0%	1.0%	2.0%	2.6%	2.7%	2.5%	2.2%	2.0%	1.8%
WMP									
Production	1.1%	0.2%	0.6%	0.7%	0.4%	0.0%	-0.2%	-0.4%	-0.5%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.7%	0.9%	1.7%	2.2%	2.2%	2.0%	1.9%	1.7%	1.4%
Cheese									
Production	0.0%	0.2%	0.2%	0.3%	0.4%	0.5%	0.5%	0.6%	0.6%
Domestic use	0.0%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%
Whole sale price	0.0%	1.8%	2.2%	3.4%	4.8%	5.8%	6.4%	6.6%	6.5%

Source: Polish AGMEMOD Model (2006)

Table 16.8: Poland: Impact of ERC-2 Scenario €=US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.0%	-0.4%	-0.7%	-0.7%	-0.6%	-0.5%	-0.5%	-0.6%	-0.7%
Soft wheat									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Producer price	-2.5%	-3.6%	-2.7%	-2.2%	-2.2%	-2.5%	-2.8%	-3.2%	-3.5%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.6%	1.3%	1.4%	1.3%	1.2%	1.2%	1.2%	1.3%	1.4%
Domestic use	1.0%	1.9%	1.8%	1.5%	1.4%	1.4%	1.5%	1.6%	1.8%
Producer price	-2.3%	-4.3%	-4.2%	-3.7%	-3.5%	-3.7%	-4.1%	-4.6%	-5.1%
Maize									
Production	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-1.8%	-3.2%	-2.9%	-2.5%	-2.3%	-2.5%	-2.8%	-3.1%	-3.4%
Rye									
Production	-0.2%	-0.6%	-0.9%	-0.9%	-0.9%	-0.8%	-0.9%	-0.9%	-1.0%
Domestic use	-1.0%	-4.2%	-6.0%	-5.4%	-4.6%	-4.5%	-4.8%	-5.4%	-6.0%
Producer price	-2.6%	-5.0%	-5.0%	-4.4%	-4.1%	-4.3%	-4.7%	-5.3%	-5.8%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-1.3%	-2.0%	-1.6%	-1.4%	-1.3%	-1.3%	-1.4%	-1.6%	-1.7%
Domestic use	0.1%	-0.2%	-0.4%	-0.5%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%
Rapeseed									
Production	-1.3%	-2.0%	-1.6%	-1.4%	-1.3%	-1.3%	-1.4%	-1.6%	-1.7%
Domestic use	0.1%	-0.2%	-0.4%	-0.5%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.7%	-0.2%	0.4%	0.6%	0.6%	0.6%	0.6%	0.7%	0.8%
Domestic use	-0.9%	-1.7%	-1.6%	-1.2%	-1.1%	-1.2%	-1.4%	-1.5%	-1.7%
Producer price	-4.6%	-6.5%	-4.5%	-3.4%	-3.3%	-3.7%	-4.1%	-4.5%	-5.0%
Pig meat									
Production	-1.1%	-5.3%	-7.5%	-6.6%	-5.6%	-5.3%	-5.6%	-6.2%	-6.9%
Domestic use	1.6%	1.7%	1.0%	0.2%	0.1%	1.3%	1.4%	1.4%	1.7%
Producer price	-9.3%	-12.9%	-9.6%	-7.6%	-7.4%	-8.2%	-9.3%	-10.4%	-11.4%
Poultry meat									
Production	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%
Domestic use	-1.2%	-1.4%	-0.9%	-0.7%	-0.7%	-0.8%	-0.9%	-1.0%	-1.1%
Producer price	-1.1%	-2.6%	-2.7%	-2.0%	-1.7%	-1.9%	-2.1%	-2.3%	-2.6%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-1.2%	-2.3%	-1.7%	-1.7%	-1.1%	-1.1%	-1.7%	-1.7%	-1.7%
Producer price	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Fluid milk									
Production-quota	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Whole sale price	-0.8%	-1.8%	-2.1%	-2.2%	-2.3%	-2.4%	-2.6%	-2.9%	-3.1%
Butter									
Production	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	0.6%	0.9%	0.6%	0.5%	0.5%	0.6%	0.7%	0.7%	0.8%
Whole sale price	-1.8%	-2.6%	-1.8%	-1.4%	-1.4%	-1.7%	-1.9%	-2.1%	-2.3%
SMP									
Production	-0.2%	-0.2%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	0.9%	1.2%	0.8%	0.5%	0.5%	0.6%	0.7%	0.7%	0.8%
Whole sale price	-2.5%	-3.5%	-2.7%	-2.2%	-2.2%	-2.4%	-2.7%	-2.9%	-3.2%
WMP									
Production	-1.4%	-1.5%	-0.6%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.0%	-2.9%	-2.1%	-1.6%	-1.7%	-1.9%	-2.1%	-2.3%	-2.6%
Cheese									
Production	0.0%	-0.2%	-0.4%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%
Domestic use	0.0%	0.1%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%
Whole sale price	0.0%	-2.0%	-4.3%	-5.3%	-5.5%	-5.7%	-6.1%	-6.5%	-7.1%

Source: Polish AGMEMOD Model (2006)

Table 16.9: Poland: Impact of ERC Scenario €=US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	0.0%	-0.6%	-1.0%	-1.0%	-0.9%	-0.8%	-0.8%	-0.9%	-1.0%
Soft wheat									
Production	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.2%	-0.2%	-0.2%
Domestic use	-0.1%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%
Producer price	-3.6%	-4.8%	-3.9%	-3.5%	-3.5%	-3.8%	-4.1%	-4.5%	-4.8%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.9%	1.7%	1.9%	1.8%	1.8%	1.8%	1.8%	1.9%	2.0%
Domestic use	1.5%	2.5%	2.6%	2.3%	2.1%	2.2%	2.2%	2.3%	2.5%
Producer price	-3.4%	-5.8%	-6.0%	-5.5%	-5.4%	-5.7%	-6.1%	-6.6%	-7.1%
Maize									
Production	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-2.6%	-4.3%	-4.1%	-3.7%	-3.6%	-3.8%	-4.1%	-4.4%	-4.7%
Rye									
Production	-0.3%	-0.8%	-1.2%	-1.3%	-1.3%	-1.3%	-1.3%	-1.4%	-1.4%
Domestic use	-1.5%	-6.0%	-8.1%	-7.8%	-7.1%	-7.0%	-7.2%	-7.8%	-8.5%
Producer price	-3.8%	-6.7%	-7.0%	-6.5%	-6.3%	-6.6%	-7.0%	-7.6%	-8.2%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-1.9%	-2.7%	-2.3%	-2.1%	-2.0%	-2.0%	-2.1%	-2.2%	-2.3%
Domestic use	0.1%	-0.2%	-0.6%	-0.7%	-0.7%	-0.6%	-0.7%	-0.7%	-0.7%
Rapeseed									
Production	-1.9%	-2.7%	-2.3%	-2.1%	-2.0%	-2.0%	-2.1%	-2.2%	-2.3%
Domestic use	0.1%	-0.2%	-0.6%	-0.7%	-0.7%	-0.6%	-0.7%	-0.7%	-0.7%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-1.0%	-0.2%	0.4%	0.8%	0.8%	0.8%	0.9%	1.0%	1.1%
Domestic use	-1.4%	-2.4%	-2.2%	-1.9%	-1.8%	-1.9%	-2.0%	-2.2%	-2.4%
Producer price	-6.7%	-8.5%	-6.5%	-5.4%	-5.2%	-5.5%	-5.9%	-6.4%	-6.9%
Pig meat									
Production	-1.7%	-7.5%	-10.3%	-9.6%	-8.6%	-8.2%	-8.5%	-9.1%	-9.9%
Domestic use	2.3%	2.3%	1.7%	0.9%	0.8%	2.0%	2.1%	2.1%	2.3%
Producer price	-13.5%	-17.0%	-13.9%	-12.0%	-11.7%	-12.4%	-13.5%	-14.5%	-15.5%
Poultry meat									
Production	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%
Domestic use	-1.7%	-1.9%	-1.3%	-1.1%	-1.1%	-1.2%	-1.3%	-1.4%	-1.5%
Producer price	-1.6%	-3.6%	-3.7%	-3.0%	-2.8%	-2.9%	-3.2%	-3.4%	-3.7%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-2.3%	-2.9%	-2.3%	-2.2%	-1.7%	-1.7%	-2.3%	-2.3%	-2.8%
Producer price	0.0%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Fluid milk									
Production-quota	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%
Whole sale price	-1.2%	-2.4%	-3.0%	-3.2%	-3.4%	-3.6%	-3.9%	-4.2%	-4.5%
Butter									
Production	0.0%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%
Domestic use	0.9%	1.2%	0.9%	0.8%	0.8%	0.9%	1.0%	1.0%	1.1%
Whole sale price	-2.6%	-3.4%	-2.7%	-2.2%	-2.3%	-2.5%	-2.7%	-2.9%	-3.1%
SMP									
Production	-0.3%	-0.3%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Domestic use	1.4%	1.7%	1.2%	0.9%	0.9%	0.9%	1.0%	1.1%	1.1%
Whole sale price	-3.7%	-4.8%	-4.0%	-3.5%	-3.5%	-3.7%	-4.0%	-4.2%	-4.5%
WMP									
Production	-2.1%	-2.1%	-1.0%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.9%	-3.8%	-3.1%	-2.6%	-2.6%	-2.9%	-3.1%	-3.3%	-3.5%
Cheese									
Production	-0.1%	-0.3%	-0.5%	-0.7%	-0.7%	-0.8%	-0.8%	-0.9%	-1.0%
Domestic use	0.0%	0.2%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%	0.7%
Whole sale price	0.0%	-2.8%	-5.9%	-7.3%	-7.9%	-8.4%	-9.0%	-9.7%	-10.3%

Source: Polish AGMEMOD Model (2006)

17 Portugal

Petra Salamon and Oliver von Ledebur, Bundesforschungsanstalt für Landwirtschaft (FAL), Institut für Marktanalyse und Agrarhandelspolitik, Braunschweig

17.1 Baseline

Table 17.1 shows the specific projections of the macroeconomic variables for Portugal that underlie the model's Baseline and scenario projections up to 2015.

Table 17.1: Assumptions on macroeconomic variables for Portugal

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	10.3	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6	10.6
GDP	bil. Euro97	90	106	109	123	134	130	129	132	102	143	149	156
GDP per capita	Euro97/cap	8815	9993	10288	11618	12627	12234	12132	12465	9625	13521	14066	14693
Inflation	1997=1	1.14	1.33	1.37	1.40	1.44	1.47	1.51	1.54	1.59	1.63	1.67	1.71

Source: DRI, Eurostat

The 2003 CAP reform changes the premiums that apply to the cereals, oilseeds, livestock and dairy sub-sectors. From 2006, the year that the SFP was introduced in Portugal, the production of adult cattle will remain partly coupled at a rate of 60%. Payments for other agricultural commodities, however, will become independent of the use of land or animals (full decoupling).

It is assumed that the decoupled payments will retain some supply-inducing impacts on the agricultural sector. This will depend on:

- the distributional effects of payments to other sectors in comparison with the hectares and animals establishing entitlement in the reference years (in Portugal, 30% of the CAP payments will go to land that was not subsidised in the reference years),
- (compulsory) modulation effects (which will reach 5% of subsidies in 2015) and
- shift rate effects (it is assumed that annually 2.5% of arable farmers and 5% of livestock farmers will exit the Portuguese agricultural sector).

Table 17.2 shows the derived multipliers that reflect these supply-inducing effects in the Portuguese agricultural sectors. These multipliers are used to simulate the effect of the SFP by reducing the amounts of direct payments (as used under the old scheme) to 'synthetic' premium levels.

Table 17.2: Supply-inducing multipliers of Portuguese agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	0.77	0.74	0.72	0.70	0.68	0.66	0.65	0.63	0.62	0.60	0.59
Oilseeds	index	1.00	0.77	0.74	0.72	0.70	0.68	0.66	0.65	0.63	0.62	0.60	0.59
Suckler cows	index	1.00	1.00	0.98	0.93	0.88	0.84	0.79	0.75	0.72	0.68	0.65	0.61
Milk	index	1.00	1.00	0.98	0.53	0.50	0.48	0.45	0.43	0.41	0.39	0.37	0.35
Maize	index	1.00	0.77	0.74	0.72	0.70	0.68	0.66	0.65	0.63	0.62	0.60	0.59
Ewes	index	1.00	0.77	0.74	0.70	0.66	0.63	0.60	0.57	0.54	0.51	0.49	0.46
Sheep	index	1.00	0.69	0.67	0.64	0.61	0.58	0.55	0.52	0.49	0.47	0.45	0.42
Bulls	index	1.00	0.77	0.74	0.70	0.66	0.63	0.60	0.57	0.54	0.51	0.49	0.46

Source: Own calculations

Grain and oilseed sectors

The decoupling of direct payments from production is projected to lead to lower receipts from grain production. On the other hand, the producer price of grains is projected to increase due to rising EU and world market prices. This would cause a dramatic reduction in the area under soft wheat and an increase in the durum wheat area harvested. For the period between 2005 and 2015, projections suggest a decrease in the area harvested for durum wheat (1%) and soft wheat (-70%). There is a reduction in barley and maize areas of 2% and 6% respectively, in favour of durum wheat area. The decrease in the total grain harvested area is almost 5%. Productivity per hectare will grow due to higher prices. For Portugal the projected production impact of the 2003 CAP reform is a decrease in durum wheat outputs by 1% up to 2015, whereas barley and maize production are projected to decrease by 10% and 30% respectively. The most drastic reduction in production is in the case of soft wheat, which is projected to decline by 66%.

The total domestic use of grains in Portugal is projected to grow (by 5%) despite the increasing grain prices. On the one hand, maize and barley feed use tends to decrease. In this case, maize feed use tends to decrease less than barley feed use, which indicates a shift towards the feeding of maize to animals. Wheat food use experiences only a moderate increase, while barley and maize food use increase by more than 25%. Soft wheat stocks are projected to show a slight decrease, while durum wheat stocks increase. The projections show larger net imports of barley and larger net exports of maize in 2015. For sunflower seeds the maximum application of the reforms under the Luxembourg agreement is projected to gradually reduce the area harvested to a greater degree than for grains (-60% compared to 2004).

Livestock and dairy sectors

The Portuguese suckler herd will decrease due to the CAP reform, finishing 4% down in 2015. Despite this decline in numbers, cattle slaughtering is by 2015 projected to be 17% higher than in 2005. This is basically due to the projected increase in suckler cow and calf slaughtering. With a 12% increase in slaughter weights, the outcome is a 30% rise in beef and veal production in 2015. The impact of higher beef prices will be more than offset by income growth, so that beef consumption actually increases.

The reform will not have a direct bearing on pig or poultry producers, but will affect them through the markets for meat, grain and other feed ingredients. Pork production shows no change in the period 2005-2015. Total pig slaughtering is projected to be unchanged, with a slight decline in slaughter weights (3%). The projections show an increase in pig meat utilisation due to an increase in imports. Despite lower poultry prices, production increases slightly, reflecting advances in technical progress and better feeding conditions.

The cuts in the butter intervention prices (25% from 2004) in the Baseline scenario are reflected in the decrease in market prices (-9%). The strong increase in domestic butter use (20%) leads to an increase in production of nearly 10% in the period 2005-2015. Results for the Portuguese butter balance sheet show that butter stocks in 2015 will decrease by 30% relative to 2005. Skimmed milk and raw milk prices are projected to decrease after the cut in the butter intervention price by about 6%. Dairy cow milk production is projected to surpass the quota level and increase in the projected period by 9%. To summarise, the results show a strong rise in the consumption of butter and cheese, whereas the consumption of fluid milk increases slightly. Table 17.3 shows Baseline projections for Portugal.

Table 17.3: Baseline results concerning main agricultural commodities of Portugal

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	1266	1234	1236	1246	1262	1299	1328	1366	1396	1423	1451	1480
Domestic use	1,000 ton	4241	3843	3835	3928	4020	4034	4021	4017	3277	4030	4031	4042
Soft wheat													
Production	1,000 ton	182	37	34	32	33	32	29	26	24	23	23	23
Domestic use	1,000 ton	1491	1585	1582	1578	1579	1583	1587	1585	1581	1579	1576	1575
Producer price	euro/ton	125	117	117	117	117	117	117	117	117	117	117	117
Durum wheat													
Production	1,000 ton	173	267	266	265	265	266	267	267	267	266	265	265
Domestic use	1,000 ton	294	237	237	237	237	237	238	237	237	237	237	237
Producer price	euro/ton	120	129	129	129	129	129	129	129	129	129	129	129
Barley													
Production	1,000 ton	36	17	17	17	18	18	18	18	18	19	19	19
Domestic use	1,000 ton	301	349	356	364	369	371	376	381	329	393	398	404
Producer price	euro/ton	115	111	111	111	111	111	111	111	111	111	111	111
Maize													
Production	1,000 ton	875	912	918	932	946	978	1014	1055	1087	1116	1144	1173
Domestic use	1,000 ton	2155	1909	1897	1986	2073	2080	2059	2051	1367	2059	2057	2063
Producer price	euro/ton	132	133	133	133	133	133	133	133	133	133	133	133
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	472	456	451	450	448	448	447	445	445	446	446	448
Domestic use	1,000 ton	923	945	925	919	913	915	918	918	919	922	925	929
Rapeseed													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	18	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	206	213	214	243	259	244	235	235	237	239	241	241
Sunflower													
Production	1,000 ton	22	18	15	14	14	15	14	13	12	12	11	11
Domestic use	1,000 ton	258	261	259	259	258	258	258	258	259	259	260	261
Producer price	euro/ton	237	227	234	270	289	274	265	265	268	269	270	271
Soybeans													
Production	1,000 ton	450	439	436	436	434	433	433	432	433	434	435	437
Domestic use	1,000 ton	665	666	666	661	655	657	660	660	661	663	665	669
Producer price	euro/ton	216	199	192	220	240	228	221	224	227	230	232	233
Beef and veal													
Production	1,000 ton	101	94	91	106	122	126	118	107	102	106	116	123
Domestic use	1,000 ton	173	129	129	128	129	131	133	133	132	133	133	133
Producer price	euro/100 kg	274	255	252	263	267	261	257	257	258	260	264	268
Pig meat													
Production	1,000 ton	343	356	356	356	356	356	356	356	356	356	356	356
Domestic use	1,000 ton	412	360	369	373	371	371	372	376	380	380	380	381
Producer price	euro/100 kg	138	121	110	110	117	121	125	121	117	120	124	128
Poultry meat													
Production	1,000 ton	270	282	284	285	285	286	286	286	286	286	286	286
Domestic use	1,000 ton	276	166	160	161	161	159	158	155	152	152	152	152
Producer price	euro/100 kg	156	146	143	140	140	139	137	133	131	129	128	126
Sheep meat													
Production	1,000 ton	28	29	29	30	30	30	30	31	31	31	31	32
Domestic use	1,000 ton	41	36	36	37	37	38	39	39	39	40	40	41
Producer price	euro/100 kg	130	153	152	152	152	152	152	152	152	152	152	152
Fluid milk													
Production	1,000 ton	1860	2138	2166	2170	2180	2203	2226	2247	2268	2289	2312	2335
Domestic use	1,000 ton	820	822	825	829	833	836	839	840	837	842	843	845
Whole sale price	euro/100 kg	30	30	30	30	30	30	30	30	30	30	30	30
Butter													
Production	1,000 ton	27	24	25	25	25	26	26	26	26	26	26	27
Domestic use	1,000 ton	22	25	28	29	29	30	30	30	30	30	31	31
Whole sale price	euro/100kg	331	294	270	262	265	263	262	263	264	265	266	267
SMP													
Production	1,000 ton	11	11	11	11	11	11	11	11	11	11	11	11
Domestic use	1,000 ton	13	17	18	18	18	18	18	19	19	19	19	19
Whole sale price	euro/100kg	244	192	180	176	179	177	176	176	177	177	178	178
WMP													
Production	1,000 ton	9	9	9	9	9	9	9	9	9	9	9	9
Domestic use	1,000 ton	8	75	76	75	75	75	76	76	76	76	76	76
Whole sale price	euro/100kg	285	235	218	213	216	214	213	214	214	215	216	216
Cheese													
Production	1,000 ton	85	108	109	107	108	109	110	112	114	115	117	119
Domestic use	1,000 ton	99	109	112	118	123	127	131	135	139	143	146	150
Whole sale price	euro/100kg	474	476	479	469	469	476	477	476	476	479	482	486

Source: Portuguese AGMEMOD Model (2006)

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities with feedstuffs as the sole input variable covered, it is possible to approximate the development of gross agricultural sector income. This reflects changes in agricultural output value and subsidies (direct payments and SFP) made to Portuguese producers of the commodities and feed costs considered in the model.

Table 17.4: Agricultural output, subsidies, feed cost and gross income in Portugal[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.99	0.97	1.00	1.04	1.05	1.05	1.03	1.02	1.03	1.06	1.08
Subsidies/SFP	2000=1	1.00	1.00	1.07	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
Feeding costs	2000=1	1.00	0.84	0.82	0.88	0.92	0.90	0.89	0.88	0.88	0.88	0.87	0.86
Gross agric. income	2000=1	1.00	1.04	1.03	1.04	1.08	1.10	1.10	1.08	1.06	1.08	1.11	1.14

[1)] Output, subsidies, costs and income are related to the commodities analysed in the study carried out for IPTS
Source: Own calculations

The share of subsidies/SFP in agricultural output value (for the commodities considered in the model) will remain constant at 12% during the period between 2005 and 2015 (Table 17.4). From 2005 to 2015, the Baseline shows a 9% increase in agricultural output value (which is mostly due to increasing prices) compared with an increase in feed costs of 3%. Hence, gross agricultural income is projected to increase by almost 10% in the period under consideration (ceteris paribus returns for other agricultural commodities, other inputs, depreciation, and taxes).

17.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU Member States. Above certain amounts SPS payments in EU15 Member States were subject to modulation. The 'Further CAP reform' scenario, described in Report III AGMEMOD - Model description, involves effectively standardising the Member States currently nationally differentiated CAP implementation plans by imposing full decoupling from 2007, while the rates of compulsory modulation that are associated with the current SPS are increased to 10% from 2007 onwards.

Portugal chose in 2004 to decouple from production almost all of the direct payments previously made to its farmers and to introduce an SPS based strictly on historical entitlements. Portuguese farmers receiving single farm payments (SFP) in excess of € 5 000 were, like other farmers in EU15 MS, subject to modulation at rates that from 2007 will reach 5%. Further there is quite a large voluntary modulation of SFP in Portugal, attaining 22% in 2015.

The scenario, involving the "full" decoupling of all CAP direct payments and increased rates of modulation, would not, *a priori*, be expected to have a major impact on the supply and use of agricultural commodities in Portugal. On the one hand, the commodities in this study were already fully decoupled under the LA. On the other, increases in the rate of compulsory modulation would, by decreasing the value of the SFP, be expected to have some (negative) impact on the supply of agricultural commodities. In addition, the full decoupling of CAP payments in all EU MS would be expected to alter the supply and use balance in EU agricultural commodity markets, since many MS have chosen to only partially decouple some direct payments.
It is projected that there will be a contraction of indigenous production for those agricultural commodities that are still supported by coupled direct payments, and consequently this will

have at least some positive impact on the EU market prices for agricultural commodities. The further CAP reform scenario results presented below confirm that the effects of introducing full decoupling in other MS and the increased rates of compulsory modulation on Portuguese agricultural commodity markets are rather limited.

Main Results

The impact of full decoupling in other EU MS on Portuguese agricultural commodity markets is reflected in price developments and in Portuguese agricultural commodity supply and use. However, the implementation of full decoupling across all EU MS leads to rather small increases in the prices that are used in the Portuguese AGMEMOD sub-model, with commodity prices showing minor percentage changes from the Baseline projections.

Table 17.5 and Table 17.6 compare the Portuguese AGMEMOD model's projections under the FCR scenario with those of the Baseline projections, and the remainder of this section comments on these results.

Grain and oilseed sectors

The impact of the FCR scenario on Portuguese grain markets when compared to the Baseline projections are, as expected, quite modest. The reason for this is that the AGMEMOD crop commodities in this study were already fully decoupled in the Baseline and hence the main effect of decoupling direct payments was already projected in Section 17.1 Under the FCR scenario, EU grain prices would show a slight increase due to the full decoupling of arable aid direct payments in all MS. The result is that the impact on Portuguese grain prices is minor when compared to Baseline levels (see Figure 17.1).

Normally, a modest increase in prices would be expected (ceteris paribus) to result in something of a contraction in domestic use of cereals when compared with the Baseline. This does indeed happen in the case of Portugal, but the effect is rather moderate.

Livestock and dairy sectors

The Baseline showed that in Portugal the number of suckler cows is projected to decline by 4% due to the full decoupling of animal premiums. Nevertheless, beef and veal production would rise by about a quarter due to a 12% growth in slaughter weights and the restricted share of suckler cows in the cattle herd. The impact of the FCR scenario on Portuguese livestock markets is about -4% in 2005 when compared to the Baseline projections. The reason is that in the FCR scenario in the Portuguese model there are no differences in the decoupling rates for the livestock modelled relative to the Baseline. The introduction of full decoupling in other EU MS might lead to reduced indigenous EU supply of meats and somewhat higher EU prices for the meats. Compared with the Baseline, suckler cow numbers are projected to decrease by an additional 2% in 2015 under the FCR scenario. Due to the small share of beef cows in the cattle herd, the ultimate effect on beef production is marginal. Further, there is a rather minor increase in Portuguese prices, but the impact is smaller than would have been expected in advance. The influence of the FCR scenario on the other animal sectors is also small.

The reform of the dairy commodity market organisation under the Baseline is largely unaffected by the reforms examined under the further CAP reform (FCR) scenario. The increased rate of modulation of SFP is not projected to lead to any contraction in the total volume of milk produced in Portugal. Portuguese milk production is projected to continue to fill the milk quota. Changes in the rate of modulation are not expected to change the relative prices of different dairy commodities, and as a consequence changes in the supply and use

balance in dairy commodity markets in Portugal and the Portuguese farm gate milk price, under the FCR scenario, are negligible.

Agricultural income

It was expected that the somewhat higher agricultural commodity prices that prevail under the FCR scenario and the modest increases in the levels of production that occur in response to the projected price would lead to an increase in Portuguese agricultural income. Compared to the Baseline, however, Portuguese agricultural incomes decrease under the FCR scenario (Table 17.5), which is entirely due to the lower subsidy receipts (from the increase in the rate of modulation). This is caused not only by the doubling of the modulation rate, but also by the decoupling of the suckler cow premium (which was fully coupled in the Baseline). This reduction more than offsets the small increase in agricultural output value as this was hardly affected by changed price and production levels.

Table 17.5: Portugal: Agricultural output and income under FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-0.1%	0.4%	0.6%	-0.4%	-1.7%	-2.2%	-1.7%	-0.9%	-0.5%
Subsidies/SFP	-13.6%	-13.6%	-13.6%	-13.6%	-13.6%	-13.6%	-13.6%	-13.6%	-13.6%
Feeding costs	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%
Gross agric. income	-2.4%	-1.7%	-1.5%	-2.6%	-4.0%	-4.6%	-4.0%	-3.1%	-2.6%

Source: Portuguese AGMEMOD Model (2006)

Table 17.6: Portugal: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.5%	-0.4%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%
Domestic use	0.00%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Soft wheat									
Production	-0.5%	-1.1%	-1.5%	-2.1%	-2.5%	-2.9%	-3.1%	-3.3%	-3.4%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	-0.5%	-0.5%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-0.5%	-0.5%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	-0.5%	-0.4%	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.4%	-0.3%	-0.3%	-0.3%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	-1.2%	-1.1%	-1.0%	-1.1%	-1.2%	-1.3%	-1.3%	-1.3%	-1.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.3%	2.7%	3.9%	-2.9%	-12.6%	-17.3%	-13.1%	-6.4%	-3.7%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.4%	0.3%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Portuguese AGMEMOD Model (2006)

17.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining

the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the US dollar versus the euro exchange rate is a forecast US$ 1.24 per euro from 2007 onwards. In evaluating the impact of changes in this key macroeconomic projection three alternative exchange rate paths of the US dollar against the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro with the exchange rate moving to rates of 1.30 and 1.40 US dollar per euro in 2007. The third is for the euro to depreciate against the dollar in 2007 to a parity exchange rate of US$ 1.00 per euro.

Portugal is not a key price market country in the AGMEMOD model structure. Thus the alternative exchange rate paths examined in this scenario operate through the impact of the different exchange rates examined on the key commodity price projections generated by the combined AGMEMOD model, which are in turn linked to prices in the model for Portugal.

For a number of commodities, such as oilseeds and their associated meals and oils, the AGMEMOD model does not endogenously model market prices. In such cases supply-inducing prices for European farmers are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products any change in the exchange rate will have a direct impact on the national currency prices and on the associated supplies of and demand for the commodity in question. Given that Portugal is not a significant producer of oilseeds or oilseed products, the impact of changes in the euro / US dollar exchange rate will impact on the demand side for such products.

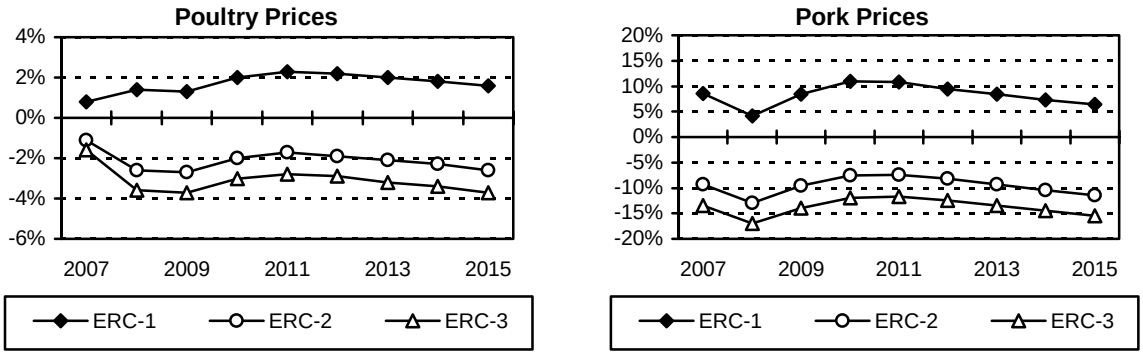
Main Results

This section gives a summary of the Exchange Rate Change (ERC) scenario projection results for Portugal. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = US$ 1.00), ERC-2 (€ = US$ 1.30) and ERC-3 (€ = US$ 1.40). Table 17.7 to Table 17.9 give the results of the scenarios relative to the Baseline projections in terms of percentage changes.

The impact of the three ERC scenarios, when compared with one another and with the Baseline projections, indicate that the AGMEMOD model performs as one would have expected. Key prices under the ECR-1 scenario, where the euro/US dollar exchange rate is 1.0 from 2007, are characterised by increases. When compared with Baseline price projections for Portugal, the prices decline as expected under both the ERC-2 and ERC-3 scenarios, where the euro appreciates against the dollar. The size of the increase in the key prices that are endogenously determined within the AGMEMOD modelling system are in general smaller than the percentage changes in those prices that are determined exogenously to the AGMEMOD model.

For the commodities in which the key prices are the world market prices, the percentage change in the exchange rate from Baseline levels is fully reflected in the change in the euro prices (oilseeds and oil seed meals and oils). By contrast, the impact of the changed exchange rate on the commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities. Figure 17.1 charts the percentage change in two Portuguese prices under each of the three ERC scenarios. The commodity prices chosen for Portugal are pork and poultry. The prices are endogenously determined in the AGMEMOD model.

Figure 17.1 : Portuguese Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: Portuguese AGMEMOD Model (2006)

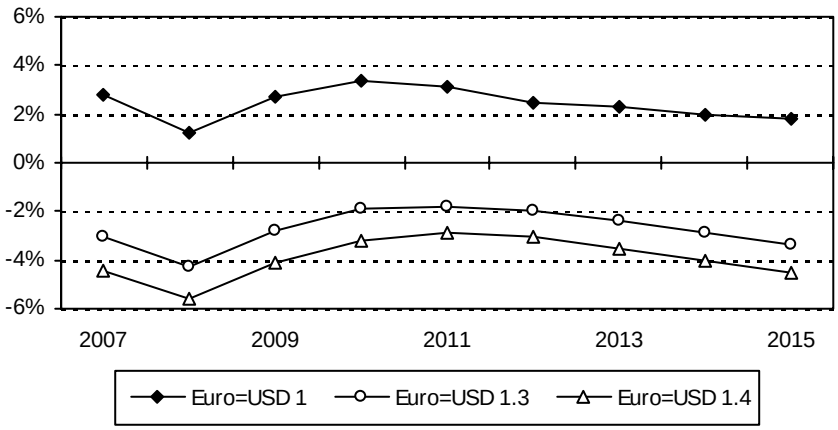
When the projections for Portuguese commodity markets under the ECR-1 scenario are compared with those under the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production for most agricultural commodities and somewhat reduced domestic use.

The two exchange rate change scenarios labelled ECR-2 and ECR-3 involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under the ECR-2 scenario, the euro / US dollar exchange rate is 1.30, while under ECR-3 it is assumed to be 1.40 from 2007. As expected, the projections for Portugal under both scenarios when compared with those under the Baseline are characterised by similar changes in prices, quantities supplied and demand. As in the ECR-1 scenario the impact of the exchange rate changes are most fully expressed in the prices of those commodities exogenous to the AGMEMOD model system. For the majority of agricultural commodities in the AGMEMOD modelling system prices are determined endogenously together with all of the elements of supply and use balances. Under each of the euro / US dollar exchange rate appreciation scenarios, market prices in Portugal are projected to be lower than under the Baseline, with often concomitant reductions in the volume of domestic production and small increases in domestic use, as is for instance the case for beef and veal. The magnitude of the impacts on prices and supply and use balances is as expected greater under ECR-3 than ECR-2.

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. The main influence on gross agricultural income (ceteris paribus) arises from changes in agricultural output value. Higher prices and production levels in the ERC-1 scenario would lead to increased values for these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 17.2).

Figure 17.2: Portugal: Gross agriculture income in ERC Scenarios. (% Δ from Baseline)



Source: Portuguese AGMEMOD Model (2006)

Table 17.7: Portugal: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.0%	0.5%	0.8%	1.3%	1.7%	2.1%	2.3%	2.3%
Domestic use	2.2%	2.2%	3.2%	4.2%	4.7%	5.9%	4.5%	4.1%	3.6%
Soft wheat									
Production	0.0%	6.2%	2.2%	5.5%	3.6%	3.7%	-0.5%	-3.4%	-5.7%
Domestic use	-0.2%	0.2%	0.2%	0.3%	0.4%	0.6%	0.6%	0.6%	0.6%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	0.4%	0.6%	1.0%	1.3%	1.7%	1.9%	1.9%	1.8%
Domestic use	0.0%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.4%	0.6%	1.0%	1.3%	1.7%	1.9%	1.9%	1.8%
Domestic use	0.8%	-0.1%	0.1%	0.0%	-0.3%	-0.7%	-0.7%	-0.8%	-0.8%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	0.0%	-0.3%	0.5%	0.6%	1.3%	1.7%	2.2%	2.5%	2.6%
Domestic use	4.3%	4.2%	6.0%	8.0%	9.0%	13.5%	8.4%	7.6%	6.7%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.1%	0.3%	0.3%	0.4%	0.5%	0.5%	0.5%	0.5%	0.4%
Domestic use	-0.5%	-0.3%	-0.5%	-0.6%	-0.6%	-0.5%	-0.4%	-0.3%	-0.2%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Sunflower									
Production	0.0%	5.9%	5.5%	8.3%	10.0%	11.8%	11.0%	9.3%	7.5%
Domestic use	0.2%	0.1%	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Soybeans									
Production	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%
Domestic use	-0.8%	-0.4%	-0.8%	-0.9%	-0.9%	-0.8%	-0.6%	-0.5%	-0.4%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Beef and veal									
Production	2.1%	0.8%	1.6%	1.7%	1.3%	0.8%	0.5%	0.3%	0.2%
Domestic use	-0.8%	-0.4%	-0.6%	-0.6%	-0.6%	-0.5%	-0.5%	-0.4%	-0.4%
Producer price	4.2%	2.1%	3.8%	4.8%	4.7%	4.1%	3.7%	3.3%	2.9%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-1.5%	-0.8%	-1.6%	-2.1%	-1.9%	-1.6%	-1.4%	-1.2%	-1.1%
Producer price	8.5%	4.1%	8.4%	11.0%	10.8%	9.4%	8.4%	7.3%	6.4%
Poultry meat									
Production	-0.3%	-0.3%	-0.5%	-0.7%	-0.9%	-0.9%	-1.0%	-1.0%	-0.9%
Domestic use	2.7%	1.3%	2.7%	3.5%	3.4%	3.0%	2.7%	2.4%	2.1%
Producer price	0.8%	1.4%	1.3%	2.0%	2.3%	2.2%	2.0%	1.8%	1.6%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	-0.4%	-0.2%	-0.3%	-0.4%	-0.3%	-0.2%	-0.1%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	-1.0%	-0.5%	-0.9%	-1.1%	-1.0%	-0.9%	-0.8%	-0.6%	-0.5%
Domestic use	-1.4%	-0.7%	-1.3%	-1.6%	-1.5%	-1.4%	-1.2%	-1.0%	-0.9%
Whole sale price	1.7%	0.8%	1.6%	2.1%	2.1%	1.9%	1.7%	1.6%	1.4%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.7%	-0.3%	-0.6%	-0.8%	-0.8%	-0.7%	-0.6%	-0.5%	-0.4%
Whole sale price	2.1%	1.1%	2.0%	2.7%	2.7%	2.4%	2.2%	1.9%	1.7%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.8%	-0.4%	-0.8%	-0.9%	-0.9%	-0.8%	-0.7%	-0.6%	-0.5%
Whole sale price	1.9%	1.0%	1.8%	2.4%	2.4%	2.2%	2.0%	1.8%	1.5%
Cheese									
Production	-0.4%	-0.2%	-0.1%	-0.1%	0.0%	0.2%	0.3%	0.4%	0.4%
Domestic use	0.1%	-0.1%	-0.2%	-0.3%	-0.5%	-0.6%	-0.7%	-0.7%	-0.6%
Whole sale price	0.0%	1.8%	2.2%	3.4%	4.8%	5.8%	6.4%	6.6%	6.5%

Source: Portuguese AGMEMOD Model (2006)

Table 17.8: Portugal: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.1%	-0.5%	-1.5%	-2.0%	-2.1%	-2.1%	-2.1%	-2.3%
Domestic use	-2.4%	-4.7%	-5.1%	-4.8%	-4.5%	-5.6%	-4.7%	-5.0%	-5.3%
Soft wheat									
Production	0.0%	-6.9%	-9.0%	-5.3%	0.6%	4.2%	4.0%	3.3%	2.7%
Domestic use	0.2%	0.0%	-0.4%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	-0.4%	-1.1%	-1.5%	-1.7%	-1.7%	-1.7%	-1.8%	-1.9%
Domestic use	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-0.4%	-1.1%	-1.6%	-1.7%	-1.7%	-1.7%	-1.8%	-1.9%
Domestic use	-0.8%	-0.6%	0.3%	0.7%	0.6%	0.6%	0.5%	0.5%	0.6%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	0.0%	0.3%	-0.3%	-1.3%	-2.1%	-2.3%	-2.3%	-2.3%	-2.5%
Domestic use	-4.8%	-9.1%	-9.6%	-8.9%	-8.5%	-12.8%	-8.9%	-9.4%	-10.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.1%	-0.4%	-0.6%	-0.6%	-0.4%	-0.4%	-0.4%	-0.5%	-0.6%
Domestic use	0.6%	0.9%	0.6%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Sunflower									
Production	0.0%	-6.6%	-12.1%	-12.5%	-10.1%	-7.8%	-8.0%	-9.1%	-10.3%
Domestic use	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Soybeans									
Production	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.4%
Domestic use	0.9%	1.3%	0.9%	0.6%	0.6%	0.7%	0.7%	0.7%	0.7%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Beef and veal									
Production	-2.4%	-3.0%	-1.9%	-1.0%	-0.4%	-0.1%	-0.5%	-1.2%	-1.6%
Domestic use	0.9%	1.2%	0.7%	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%
Producer price	-4.6%	-6.4%	-4.5%	-3.4%	-3.3%	-3.7%	-4.1%	-4.5%	-5.0%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.7%	2.4%	1.8%	1.4%	1.3%	1.4%	1.5%	1.7%	1.9%
Producer price	-9.3%	-12.9%	-9.6%	-7.6%	-7.4%	-8.2%	-9.3%	-10.4%	-11.4%
Poultry meat									
Production	0.3%	0.6%	0.8%	0.9%	1.0%	1.0%	1.1%	1.1%	1.2%
Domestic use	-3.0%	-4.3%	-3.1%	-2.4%	-2.4%	-2.7%	-3.1%	-3.5%	-3.9%
Producer price	-1.1%	-2.6%	-2.7%	-2.0%	-1.7%	-1.9%	-2.1%	-2.3%	-2.6%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.5%	0.7%	0.4%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%
Domestic use	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	1.2%	1.6%	1.1%	0.8%	0.8%	0.9%	1.0%	1.0%	1.1%
Domestic use	1.5%	2.2%	1.5%	1.1%	1.1%	1.2%	1.3%	1.4%	1.5%
Whole sale price	-1.8%	-2.7%	-1.9%	-1.5%	-1.5%	-1.7%	-1.9%	-2.1%	-2.4%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.8%	1.1%	0.8%	0.6%	0.6%	0.7%	0.7%	0.7%	0.8%
Whole sale price	-2.5%	-3.6%	-2.7%	-2.2%	-2.2%	-2.4%	-2.7%	-2.9%	-3.1%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.9%	1.3%	0.9%	0.7%	0.7%	0.7%	0.8%	0.9%	0.9%
Whole sale price	-2.2%	-3.2%	-2.3%	-1.8%	-1.9%	-2.1%	-2.3%	-2.6%	-2.8%
Cheese									
Production	0.5%	0.5%	0.1%	-0.2%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%
Domestic use	-0.2%	0.0%	0.4%	0.6%	0.6%	0.5%	0.5%	0.5%	0.4%
Whole sale price	0.0%	-1.9%	-4.3%	-5.2%	-5.5%	-5.7%	-6.1%	-6.5%	-7.1%

Source: Portuguese AGMEMOD Model (2006)

Table 17.9: Portugal: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.1%	-0.7%	-2.0%	-2.8%	-3.0%	-3.1%	-3.2%	-3.4%
Domestic use	-3.6%	-6.5%	-7.2%	-7.1%	-6.9%	-8.6%	-7.2%	-7.4%	-7.6%
Soft wheat									
Production	0.0%	-10.0%	-11.7%	-7.9%	0.0%	4.6%	5.4%	5.4%	5.3%
Domestic use	0.3%	0.0%	-0.6%	-0.8%	-0.8%	-0.8%	-0.8%	-0.9%	-0.9%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	-0.6%	-1.5%	-2.1%	-2.4%	-2.5%	-2.5%	-2.6%	-2.8%
Domestic use	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-0.6%	-1.5%	-2.2%	-2.4%	-2.5%	-2.6%	-2.7%	-2.8%
Domestic use	-1.2%	-0.8%	0.4%	0.8%	0.9%	0.9%	0.8%	0.9%	1.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	0.0%	0.4%	-0.5%	-1.8%	-2.9%	-3.3%	-3.4%	-3.5%	-3.7%
Domestic use	-7.0%	-12.4%	-13.6%	-13.3%	-13.0%	-19.8%	-13.5%	-14.0%	-14.4%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.2%	-0.5%	-0.8%	-0.8%	-0.7%	-0.6%	-0.7%	-0.8%	-0.9%
Domestic use	0.9%	1.2%	0.8%	0.7%	0.6%	0.7%	0.6%	0.6%	0.5%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Sunflower									
Production	0.0%	-9.6%	-16.4%	-17.6%	-15.0%	-12.6%	-12.6%	-13.5%	-14.5%
Domestic use	-0.3%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.5%	-0.5%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Soybeans									
Production	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.5%
Domestic use	1.3%	1.8%	1.3%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-18.6%	-19.8%	-20.9%	-22.0%
Beef and veal									
Production	-3.5%	-4.0%	-2.8%	-1.7%	-0.8%	-0.4%	-0.7%	-1.5%	-2.1%
Domestic use	1.3%	1.6%	1.0%	0.7%	0.7%	0.7%	0.7%	0.8%	0.8%
Producer price	-6.7%	-8.5%	-6.5%	-5.4%	-5.2%	-5.5%	-5.9%	-6.4%	-6.9%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	2.4%	3.2%	2.6%	2.3%	2.1%	2.0%	2.2%	2.4%	2.6%
Producer price	-13.5%	-17.0%	-13.9%	-12.0%	-11.7%	-12.4%	-13.5%	-14.5%	-15.5%
Poultry meat									
Production	0.4%	0.9%	1.1%	1.3%	1.4%	1.5%	1.6%	1.7%	1.8%
Domestic use	-4.4%	-5.6%	-4.5%	-3.9%	-3.8%	-4.0%	-4.4%	-4.9%	-5.3%
Producer price	-1.6%	-3.6%	-3.7%	-3.0%	-2.8%	-2.9%	-3.2%	-3.4%	-3.7%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.7%	0.9%	0.6%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
Domestic use	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	1.7%	2.2%	1.7%	1.4%	1.3%	1.4%	1.4%	1.5%	1.5%
Domestic use	2.2%	2.9%	2.1%	1.7%	1.7%	1.8%	1.9%	2.0%	2.1%
Whole sale price	-2.6%	-3.5%	-2.7%	-2.3%	-2.3%	-2.6%	-2.8%	-3.0%	-3.2%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.2%	1.5%	1.2%	1.0%	1.0%	1.0%	1.1%	1.1%	1.1%
Whole sale price	-3.8%	-4.9%	-4.0%	-3.5%	-3.5%	-3.7%	-4.0%	-4.2%	-4.5%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.2%	1.7%	1.3%	1.0%	1.0%	1.1%	1.2%	1.2%	1.3%
Whole sale price	-3.3%	-4.3%	-3.4%	-2.9%	-3.0%	-3.2%	-3.4%	-3.7%	-3.9%
Cheese									
Production	0.7%	0.7%	0.2%	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%
Domestic use	-0.3%	0.0%	0.5%	0.8%	0.8%	0.7%	0.6%	0.6%	0.6%
Whole sale price	0.0%	-2.8%	-5.9%	-7.3%	-7.9%	-8.4%	-9.0%	-9.6%	-10.3%

Source: Portuguese AGMEMOD Model (2006)

18 Slovakia

Pavel Ciaian, Lubica Bartova and Jan Pokrivcak, Slovak Agricultural University in Nitra

18.1 Baseline

Assumptions on macroeconomic variables are given in Table 18.1. It is assumed that GDP will grow by on average 4.6% annually[5], while the inflation rate is expected to moderate. on the exchange rate front, the Slovak currency is expected to appreciate in value.

Domestic prices in the Slovak model are linked to the AGMEMOD model key prices such that key prices are exogenous to the Slovak model. Key cereal prices and most of the key animal product prices are projected to decline during the projection period, with the greatest decrease occurring for broiler and dairy products. Key oilseeds and potato prices are assumed to increase.

Table 18.1 : Assumptions on macroeconomic variables for Slovakia

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
GDP	bil. Euro97	18	26	28	34	38	38	38	40	42	44	47	49
GDP per capita	Euro97/cap	3427	4824	5205	6251	6988	6933	7017	7324	7735	8143	8574	9024
Inflation	1997=1	1.19	1.45	1.50	1.53	1.56	1.60	1.64	1.68	1.71	1.75	1.79	1.82

Sources: Slovak Statistical Office, National Bank of Slovakia, UN, IMF, FAPRI.

For modelling purposes the decoupled direct payments granted per hectare are distributed to crop and livestock sectors and are calculated per unit of production or per hectare, taking into consideration both the 2004 allocation of direct payments and the 2004 production levels. It was assumed that payments for grassland will affect the livestock sector.

The distribution of payments for grassland into livestock is based on livestock units. When markets behave perfectly these payments do not affect farm incentives (farm behaviour). Cross compliance, risk effects, alleviation of credit constraint and policy risk are the main reasons why decoupled payments may have some impact on farm behaviour (Westhoff and Binfield 2003). The decoupled direct payments are assumed to increase farm incentives, but by less than the equivalent in terms of producers' surplus change of prices. The coupling coefficient (supply-inducing multiplier), which measures to what extent direct payments change farm incentives relative to prices, is assumed to be 0.15 (Table 18.3).

Part of the top-ups will remain coupled to production (in the case of sheep and suckler cows). This component of the top-ups will have a greater impact on production and will have coupling coefficients (supply-inducing multiplier) of 0.5 (Table 18.3).

5 GDP measured in euro terms declines in 2009 relative to 2008. GDP represented in Slovak currency increases. However, the Slovak currency is expected to depreciate against the euro in 2009 relative to 2008. Depreciation of the Slovak currency against the euro more than offsets the growth rate of GDP in Slovak currency terms. We use FAPRI macroeconomic forecasts.

Table 18.2 : Slovakia: Direct payments

	Direct payments from EU budget	Top-ups (national government + RD)	Total direct payments	Direct payments from EU budget	Top-ups (national government + RD)	Total direct payments
	%	%	%	mil. Sk	mil. Sk	mil. Sk
2004	25.0	27.5	52.5	3061	3913	6975
2005	30.0	22.7	52.7	4046	3123	7169
2006	35.0	30.0	65.0	4959	4330	9289
2007	40.0	30.0	70.0	6084	4640	10724
2008	50.0	30.0	80.0	7415	4524	11939
2009	60.0	30.0	90.0	8695	4421	13116
2010	70.0	30.0	100.0	10152	4424	14576
2011	80.0	20.0	100.0	11615	2953	14568
2012	90.0	10.0	100.0	13078	1478	14556
2013	100.0	0.0	100.0	14549	0	14549

Source: own calculations

Table 18.3: Supply inducing multipliers for Slovakia

	Baseline	CAP reform
EU support (decoupled)	0.15	0.15
National support (top-ups)		
- Decoupled payments	0.15	0.15
- Coupled payments	0.5	0.5

Source: own calculations

Before accession the majority of agricultural prices in Slovakia were below EU price levels. After accession, Slovak domestic prices are assumed to converge in one year to key EU price levels. Specifically, they are assumed to increase in 2004 and in the following years by an adjustment factor equal to 90% of the difference between the domestic price in 2003 and its respective key price in 2003.

Grain and oilseed sectors

Results for grains and oilseeds are shown in Table 18.4 and Table 18.5. For the most part, projections in these tables are compared to the level in 2000. However it must be borne in mind that supply and consumption for most agricultural commodities were lower in 2000 than in years after or before.

In spite of the reduction in key grain prices, domestic nominal cereal prices are expected to increase slightly due to the process of price convergence. Real prices of grains decline, however. Technological progress, which leads to higher yields, more than offsets the real price decline, and as a result production of grains increases. Domestic use of grains also increases, reflecting rising incomes.

Oilseed production significantly increases in the first years after accession relative to the 2000 level. This is caused by significant domestic price increases, by increases in direct payments (impact limited due to high degree of decoupling), and by increases in yields. Domestic use of oilseeds is expected to increase because of the projected growth in income and increase in feed consumption.

Livestock and dairy sectors

Beef and veal production is constrained by the national milk quota. After an initial adjustment of prices and stocks, production of beef and veal stabilises. Production levels in Slovakia reflect the fluctuations in key prices. Domestic use of beef and veal declines relative to 2000 because of real price increases.

Pork production sharply declines in the first years after accession because of the removal of pre-accession subsidies for the pig sector and because of a decline in the real price of pork. Domestic use of pork is projected to be stable but at a lower level than in the base year. Domestic use of pork reflects both a decline in real prices and substitution towards relatively cheaper poultry meat. The latter effect outweighs the former.

The nominal producer price of poultry is expected to increase. At the same time, the relative price of poultry declines with respect to both beef and veal price, and this is the reason for the increase in domestic consumption of poultry. Production of poultry meat increases, reflecting productivity growth.

The producer price of butter increases initially, reflecting the development of butter prices, and then is expected to stabilise towards the end of the projecting period. Initially domestic consumption of butter declines relative to the pre-accession level (but increases relative to the level in 2000) due to increased prices. Later, domestic consumption is projected to stabilise. Wholesale real prices of SMP are projected to decrease from 2005 onwards. Domestic production of SMP declines relative to the pre-accession level (but increases relative to the level in 2000), and domestic use of SMP, after an initial rise, remains relatively stable afterwards.

Cheese prices increase initially and decline thereafter, while production of cheese initially increases and then declines towards the end of the projection period. Domestic consumption of cheese is expected to stay stable and close to the pre-accession level over the whole projection period.

Agricultural income

Agricultural income increases significantly after accession. Initially the increase in income is mainly driven by price increases, but later the income rise is driven by subsidies. The share of subsidies in total income increases from 9% in 2005 to 16% in 2015.

Table 18.4: Agricultural output, subsidies and income in Slovakia[1] (2000=1)

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.68	1.72	1.82	1.89	1.86	1.84	1.85	1.86	1.89	1.91	1.94
Subsidies/SFP	2000=1	1.00	0.96	1.24	1.48	1.69	1.90	2.11	2.11	2.11	2.12	2.12	2.12
Feeding costs	2000=1	1.00	1.03	1.08	1.24	1.32	1.27	1.25	1.27	1.30	1.33	1.36	1.38
Gross agric. income	2000=1	1.00	1.68	1.76	1.88	1.97	1.99	2.01	2.01	2.03	2.05	2.07	2.09

[1)] Output, subsidies, costs and income are related to the commodities analysed in the study carried out for IPTS
Source: Own calculations

Table 18.5 : Baseline results concerning main agricultural commodities of Slovakia

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	2081	3395	3405	3403	3419	3424	3431	3438	3458	3476	3493	3508
Domestic use	1,000 ton	2301	2402	2513	2581	2644	2703	2759	2815	2869	2923	2975	3027
Soft wheat													
Production	1,000 ton	1244	1801	1786	1770	1762	1749	1738	1729	1730	1730	1729	1727
Domestic use	1,000 ton	1419	1291	1331	1361	1391	1420	1446	1472	1496	1522	1547	1572
Producer price	euro/ton	88	104	105	119	125	117	115	115	117	118	120	121
Durum wheat													
Production	1,000 ton												
Domestic use	1,000 ton												
Producer price	euro/ton												
Barley													
Production	1,000 ton	397	882	863	855	858	870	884	895	907	917	929	941
Domestic use	1,000 ton	429	606	642	654	661	667	675	684	691	698	704	710
Producer price	euro/ton	91	95	97	109	116	110	107	107	109	110	112	114
Maize													
Production	1,000 ton	440	712	756	778	800	804	809	814	821	828	835	840
Domestic use	1,000 ton	453	505	541	566	591	615	637	659	681	703	724	745
Producer price	euro/ton	85	108	109	124	131	124	120	121	123	124	126	127
Rye													
Production	1000 tons												
Domestic use	1000 tons												
Producer price	euro/ton												
Other grains													
Production	1000 tons												
Domestic use	1000 tons												
Producer price	euro/ton												
Total oilseeds													
Production	1,000 ton	256	432	479	526	539	546	552	555	559	562	566	571
Domestic use	1,000 ton	175	191	181	180	182	183	184	185	186	188	190	191
Rapeseed													
Production	1,000 ton	134	256	282	306	308	309	310	310	310	310	310	311
Domestic use	1,000 ton	123	120	118	119	120	121	122	123	124	126	127	128
Producer price	euro/ton	166	248	252	287	305	289	280	280	283	286	290	293
Sunflower													
Production	1,000 ton	117	163	182	204	215	219	223	226	229	232	234	237
Domestic use	1,000 ton	49	60	52	50	50	50	50	50	51	51	51	51
Producer price	euro/ton	179	268	275	314	335	317	307	308	312	316	320	323
Soybeans													
Production	1,000 ton	5	13	15	16	17	18	19	20	20	21	22	23
Domestic use	1,000 ton	3	11	11	11	11	11	11	12	12	12	12	12
Producer price	euro/ton	180	303	306	348	374	355	344	345	350	355	359	364
Beef and veal													
Production	1,000 ton	48	43	43	42	41	39	39	39	39	38	38	38
Domestic use	1,000 ton	49	31	31	32	32	33	33	34	34	35	35	36
Producer price	euro/100 kg	100	273	278	312	331	315	306	306	310	314	319	323
Pig meat													
Production	1,000 ton	164	125	125	126	125	125	125	124	123	123	122	121
Domestic use	1,000 ton	179	153	153	152	152	152	152	152	152	152	151	151
Producer price	euro/100 kg	97	136	134	147	157	152	150	149	149	152	155	158
Poultry meat													
Production	1,000 ton	85	100	104	106	109	112	115	117	120	123	125	128
Domestic use	1,000 ton	92	134	129	133	137	141	145	148	152	156	159	163
Producer price	euro/100 kg	69	146	146	155	160	155	151	150	150	150	151	151
Sheep meat													
Production	1,000 ton	2	2	2	2	2	2	2	2	2	2	2	2
Domestic use	1,000 ton	1	1	1	1	1	1	1	1	1	1	1	1
Producer price	euro/100 kg	43	134	136	150	158	151	148	148	149	151	152	154
Fluid milk													
Production	1,000 ton	1099	1089	1121	1130	1135	1147	1156	1161	1163	1163	1162	1160
Domestic use	1,000 ton	306	299	305	323	333	328	327	329	332	336	339	341
Whole sale price	euro/100 kg	20	28	27	23	22	24	25	24	24	24	24	24
Butter													
Production	1,000 ton	16	18	18	18	18	19	20	20	20	21	21	21
Domestic use	1,000 ton	14	15	16	16	16	16	16	16	16	16	16	16
Whole sale price	euro/100kg	216	322	315	336	351	339	332	332	336	339	343	346
SMP													
Production	1,000 ton	8	10	9	6	6	7	7	7	7	7	6	6
Domestic use	1,000 ton	4	5	5	5	5	5	5	5	5	5	5	5
Whole sale price	euro/100kg	175	159	149	141	142	142	142	142	142	142	142	142
WMP													
Production	1,000 ton	4	3	3	2	1	2	2	2	2	2	1	1
Domestic use	1,000 ton	2	2	2	3	3	3	3	3	3	3	3	3
Whole sale price	euro/100kg	200	224	219	207	201	203	204	204	203	202	201	200
Cheese													
Production	1,000 ton	29	44	44	41	40	42	43	43	42	42	42	42
Domestic use	1,000 ton	24	26	27	28	28	28	28	28	28	28	29	29
Whole sale price	euro/100kg	267	284	285	273	270	277	280	279	278	279	281	283

Source: Slovak AGMEMOD Model (2006)

18.2 Further CAP Reform (FCR)

Under the FCR scenario, the projection for macroeconomic indicators, world prices and intervention prices are the same as in the Baseline. Assumptions concerning agricultural policies differ in the FCR scenario relative to the Baseline in two respects:

1. full decoupling is assumed from 2007 (including direct payments for sheep and suckler cows, which were relatively coupled in the Baseline) and
2. modulation is assumed from 2013 (6% in 2013, 8% in 2014 and 10% in 2015).

Main Results

The results for the CAP reform scenario are shown in Table 18.6 and Table 18.7. The full decoupling of payments will not have a significant impact on the supply and use of agricultural commodities. The main reason is that the CAP, as implemented under SAPS in Slovakia, is highly decoupled. Most of the payments are made on a per hectare basis and the payments (with a few exceptions) are not conditional on the growing of specific crops. The introduction of the fully decoupled CAP reform will therefore have only a limited impact on the agricultural sector. Sheep and suckler cow premiums are relatively more coupled in the Baseline, and changes in policy for these two commodities have more pronounced effects. The impact on suckler cows is mitigated by the existence of the milk quota (Table 18.7).

Modulation has a negative impact on the production of agricultural commodities, but the effect is small because decoupled payments have a limited impact on farm decisions. Modulation is projected to have a stronger impact on gross agricultural income, which declines by 1.6% in 2015 relative to the Baseline. Table 18.6 shows that, between 2005 and 2012, subsidies will increase in the FCR scenario relative to the Baseline because there is an increase in per hectare payments in the modelled sectors. In the Baseline, arable land was in receipt of a higher per hectare payment than other agricultural areas. Under the CAP reform scenario, per hectare payments are spread evenly across agricultural areas. The agricultural land area included in the model (e.g. grassland, and consequently animal sector) benefits more than the agricultural land area that is not included in the model (e.g. other arable area).

Table 18.6 : Slovakia: Output, subsidies and income FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subsidies/SFP	7.7%	6.9%	6.4%	5.9%	4.6%	2.9%	-4.8%	-6.8%	-8.9%
Feeding costs	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross agric. income	1.0%	1.1%	1.1%	1.1%	0.9%	0.6%	-0.9%	-1.3%	-1.6%

Source: Own calculations

Table 18.7 : Slovakia: CAP reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.24%	0.01%	-0.02%	-0.01%	0.08%	0.08%	-0.04%	-0.04%	-0.04%
Domestic use	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%
Soft wheat									
Production	-0.27%	-0.01%	-0.04%	-0.03%	0.08%	0.07%	-0.06%	-0.05%	-0.06%
Domestic use	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%
Producer price	0.000%	0.004%	0.004%	0.004%	0.004%	0.005%	0.005%	0.005%	0.005%
Durum wheat									
Production									
Domestic use									
Producer price									
Barley									
Production	-0.27%	-0.05%	-0.07%	-0.07%	0.04%	0.06%	-0.07%	-0.07%	-0.08%
Domestic use	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Maize									
Production	-0.13%	0.11%	0.09%	0.09%	0.15%	0.10%	0.01%	0.04%	0.06%
Domestic use	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	-0.01%	-0.01%
Producer price	0.00%	0.01%	0.01%	0.01%	0.02%	0.02%	0.02%	0.02%	0.02%
Rye									
Production									
Domestic use									
Producer price									
Other grains									
Production									
Domestic use									
Producer price									
Total oilseeds									
Production	0.094%	0.076%	0.081%	0.083%	0.040%	0.012%	0.040%	0.054%	0.067%
Domestic use	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Rapeseed									
Production	0.12%	0.12%	0.12%	0.12%	0.07%	0.02%	0.05%	0.07%	0.09%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sunflower									
Production	0.06%	0.02%	0.03%	0.03%	0.00%	-0.01%	0.03%	0.03%	0.04%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Soybeans									
Production									
Domestic use									
Producer price									
Beef and veal									
Production	0.02%	0.00%	-0.02%	-0.02%	-0.02%	-0.04%	-0.04%	-0.02%	-0.02%
Domestic use	0.00%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%	-0.01%
Producer price	0.00%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.04%	0.03%
Pig meat									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Producer price	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.01%	0.00%
Poultry meat									
Production	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	0.00%	0.02%	0.02%	0.02%	0.02%	0.02%	0.01%	0.01%	0.01%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sheep meat									
Production	-0.17%	0.00%	0.17%	0.27%	0.42%	0.46%	0.46%	0.33%	0.19%
Domestic use	0.01%	0.00%	0.00%	0.00%	0.00%	-0.01%	-0.01%	-0.01%	-0.01%
Producer price	-0.03%	0.00%	0.01%	0.02%	0.03%	0.03%	0.03%	0.03%	0.03%
Fluid milk									
Production	0.03%	0.04%	0.05%	0.06%	0.06%	0.05%	0.03%	0.01%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Butter									
Production	0.05%	0.07%	0.09%	0.09%	0.08%	0.06%	0.03%	0.01%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SMP									
Production	0.25%	0.39%	0.39%	0.40%	0.36%	0.30%	0.16%	0.07%	0.00%
Domestic use	0.00%	0.01%	0.02%	0.03%	0.03%	0.03%	0.02%	0.01%	0.01%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WMP									
Production	0.20%	0.38%	0.35%	0.35%	0.32%	0.26%	0.14%	0.07%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cheese									
Production	0.03%	0.05%	0.06%	0.06%	0.05%	0.04%	0.02%	0.01%	0.00%
Domestic use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Whole sale price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Source: Own calculations

18.3 Exchange Rate Change (ERC)

In the ERC scenarios, the projection for macroeconomic indicators, world prices, intervention prices and agricultural policies are the same as in the Baseline. In these scenarios three exchange rate sub-scenarios are considered: ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). These changes in exchange rate are introduced from 2007.

Main Results

The results for the exchange rate scenario are set out in Table 18.8 to Table 18.10 and Figure 18.1and Figure 18.2. The tables and figures show percentage changes in the exchange rate scenario results relative to the Baseline.

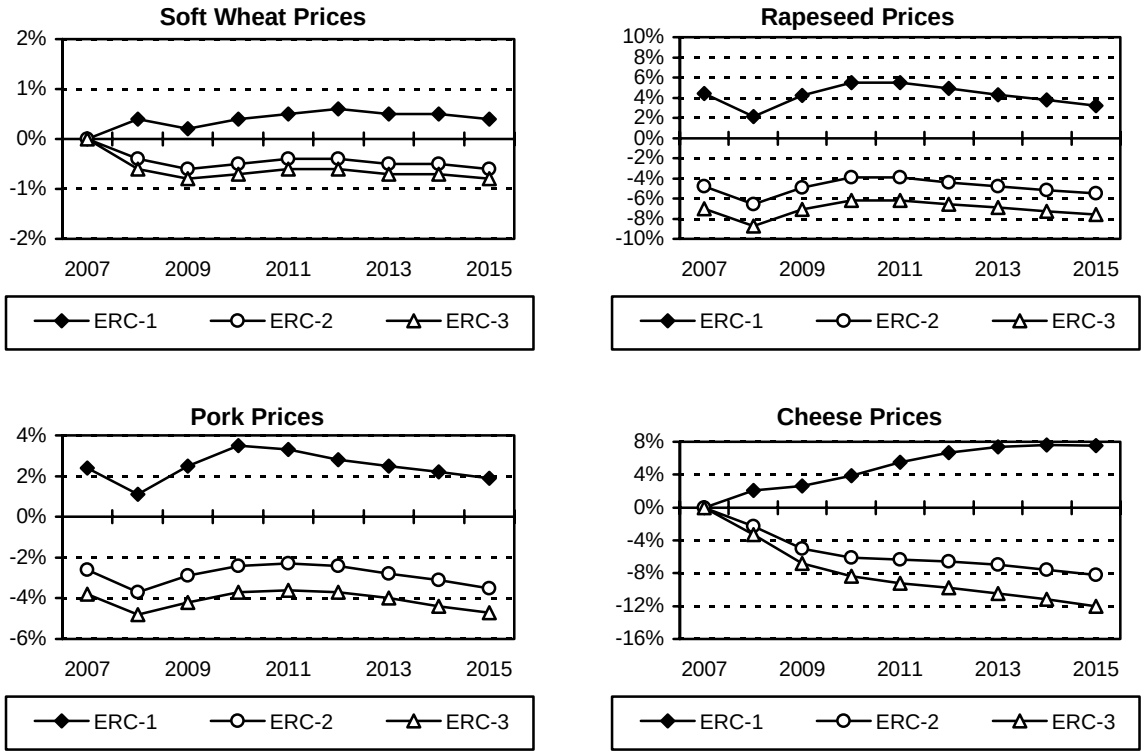
Slovak prices decline in the ERC-2 and ERC-3 exchange rate scenarios relatively to the Baseline, as the euro is assumed to appreciate relatively to the US dollar from 2007 (Figure 18.1). The largest decline is in scenario ERC-3, because it assumes the strongest euro appreciation against US dollar. In scenario ERC-1, where the euro / US dollar exchange rate is 1.0, Slovak prices increase relative to the Baseline.

In the ERC-1 scenario the supply of most commodities increases relative to the baseline. The exceptions are grains. Relative prices of grains and oilseeds change in favour of oilseeds. Competition for land resources leads to a reduction in the area under grains and hence to a reduction in production of grains in favour of oilseeds. There is a substitution of meat consumption from pork towards poultry and beef as the pig meat price increases faster than the prices of poultry and beef. Total domestic consumption of crop commodities increases relative to the Baseline level. This is caused by an increase in feed use, which offsets the decline in food use caused by rising prices.

In the ERC-2 and ERC-3 scenarios, the supply of most commodities decreases relative to the Baseline because of a decline in prices. There is a substitution of meat consumption from beef and poultry to pork because the pig meat price decreases more than poultry and beef prices. Total domestic consumption of crop commodities declines relative to the Baseline. There is a decrease in animal production, which reduces demand for feed. Overall there is a decline in total consumption of crops, driven by a decrease in feed consumption, which is not offset by the increase in food consumption caused by the decline in prices.

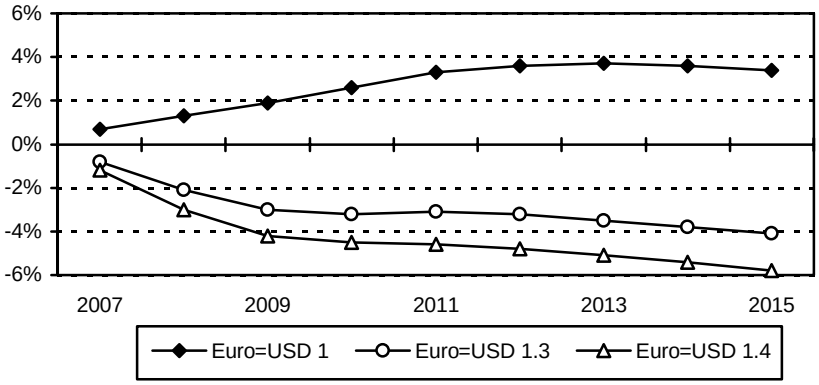
Price developments are reflected in projections for agricultural income. For the ERC-1 scenario gross agricultural income increases relative to the Baseline. For the ERC-2 and ERC-3 scenarios gross agricultural income declines relative to the Baseline (Figure 18.2).

Figure 18.1: Slovak Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: Slovak AGMEMOD Model (2006)

Figure 18.2: Slovakia: Gross agriculture income in ERC Scenarios. (% Δ from Baseline)



Source: Slovak AGMEMOD model (2006)

Table 18.8 : Slovakia: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.2%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%
Domestic use	0.3%	0.1%	0.3%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%
Soft wheat									
Production	0.0%	-0.2%	0.0%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.3%	0.1%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
Producer price	0.0%	0.4%	0.2%	0.4%	0.5%	0.6%	0.5%	0.5%	0.4%
Durum wheat									
Production									
Domestic use									
Producer price									
Barley									
Production	0.0%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.3%	-0.3%
Domestic use	0.3%	0.2%	0.4%	0.5%	0.6%	0.6%	0.7%	0.7%	0.6%
Producer price	0.2%	0.1%	0.2%	0.3%	0.4%	0.4%	0.3%	0.3%	0.3%
Maize									
Production	0.0%	-0.2%	-0.1%	-0.3%	-0.3%	-0.4%	-0.3%	-0.3%	-0.3%
Domestic use	0.3%	0.1%	0.2%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
Producer price	0.0%	0.2%	0.2%	0.3%	0.4%	0.5%	0.5%	0.4%	0.4%
Rye									
Production									
Domestic use									
Producer price									
Other grains									
Production									
Domestic use									
Producer price									
Total oilseeds									
Production	0.0%	2.5%	3.2%	3.7%	5.0%	5.7%	5.4%	4.7%	4.0%
Domestic use	2.3%	1.7%	2.6%	3.4%	3.5%	3.2%	2.8%	2.4%	2.1%
Rapeseed									
Production	0.0%	3.9%	4.9%	5.6%	7.8%	8.9%	8.4%	7.3%	6.3%
Domestic use	3.5%	1.6%	3.2%	4.1%	4.0%	3.5%	3.1%	2.7%	2.2%
Producer price	4.4%	2.1%	4.2%	5.5%	5.5%	4.9%	4.3%	3.8%	3.2%
Sunflower									
Production	0.0%	0.8%	0.9%	1.1%	1.5%	1.8%	1.7%	1.5%	1.3%
Domestic use	-0.4%	1.8%	1.0%	1.7%	2.3%	2.5%	2.2%	2.0%	1.7%
Producer price	2.5%	1.2%	2.4%	3.1%	3.1%	2.8%	2.5%	2.1%	1.8%
Soybeans									
Production									
Domestic use									
Producer price									
Beef and veal									
Production	0.0%	-0.1%	0.0%	0.1%	0.2%	0.4%	0.5%	0.7%	0.9%
Domestic use	0.2%	0.1%	0.2%	0.3%	0.3%	0.2%	0.2%	0.2%	0.1%
Producer price	0.5%	0.2%	0.4%	0.6%	0.6%	0.5%	0.4%	0.4%	0.3%
Pig meat									
Production	0.12%	0.17%	0.33%	0.52%	0.70%	0.87%	1.00%	1.08%	1.12%
Domestic use	-0.02%	-0.01%	-0.02%	-0.03%	-0.03%	-0.03%	-0.02%	-0.02%	-0.02%
Producer price	2.4%	1.1%	2.5%	3.5%	3.3%	2.8%	2.5%	2.2%	1.9%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.3%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%
Producer price	0.4%	0.6%	0.6%	0.9%	1.1%	1.0%	0.9%	0.8%	0.7%
Sheep meat									
Production									
Domestic use									
Producer price									
Fluid milk									
Production	0.0%	0.1%	0.2%	0.4%	0.6%	0.7%	0.8%	0.9%	0.9%
Domestic use	-0.1%	-0.6%	-0.7%	-1.0%	-1.3%	-1.6%	-1.7%	-1.7%	-1.7%
Whole sale price	0.5%	3.4%	4.2%	6.1%	8.3%	10.1%	11.0%	11.4%	11.3%
Butter									
Production	0.2%	0.6%	0.9%	1.3%	1.7%	2.0%	2.2%	2.3%	2.3%
Domestic use	-0.1%	0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.6%	0.3%	0.6%	0.8%	0.8%	0.8%	0.7%	0.6%	0.6%
SMP									
Production	3.2%	5.7%	7.3%	9.7%	12.4%	14.8%	16.6%	17.9%	18.6%
Domestic use	-1.0%	0.1%	-0.2%	-0.1%	0.4%	0.9%	1.4%	1.6%	1.8%
Whole sale price	2.3%	1.2%	2.4%	3.1%	3.2%	3.0%	2.7%	2.5%	2.2%
WMP									
Production	-0.4%	3.5%	3.5%	4.8%	6.9%	9.3%	11.3%	13.0%	14.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.2%	0.8%	1.1%	1.6%	2.2%	2.6%	2.8%	2.9%	2.9%
Domestic use	0.0%	-0.4%	-0.5%	-0.7%	-1.0%	-1.1%	-1.2%	-1.2%	-1.2%
Whole sale price	0.0%	2.1%	2.6%	3.9%	5.5%	6.7%	7.4%	7.6%	7.5%

Source: Slovak AGMEMOD model (2006)

Table 18.9 Slovakia ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%
Domestic use	-0.3%	-0.4%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%	-0.6%
Soft wheat									
Production	0.0%	0.2%	0.2%	0.2%	0.1%	0.2%	0.2%	0.2%	0.2%
Domestic use	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%
Producer price	0.0%	-0.4%	-0.6%	-0.5%	-0.4%	-0.4%	-0.5%	-0.5%	-0.6%
Durum wheat									
Production									
Domestic use									
Producer price									
Barley									
Production	0.0%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Domestic use	-0.3%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%	-0.7%	-0.8%
Producer price	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Maize									
Production	0.0%	0.2%	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%
Domestic use	-0.3%	-0.4%	-0.2%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.5%
Producer price	0.0%	-0.3%	-0.5%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%	-0.5%
Rye									
Production									
Domestic use									
Producer price									
Other grains									
Production									
Domestic use									
Producer price									
Total oilseeds									
Production	0.0%	-2.7%	-5.8%	-6.0%	-4.7%	-4.1%	-4.2%	-4.5%	-4.8%
Domestic use	-2.5%	-4.0%	-3.4%	-2.7%	-2.5%	-2.7%	-2.9%	-3.1%	-3.3%
Rapeseed									
Production	0.0%	-4.1%	-8.8%	-9.1%	-7.3%	-6.3%	-6.4%	-6.9%	-7.5%
Domestic use	-3.7%	-5.0%	-3.7%	-2.9%	-2.8%	-3.1%	-3.4%	-3.6%	-3.8%
Producer price	-4.8%	-6.6%	-4.9%	-3.9%	-3.9%	-4.4%	-4.8%	-5.2%	-5.5%
Sunflower									
Production	0.0%	-0.9%	-1.8%	-1.8%	-1.5%	-1.3%	-1.3%	-1.5%	-1.6%
Domestic use	0.4%	-1.6%	-3.0%	-2.5%	-1.9%	-1.7%	-1.8%	-2.0%	-2.1%
Producer price	-2.7%	-3.8%	-2.8%	-2.2%	-2.2%	-2.5%	-2.7%	-2.9%	-3.1%
Soybeans									
Production									
Domestic use									
Producer price									
Beef and veal									
Production	0.0%	0.1%	0.1%	-0.1%	-0.4%	-0.6%	-0.7%	-0.8%	-0.9%
Domestic use	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%
Producer price	-0.5%	-0.7%	-0.5%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%	-0.6%
Pig meat									
Production	-0.1%	-0.3%	-0.5%	-0.7%	-0.8%	-0.9%	-1.0%	-1.1%	-1.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-2.6%	-3.7%	-2.9%	-2.4%	-2.3%	-2.4%	-2.8%	-3.1%	-3.5%
Poultry meat									
Production	0.00%	0.00%	0.00%	-0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic use	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Producer price	-0.5%	-1.2%	-1.2%	-0.9%	-0.8%	-0.8%	-0.9%	-1.0%	-1.1%
Sheep meat									
Production									
Domestic use									
Producer price									
Fluid milk									
Production	-0.01%	-0.16%	-0.40%	-0.60%	-0.73%	-0.81%	-0.88%	-0.95%	-1.02%
Domestic use	0.1%	0.7%	1.3%	1.5%	1.6%	1.7%	1.8%	2.0%	2.1%
Whole sale price	-0.6%	-4.4%	-7.8%	-8.9%	-9.3%	-9.8%	-10.6%	-11.5%	-12.6%
Butter									
Production	-0.2%	-0.9%	-1.5%	-1.9%	-2.0%	-2.2%	-2.3%	-2.4%	-2.5%
Domestic use	0.2%	0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-0.7%	-1.0%	-0.7%	-0.6%	-0.6%	-0.7%	-0.8%	-0.9%	-0.9%
SMP									
Production	-3.8%	-10.4%	-12.1%	-12.7%	-13.8%	-15.5%	-17.5%	-19.9%	-22.7%
Domestic use	1.2%	1.0%	-0.3%	-1.0%	-1.2%	-1.2%	-1.3%	-1.4%	-1.6%
Whole sale price	-2.7%	-3.9%	-3.0%	-2.5%	-2.5%	-2.8%	-3.1%	-3.4%	-3.8%
WMP									
Production	0.5%	-3.4%	-6.8%	-8.0%	-8.9%	-10.1%	-11.6%	-13.4%	-15.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	-0.3%	-1.2%	-2.0%	-2.4%	-2.5%	-2.7%	-2.9%	-3.1%	-3.3%
Domestic use	0.0%	0.4%	0.9%	1.1%	1.1%	1.1%	1.2%	1.2%	1.3%
Whole sale price	0.0%	-2.3%	-5.0%	-6.1%	-6.3%	-6.6%	-7.0%	-7.6%	-8.2%

Source: Slovak AGMEMOD model (2006)

Table 18.10 : Slovakia ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.3%	0.3%	0.4%	0.3%	0.4%	0.4%	0.4%	0.4%
Domestic use	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.7%	-0.8%	-0.8%	-0.8%
Soft wheat									
Production	0.0%	0.3%	0.3%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%
Domestic use	-0.4%	-0.5%	-0.4%	-0.5%	-0.6%	-0.7%	-0.7%	-0.7%	-0.8%
Producer price	0.0%	-0.6%	-0.8%	-0.7%	-0.6%	-0.6%	-0.7%	-0.7%	-0.8%
Durum wheat									
Production									
Domestic use									
Producer price									
Barley									
Production	0.0%	0.2%	0.3%	0.4%	0.5%	0.5%	0.5%	0.5%	0.5%
Domestic use	-0.4%	-0.7%	-0.7%	-0.8%	-0.9%	-0.9%	-1.0%	-1.1%	-1.1%
Producer price	-0.3%	-0.4%	-0.5%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%	-0.6%
Maize									
Production	0.0%	0.3%	0.4%	0.5%	0.5%	0.4%	0.4%	0.4%	0.5%
Domestic use	-0.5%	-0.5%	-0.3%	-0.4%	-0.5%	-0.6%	-0.6%	-0.6%	-0.7%
Producer price	0.0%	-0.4%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%	-0.7%
Rye									
Production									
Domestic use									
Producer price									
Other grains									
Production									
Domestic use									
Producer price									
Total oilseeds									
Production	0.0%	-4.0%	-7.9%	-8.2%	-7.0%	-6.3%	-6.4%	-6.6%	-6.8%
Domestic use	-3.7%	-5.4%	-4.8%	-4.2%	-4.0%	-4.0%	-4.3%	-4.4%	-4.6%
Rapeseed									
Production	0.0%	-6.0%	-12.0%	-12.5%	-10.7%	-9.8%	-9.8%	-10.2%	-10.6%
Domestic use	-5.4%	-6.6%	-5.3%	-4.5%	-4.4%	-4.6%	-4.9%	-5.1%	-5.2%
Producer price	-7.0%	-8.7%	-7.1%	-6.2%	-6.2%	-6.6%	-6.9%	-7.3%	-7.6%
Sunflower									
Production	0.0%	-1.2%	-2.4%	-2.5%	-2.2%	-2.0%	-2.1%	-2.2%	-2.3%
Domestic use	0.6%	-2.5%	-3.9%	-3.5%	-2.9%	-2.8%	-2.8%	-2.9%	-3.0%
Producer price	-4.0%	-4.9%	-4.1%	-3.5%	-3.5%	-3.8%	-4.0%	-4.1%	-4.3%
Soybeans									
Production									
Domestic use									
Producer price									
Beef and veal									
Production	0.0%	0.1%	0.1%	-0.2%	-0.5%	-0.8%	-1.0%	-1.2%	-1.4%
Domestic use	-0.3%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Producer price	-0.8%	-1.0%	-0.8%	-0.6%	-0.6%	-0.6%	-0.7%	-0.7%	-0.8%
Pig meat									
Production	-0.2%	-0.4%	-0.7%	-0.9%	-1.2%	-1.3%	-1.5%	-1.6%	-1.8%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-3.8%	-4.8%	-4.2%	-3.7%	-3.6%	-3.7%	-4.0%	-4.4%	-4.7%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.4%	-0.4%	-0.3%	-0.3%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%
Producer price	-0.8%	-1.6%	-1.7%	-1.4%	-1.3%	-1.3%	-1.4%	-1.5%	-1.6%
Sheep meat									
Production									
Domestic use									
Producer price									
Fluid milk									
Production	-0.02%	-0.22%	-0.55%	-0.83%	-1.03%	-1.18%	-1.29%	-1.40%	-1.50%
Domestic use	0.1%	1.1%	1.9%	2.2%	2.4%	2.6%	2.8%	3.0%	3.2%
Whole sale price	-0.9%	-6.2%	-10.6%	-12.5%	-13.5%	-14.6%	-15.7%	-17.0%	-18.3%
Butter									
Production	-0.3%	-1.2%	-2.1%	-2.7%	-3.0%	-3.2%	-3.4%	-3.5%	-3.7%
Domestic use	0.2%	0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.0%	-1.3%	-1.1%	-0.9%	-1.0%	-1.0%	-1.1%	-1.2%	-1.3%
SMP									
Production	-5.7%	-14.4%	-16.8%	-18.2%	-20.2%	-23.0%	-26.1%	-29.4%	-33.1%
Domestic use	1.9%	1.3%	-0.4%	-1.3%	-1.7%	-1.9%	-2.1%	-2.3%	-2.6%
Whole sale price	-4.1%	-5.2%	-4.3%	-3.8%	-3.8%	-4.2%	-4.5%	-4.9%	-5.2%
WMP									
Production	0.7%	-5.0%	-9.4%	-11.2%	-12.8%	-14.9%	-17.3%	-20.0%	-23.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	-0.4%	-1.7%	-2.8%	-3.4%	-3.7%	-4.0%	-4.3%	-4.6%	-4.9%
Domestic use	0.0%	0.6%	1.2%	1.6%	1.6%	1.7%	1.7%	1.8%	1.8%
Whole sale price	0.0%	-3.3%	-6.8%	-8.4%	-9.2%	-9.8%	-10.5%	-11.2%	-12.0%

Source: Slovak AGMEMOD model (2006*)*

19 Slovenia

Emil Erjavec, Stane Kavcic and Darja Regoršek, University of Ljubljana, Biotechnical Faculty (LJUB), Ljubljana

19.1 Baseline

Table 19.1 shows the projections for the macroeconomic variables that underlie the Slovene AGMEMOD model's Baseline and scenario projections up to 2015.

Table 19.1 : Assumptions on macroeconomic variables for Slovenia

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9
GDP	bil. Euro97	21	27	28	29	30	31	31	32	33	34	35	36
GDP per capita	Euro97/cap	10552	13694	14166	14641	15117	15596	16078	16561	17047	17533	18015	18494
Inflation	1997=1	1.06	1.19	1.22	1.25	1.28	1.31	1.34	1.37	1.40	1.43	1.46	1.48

Source: Statistical office of the Republic of Slovenia, Bank of Slovenia, Institute of Macroeconomic Analysis and Development

The 2003 CAP reform changed the direct payments that apply to common market organisations (CMO) for cereals, oilseeds, livestock and dairy sectors. From 2007, the year that the Single Farm Payments (SFP) will be introduced in Slovenia, direct payments will no longer be linked to land usage or animal production. For this reason most medium-term projections in this country report are expressed relative to projected 2007 values. Payments under the SFP will be dependent on the observance of cross-compliance conditions by farmers and on "good farming practice". However, in the Baseline scenario it is assumed that decoupled payments will still induce impacts on supply in the Slovene agricultural sector. The intensity of these impacts will be determined by the distributional effects of payments to other sectors in comparison with entitled hectares and/or number of animals in the reference period, from 2013/14 by (compulsory) modulation effects and by shift rate effects. Table 19.2 shows derived multipliers, which reflect these effects on supply in the Slovene agricultural sector. They simulate the effect of SFP by reducing the amounts of direct payments (as used under the old scheme in EU15) to 'synthetic' premium levels.

Table 19.2 : Supply-inducing multipliers of Slovene agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	0,75	0,85	0,90	0,95	1,00	1,00	1,00	1,00	0,97	0,95	0,92	0,92
Oilseeds	index	0,75	0,85	0,90	0,95	1,00	1,00	1,00	1,00	0,97	0,95	0,92	0,92
Suckler cows	index	0,75	0,85	0,90	0,95	0,85	0,85	0,85	0,85	0,85	0,84	0,84	0,84
Milk	index	0,75	0,85	0,90	0,95	0,99	0,99	0,99	0,99	0,98	0,97	0,96	0,96
Maize	index	0,75	0,85	0,90	0,95	1,00	1,00	1,00	1,00	0,97	0,95	0,92	0,92
Ewes	index	0,75	0,85	0,90	0,95	1,29	1,29	1,29	1,29	1,29	1,28	1,27	1,27
Sheep	index	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulls	index	0,75	0,85	0,90	0,95	0,93	0,93	0,93	0,93	0,92	0,92	0,92	0,92
Adult slaughtering	index	0,75	0,85	0,90	0,95	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Calves slaughtering	index	0,75	0,85	0,90	0,95	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

Source: Own calculations

Grain sectors

In Slovenia decoupling from grain production (soft wheat, barley, maize) is not expected to lead to significantly lower receipts from grain production. In the Baseline scenario Slovene grain prices are projected to increase between 2007 and 2015 due to rising EU and world market prices. The combination of these two forces will lead to a small increase in the barley and maize area harvested, while soft wheat area harvested will remain stable in this period. Productivity per hectare is projected to increase due to significant technological progress.

Soft wheat and barley yields per hectare are projected to increase by 15% in 2015 compared with 2007, maize yields by 17%. In 2015 Slovene total grain production will be 19% higher than it was in 2007.

On the other hand, Slovene total domestic use of grains in 2015 will be slightly down (nearly 1%) compared to 2007 due to increases in prices and a decrease in livestock production. Soft wheat feed use will be rather stable, feed demand for maize will fall, and barley feed demand will rise significantly. By 2015 food use per capita will increase in the case of maize and barley and will remain quite stable for soft wheat relative to the 2007 level. Slovene net imports of soft wheat and maize are projected to decline noticeably, while barley net imports are assumed to grow.

Livestock and dairy sectors

In Slovenia the suckler herd is expected to decline in the projected period due to the decoupling of beef production under the CAP reform. Ending stocks of suckler cows are projected to be 11 000 lower in 2015 than in 2007. For the Baseline, this sharp decline in beef cow numbers leads to a reduced level of cattle slaughtered (down almost 11%). Live imports are projected to increase. Reduced suckler cow ending numbers diminish average cattle slaughter weight by almost 1% in 2015 compared to 2007. The reduced number of animals slaughtered and lower average slaughter weights lead to a steep decline in total beef production (more than 12%) in 2015 compared with 2007.

Over the Baseline projection period, EU beef prices are assumed to increase due to decoupling, leading to an increase in beef prices of approximately 4% and 1% in 2015 compared with the level in 2005 and 2007, respectively. Increased beef prices, changes in the prices of other meats and a downward trend in per capita Slovene beef consumption, all lead to a decline in Slovene total domestic beef demand by 6% in 2015 in comparison with 2007.

CAP reform, agreed in 2003, does not affect the pig and poultry sector directly; however the impact of the reform in these two sectors is also noticeable. Firstly, the distribution of consumers' total meat expenditure among purchases of different sorts of meat has changed, due to changes in the relative price of meats that compete with pork and poultry (induced by the CAP reform). Secondly, CAP reform changes the price of inputs (grains and oilseeds) used in these two sectors. For the Baseline, pork production in Slovenia is declining during the projected period, i.e. by 7% in 2015 compared to 2007. A 6% decrease in the total number of pigs slaughtered in Slovenia slightly reduces the average slaughter weight of Slovene pigs. A significant increase in pork price (by over 10% in 2015 compared to 2007) reflects higher input costs (most noticeably feed costs), while real producer incentive prices decline strongly. Throughout the Baseline period, Slovene poultry production decreases by a moderate amount due to declining poultry prices. In 2015 poultry production is assumed to be nearly 4% lower than in 2007, while domestic consumption of poultry meat will increase by more than 7%.

Reductions in butter intervention prices will lower Slovene butter prices – in 2015 the butter price will be down over 8% relative to the 2005 level. Nevertheless, Slovene butter production has a slight upward trend in the projected period. This development shows the rigidity of the Slovene dairy industry in terms of a product mix which cannot easily be altered given the composition of existing dairy processing plants. The change in the intervention price of butter leads to price reductions for dairy commodities, with the exception of cheese. Cheese production shows a slight downward trend, mainly due to decreasing production of

raw milk. This decrease in raw milk production is a response to the declining producer price of milk. Despite lower milk prices, Slovene per capita consumption of milk continues to decline. On the other hand, Slovene consumers will tend to consume a little more butter and cheese in the projection period despite the projected rise in prices. Table 19.4 summarises the Baseline projections for the main agricultural commodities in Slovenia.

Agricultural income

Although the Slovene AGMEMOD country model covers only a restricted set of agricultural commodity outputs and includes feedstuffs as the sole input variable, it is possible to proxy the development of Slovene gross agricultural sector income. Considering these limitations, we project Slovene gross agricultural sector income based on agricultural output value, subsidies allocated to Slovene producers of AGMEMOD commodities (direct payments and SFP) and feed costs. CAP Pillar 2 payments are omitted from these estimates.

Table 19.3 : Agricultural output, subsidies, feed cost and gross income in Slovenia[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1,00	1,01	1,00	0,97	0,96	0,96	0,96	0,95	0,94	0,95	0,95	0,96
Subsidies/SFP	2005=1	0,28	1,00	1,13	1,27	1,59	1,59	1,59	1,59	1,56	1,52	1,49	1,49
Feeding costs	2000=1	1,00	0,97	0,98	0,98	0,99	0,99	0,99	0,99	0,99	1,00	1,00	1,01
Gross agric. income	2000=1	1,00	1,19	1,20	1,19	1,25	1,25	1,24	1,23	1,21	1,21	1,20	1,21

[1)] Output, subsidies, costs and income are related to the commodities analysed in the study carried out for IPTS
Source: Own calculations

The share of subsidies (direct payments and SFP) in total agricultural output value is projected to increase from 4% in 2000, to 17% in 2007 and to 20% by 2015. This is mostly due to a gradual increase in payments since 2000, which will stabilise in 2007/2008. From 2013 onwards the effects of compulsory modulation in Slovenia are factored in. In 2015, when compared to 2006, agricultural output value is assumed to fall by 4% due to a reduced volume of output in the livestock and milk sectors. Despite the decline in livestock production, feed costs will increase due to the growth in grain prices in the Baseline projections. These developments are reflected by relatively stable gross agricultural income during the projected period, with a slight peak expected between 2008 and 2011.

Table 19.4 : Baseline results concerning main agricultural commodities of Slovenia

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	556	626	640	652	669	670	699	713	727	742	757	773
Domestic use	1,000 ton	1008	1035	1039	1031	1025	1025	1025	1025	1025	1023	1023	1024
Soft wheat													
Production	1,000 ton	170	190	195	201	203	206	210	214	219	223	226	229
Domestic use	1,000 ton	285	278	278	278	278	278	277	276	276	275	275	274
Producer price	euro/ton	129	124	124	126	128	127	127	127	127	128	128	128
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	37	43	43	43	44	46	47	49	49	50	51	53
Domestic use	1,000 ton	123	134	136	137	139	141	143	145	147	149	151	152
Producer price	euro/ton	104	94	95	97	100	100	100	101	101	102	103	105
Maize													
Production	1,000 ton	349	393	401	408	421	433	442	450	460	469	480	491
Domestic use	1,000 ton	600	623	626	616	608	606	605	604	602	600	598	597
Producer price	euro/ton	104	92	92	94	96	96	96	96	95	96	96	96
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Rapeseed													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	48	60	60	53	49	49	48	48	48	47	47	47
Domestic use	1,000 ton	46	45	44	44	43	43	43	43	42	42	41	41
Producer price	euro/100 kg	255	249	246	256	259	254	251	250	251	253	256	260
Pig meat													
Production	1,000 ton	68	67	67	66	65	64	64	63	63	62	61	61
Domestic use	1,000 ton	79	79	79	79	78	77	76	76	76	75	75	74
Producer price	euro/100 kg	167	153	143	144	150	153	156	153	149	152	156	158
Poultry meat													
Production	1,000 ton	55	55	55	54	54	53	53	53	52	52	52	52
Domestic use	1,000 ton	47	49	49	50	51	51	51	52	52	53	53	54
Producer price	euro/100 kg	118	122	120	118	118	117	116	114	112	111	110	109
Sheep meat													
Production	1,000 ton	1	2	2	2	2	3	3	3	3	3	3	3
Domestic use	1,000 ton	2	2	2	3	3	3	3	3	3	3	3	3
Producer price	euro/100 kg	407	382	382	381	381	381	381	381	380	380	380	379
Fluid milk													
Production-quota	1,000 ton	575	564	571	572	569	567	564	560	555	550	545	539
Domestic use	1,000 ton	470	460	467	468	466	464	462	459	455	451	447	443
Whole sale price	euro/100 kg	29	27	27	26	26	26	26	26	26	27	27	27
Butter													
Production	1,000 ton	5	6	7	7	7	7	8	8	8	8	8	8
Domestic use	1,000 ton	2	2	2	2	2	2	3	3	3	3	3	3
Whole sale price	euro/100kg	343	310	288	281	284	282	281	281	282	283	284	285
SMP													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Whole sale price	euro/100kg	0	0	0	0	0	0	0	0	0	0	0	0
WMP													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Whole sale price	euro/100kg	0	0	0	0	0	0	0	0	0	0	0	0
Cheese													
Production	1,000 ton	24	24	25	25	24	24	24	24	24	24	23	23
Domestic use	1,000 ton	20	20	21	21	22	22	22	23	23	24	24	24
Whole sale price	euro/100kg	517	518	521	512	512	518	519	518	519	521	524	527

Source: Slovene AGMEMOD Model (2006)

19.2 Further CAP Reform (FCR)

While the general concept of the CAP reform is the adoption of full decoupling from 2005 onwards, Member States (MS) may maintain a proportion of direct aids to farmers in their existing form, notably where they believe there may be a disturbance to agricultural markets or the abandonment of production as a result of the move to the single payment scheme. The MS may also apply a number of options, at national or regional level, but only under well-defined conditions and within clear limits. Another key element of CAP 2003 reform is modulation – direct payments to bigger farms will be reduced (`modulated`) by 3% in 2005, 4% in 2006 and 5% from 2007 onwards. Direct payments up to the amount of € 5 000 per farm will remain free of reductions.

The 'Further CAP reform' scenario, as described in Report III AGMEMOD - Model description, assumes i) that all MS fully decouple all direct payments that are currently linked to agricultural production from 2007 onwards and ii) doubling the percentage of compulsory modulation provisions of the Luxembourg Agreement from 2007 onward (for EU-15) or from 2013 (for EU-10).

Slovenia has already decoupled almost all direct payments previously linked to production and will, from 2007 onwards, introduce an SPS that is partially based on historical entitlements. Slovene farmers receiving single farm payments (SFP) in excess of € 5 000 will, like farmers in the EU15 MS, be subject to modulation. The modulation effects in Slovenia will be postponed until 2013, as in other EU-10. Unlike some other EU MS, there is no voluntary modulation of SFP in Slovenia. To sum up, the FCR scenario in the case of Slovenia assumes i) full decoupling is introduced from 2007 onwards and ii) a doubling in the rate of compulsory modulation is introduced from 2013 onwards.

Such a CAP reform scenario, *a priori*, would not be expected to have a major impact on the supply and use of agricultural commodities in Slovenia since Slovenia will retain only a small proportion (in terms of national envelope) of previously coupled direct payments. It is expected that a further decline in the coupling rate in beef as well as in the sheep and goat sectors would have some (negative) impact on the supply of certain agricultural commodities. However, we expect that differences in the FCR scenario outcome when compared with the Baseline results are, with the exception of the sheep and goat sectors, rather limited. On a large scale, full decoupling in all MS would probably significantly alter the supply and use balance in EU agricultural commodity markets since at present many MS still maintain direct payments linked to production. In such cases, the supply and use balance at the EU level might be expected to reduce production of those agricultural commodities that are still subject to coupled direct payments, which could have some positive impact on the EU market prices for agricultural commodities.

Main Results

The impact of full decoupling on Slovene agricultural commodity markets is reflected in prices for Slovene agricultural commodities and their supply and use. However, the implementation of full decoupling in all MS leads to only small increases in such prices. In Table 19.5 and Table 19.6 the Slovene AGMEMOD model's projections for the FCR scenario are compared with the Baseline projections discussed earlier.

Table 19.5 : Slovenia: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0,0%	0,0%	0,1%	0,0%	0,0%	0,0%	0,0%	-0,1%	-0,1%
Domestic use	-0,3%	-0,4%	-0,4%	-0,4%	-0,4%	-0,4%	-0,4%	-0,4%	-0,4%
Soft wheat									
Production	0,0%	0,0%	-0,1%	-0,1%	-0,1%	-0,1%	-0,1%	-0,1%	-0,2%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Durum wheat									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Barley									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	-0,1%	-0,1%	-0,1%
Domestic use	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Maize									
Production	0,0%	0,0%	0,1%	0,1%	0,1%	0,1%	0,0%	0,0%	0,0%
Domestic use	-0,5%	-0,6%	-0,6%	-0,6%	-0,6%	-0,6%	-0,6%	-0,6%	-0,6%
Producer price	0,1%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%
Rye									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Other grains									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Total oilseeds									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Rapeseed									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Sunflower									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Soybeans									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Beef and veal									
Production	-1,4%	-2,7%	-2,7%	-2,7%	-2,6%	-2,6%	-3,0%	-3,2%	-3,2%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%	0,3%	0,2%
Pig meat									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Poultry meat									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Sheep meat									
Production	-2,5%	6,9%	12,7%	16,5%	18,9%	20,5%	21,7%	21,6%	21,1%
Domestic use	0,0%	-1,3%	3,7%	6,9%	9,0%	10,4%	11,3%	12,0%	11,9%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Fluid milk									
Production-quota	-1,6%	-1,7%	-1,6%	-1,6%	-1,5%	-1,5%	-1,5%	-1,4%	-1,4%
Domestic use	-1,7%	-1,7%	-1,7%	-1,6%	-1,6%	-1,5%	-1,5%	-1,4%	-1,4%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Butter									
Production	-3,9%	-3,9%	-3,8%	-3,6%	-3,5%	-3,3%	-3,3%	-3,2%	-3,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
SMP									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
WMP									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Cheese									
Production	-1,9%	-2,0%	-1,9%	-1,9%	-1,8%	-1,7%	-1,7%	-1,7%	-1,6%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%

Source: Slovene AGMEMOD Model (2006)

Grains sectors

The FCR scenario results imply that EU grain prices would slightly increase due to full decoupling of arable aid direct payments in all MS and due to world market trends. In

Slovenia prices of grain commodities in FCR scenario change between 2% (soft wheat) and 7% (barley), which are similar to the price changes in the Baseline. Moreover, when we compare these results with the Baseline results the changes are relatively insignificant. In the case of the Slovene grain sector this can be explained by the full decoupling assumption already applied in Baseline scenario.

In general, a cereal price increase leads (*ceteris paribus*) to a decrease in the domestic use of cereals. Such a reduction in domestic use (relative to the Baseline) occurs, but the overall level of Slovene grain domestic use in 2015 is only 0.4 % lower in the FCR scenario when compared with the Baseline results.

Livestock and dairy sectors

The impact of the FCR scenario on Slovene livestock markets when compared to the Baseline projections is significant in the beef, sheep and goat sectors, while under the Baseline scenario they retain some coupled payments. Similar to the result in the Slovene grains sector, full decoupling in all other MS leads to some livestock price increases, particularly beef, which is *a priori* expected to have a positive impact on beef production. These impacts are, however, more than offset by the impact of full decoupling. Slovene beef production declines under the FCR scenario when compared with the Baseline by 3.2%. By contrast, lamb production would expand by more than 20% due to higher regional (grassland) payments under the FCR scenario, which would stimulate predominantly low-intensity sheep and goat production in Slovenia. Pig meat and poultry meat production are mostly unchanged. Higher beef prices lead to rather small increases in the domestic use of pork and poultry under the FCR scenario when compared with the Baseline.

The impact of the reform of the dairy commodity market organisation under the Baseline is not significantly affected by the reforms examined under the FCR scenario. Historical payments to producers would be replaced by regional payments not tied to dairy farmers, resulting in an additional decrease of milk production of around 1.5%. The increased rate of modulation during 2013-2015 (for Slovenia) of SFP is not projected to lead to any contraction in the total volume of milk produced in Slovenia. Slovene milk production is therefore projected to fall, but the decrease under the FCR scenario from 2008 onward is expected to be more moderate compared with the Baseline scenario. In any event, this will result in lower production of dairy commodities than under Baseline.

Agricultural income

The increases in the prices of agricultural output that occur under the FCR scenario are insufficient to offset the negative impact of decoupling on agricultural production. The magnitude of the price and production volume change is projected to result in a 0.6% lower value of agricultural production in 2015 under the FCR scenario when compared with the 2015 Baseline projections. Slovene agricultural sector income decreases under the FCR scenario (Table 19.6). This is due to the decline in the value of output and only a small decline in feed costs, resulting from the increased prices of grains.

Table 19.6 : Slovenia Agricultural output and income FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-0,9%	-0,9%	-0,8%	-0,7%	-0,6%	-0,5%	-0,6%	-0,6%	-0,6%
Subsidies/SFP	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Feeding costs	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%
Gross agric. income	-0,9%	-0,9%	-0,8%	-0,7%	-0,6%	-0,5%	-0,6%	-0,6%	-0,6%

Source: Slovene AGMEMOD Model (2006)

19.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate was a projected US$ 1.24 per euro from 2007 onwards. In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro (when compared with the Baseline assumptions) with an exchange rate of 1.30 and 1.40 US dollar per euro in 2007. The third is for the euro to depreciate (when compared with the Baseline) to a parity exchange rate of US$ 1.00 per euro.

Slovenian prices are not key market prices in the AGMEMOD model's structure. Thus the alternative exchange rate paths examined in these scenarios operate through the impact of the different exchange rates examined on the key commodity price projections generated by the AGMEMOD model.

The AGMEMOD model does not endogenously model prices for a number of commodities, such as oilseeds and their associated meals and oils. Supply-inducing prices for European farmers are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products any change in the exchange rate will have a direct impact on the national currency prices and on the associated supplies of and demand for the commodity in question.

Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for Slovenia. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 19.7 to Table 19.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

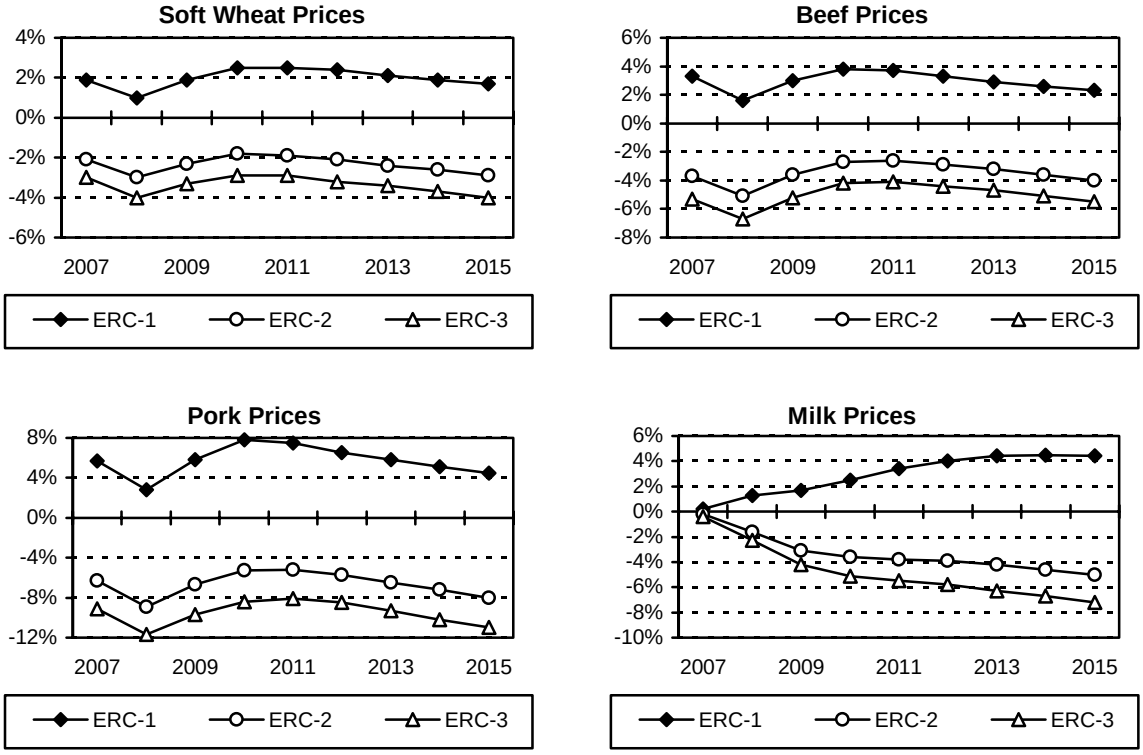
The impact of the three ERC scenarios when compared with one another and with the Baseline projections indicate that the Slovene AGMEMOD model performs as one would have expected. Key prices under the ECR-1 scenario, where the euro / US dollar exchange rate is 1.0 from 2007, are characterised by increases in prices when compared with the Baseline projections. When compared with Baseline price projections for Slovenia, prices under both the ERC-2 and ERC-3 scenarios decline as expected.

The magnitude of the changes in the key prices that are endogenously determined within the AGMEMOD modelling system are in general smaller than the percentage changes in prices that are determined exogenously to the AGMEMOD model. For those prices determined exogenously the percentage change in the exchange rate from Baseline levels is fully reflected in the euro prices for these commodities. The impact of the changed exchange rate on the commodity prices determined endogenously by the AGMEMOD modelling system is

moderated by the endogenous response of EU supply and demand for these agricultural commodities.

Figure 19.1 charts the percentage change in four Slovene prices under each of the three ERC scenarios. The commodity prices chosen for Slovenia are soft wheat, beef, pork and milk. The prices are endogenously determined in the AGMEMOD model.

Figure 19.1 : Slovene Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: Slovene AGMEMOD Model (2006)

When the projections for Slovene commodity markets under the ECR-1 scenario are compared with those under the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in the production of most agricultural commodities and somewhat reduced domestic use.

The two exchange rate change scenarios, labelled ECR-2 and ECR-3, involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under ECR-2 the exchange rate is 1.3, while under ECR-3 it is assumed to be 1.4 from 2007.

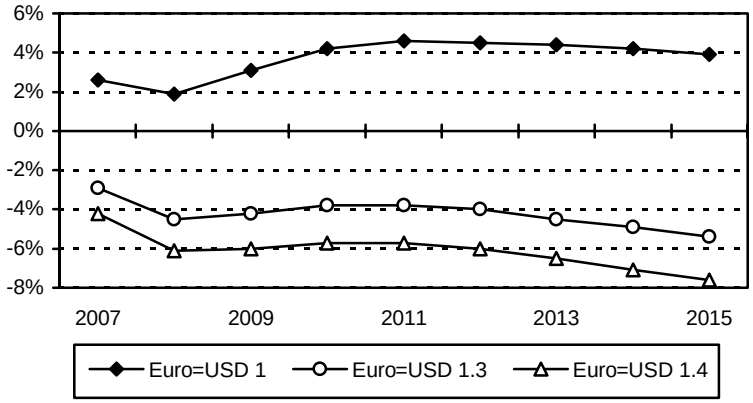
As in the ECR-1 scenario the impact of the exchange rate changes in the ECR-2 and ECR-3 scenarios are most fully expressed in the prices of those commodities exogenous to the AGMEMOD model system. For the majority of agricultural commodities in the AGMEMOD modelling system prices are determined endogenously together with all of the elements of supply and use balances. Under each of the scenarios market prices in Slovenia are projected to be lower than under the Baseline. Lower prices are mostly associated with reduced production and increased consumption. Due to cross-sectoral effects, the changes projected are not completely uniform. The relative magnitude of the impacts on prices and supply and use balances is, as expected, greater under the ECR-3 scenario than under ECR-2. As noted

above, summaries of the three ERC scenario projections are presented in Table 19.7 to Table 19.9.

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. The main influence on gross agricultural income (*ceteris paribus*) arises from the agricultural output value. Higher prices and production levels in the ERC-1 scenario would lead to increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 19.2).

Figure 19.2 : Slovenia: Gross agriculture income in ERC Scenarios (% Δ from Baseline)



Source: Slovene AGMEMOD Model (2006)

Table 19.7 : Slovenia: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0,0%	0,4%	0,5%	0,4%	0,6%	0,6%	0,6%	0,5%	0,4%
Domestic use	0,2%	0,3%	0,5%	0,7%	0,9%	0,9%	1,0%	0,9%	0,9%
Soft wheat									
Production	0,0%	-1,2%	-0,7%	-1,3%	-1,7%	-1,6%	-1,4%	-1,3%	-1,2%
Domestic use	0,2%	0,3%	0,4%	0,6%	0,7%	0,7%	0,7%	0,6%	0,6%
Producer price	1,91%	0,96%	1,94%	2,49%	2,54%	2,35%	2,14%	1,93%	1,70%
Durum wheat									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Barley									
Production	0,0%	3,2%	1,8%	3,5%	4,7%	4,6%	4,0%	3,7%	3,3%
Domestic use	0,5%	0,5%	0,7%	1,0%	1,1%	1,2%	1,1%	1,0%	1,0%
Producer price	1,9%	1,7%	2,6%	3,5%	3,9%	3,9%	3,6%	3,3%	3,0%
Maize									
Production	0,0%	0,9%	0,6%	0,9%	1,2%	1,2%	1,1%	1,0%	0,9%
Domestic use	0,1%	0,3%	0,4%	0,7%	0,9%	1,0%	1,1%	1,1%	1,0%
Producer price	2,0%	1,7%	2,6%	3,4%	3,8%	3,6%	3,3%	3,0%	2,6%
Rye									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Other grains									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Total oilseeds									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Rapeseed									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Sunflower									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Soybeans									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Beef and veal									
Production	0,8%	0,8%	0,8%	1,1%	1,1%	1,0%	0,8%	0,7%	0,6%
Domestic use	0,0%	0,6%	0,4%	0,7%	0,9%	0,9%	0,7%	0,7%	0,6%
Producer price	3,7%	1,8%	3,4%	4,2%	4,1%	3,6%	3,2%	2,9%	2,5%
Pig meat									
Production	0,2%	0,6%	0,9%	1,3%	1,7%	2,0%	2,2%	2,2%	2,2%
Domestic use	-0,4%	-0,1%	-0,4%	-0,6%	-0,5%	-0,4%	-0,4%	-0,3%	-0,3%
Producer price	5,5%	2,7%	5,6%	7,5%	7,3%	6,3%	5,6%	5,0%	4,3%
Poultry meat									
Production	-0,1%	0,1%	-0,1%	-0,1%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,1%	0,0%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Producer price	0,6%	1,1%	1,0%	1,5%	1,8%	1,7%	1,5%	1,4%	1,2%
Sheep meat									
Production	0,0%	0,0%	0,0%	-0,1%	-0,1%	-0,1%	-0,1%	-0,1%	-0,1%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	-0,1%	-0,1%	-0,1%	-0,1%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Fluid milk									
Production-quota	-0,1%	0,2%	0,2%	0,3%	0,5%	0,6%	0,7%	0,7%	0,7%
Domestic use	-0,1%	0,2%	0,2%	0,3%	0,5%	0,7%	0,7%	0,8%	0,7%
Whole sale price	0,2%	1,3%	1,7%	2,5%	3,4%	4,0%	4,4%	4,5%	4,4%
Butter									
Production	-0,3%	0,5%	0,6%	0,9%	1,4%	1,8%	2,0%	2,0%	2,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	1,4%	0,7%	1,4%	1,7%	1,8%	1,6%	1,5%	1,3%	1,1%
SMP									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
WMP									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Cheese									
Production	-0,2%	0,3%	0,4%	0,6%	0,9%	1,2%	1,3%	1,4%	1,3%
Domestic use	0,0%	-0,6%	-0,8%	-1,1%	-1,5%	-1,7%	-1,9%	-1,9%	-1,8%
Whole sale price	0,0%	1,5%	1,8%	2,8%	3,9%	4,8%	5,3%	5,4%	5,4%

Source: Slovene AGMEMOD Model (2006)

Table 19.8 : Slovenia: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0,0%	-0,4%	-1,3%	-0,6%	-0,5%	-0,4%	-0,5%	-0,5%	-0,6%
Domestic use	-0,2%	-0,6%	-0,8%	-0,8%	-0,9%	-0,9%	-0,9%	-1,0%	-1,1%
Soft wheat									
Production	0,0%	1,3%	2,0%	1,5%	1,2%	1,1%	1,2%	1,4%	1,6%
Domestic use	-0,2%	-0,6%	-0,7%	-0,6%	-0,6%	-0,6%	-0,7%	-0,7%	-0,8%
Producer price	-2,1%	-3,0%	-2,2%	-1,8%	-1,9%	-2,1%	-2,4%	-2,6%	-2,9%
Durum wheat									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Barley									
Production	0,0%	-3,4%	-5,2%	-4,1%	-3,4%	-3,2%	-3,5%	-3,9%	-4,4%
Domestic use	-0,6%	-1,1%	-1,1%	-1,0%	-1,0%	-1,1%	-1,1%	-1,2%	-1,3%
Producer price	-2,1%	-3,8%	-3,8%	-3,3%	-3,1%	-3,3%	-3,6%	-4,1%	-4,5%
Maize									
Production	0,0%	-1,0%	-1,5%	-1,2%	-0,9%	-0,9%	-1,0%	-1,1%	-1,2%
Domestic use	-0,2%	-0,5%	-0,7%	-0,9%	-0,9%	-1,0%	-1,0%	-1,1%	-1,2%
Producer price	-2,2%	-3,9%	-3,6%	-3,0%	-2,9%	-3,1%	-3,4%	-3,8%	-4,1%
Rye									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Other grains									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Total oilseeds									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Rapeseed									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Sunflower									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Soybeans									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Beef and veal									
Production	-0,8%	-1,6%	-1,3%	-0,8%	-0,7%	-0,8%	-0,9%	-1,0%	-1,1%
Domestic use	0,0%	-0,7%	-1,1%	-0,8%	-0,6%	-0,6%	-0,6%	-0,7%	-0,8%
Producer price	-4,0%	-5,6%	-3,9%	-3,0%	-2,9%	-3,2%	-3,6%	-4,0%	-4,4%
Pig meat									
Production	-0,2%	-0,9%	-1,5%	-1,8%	-1,9%	-2,0%	-2,1%	-2,3%	-2,5%
Domestic use	0,4%	0,5%	0,4%	0,4%	0,4%	0,4%	0,4%	0,5%	0,6%
Producer price	-6,0%	-8,6%	-6,5%	-5,1%	-5,0%	-5,5%	-6,3%	-7,0%	-7,8%
Poultry meat									
Production	0,1%	0,0%	-0,1%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	-0,1%	-0,2%	-0,1%	-0,1%	-0,1%	-0,1%	-0,1%	-0,1%	-0,1%
Producer price	-0,8%	-2,0%	-2,0%	-1,5%	-1,3%	-1,4%	-1,6%	-1,8%	-2,0%
Sheep meat									
Production	0,0%	0,0%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Domestic use	0,0%	0,0%	0,0%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Fluid milk									
Production-quota	0,1%	-0,1%	-0,5%	-0,6%	-0,7%	-0,7%	-0,7%	-0,7%	-0,8%
Domestic use	0,1%	-0,1%	-0,5%	-0,7%	-0,7%	-0,7%	-0,7%	-0,7%	-0,8%
Whole sale price	-0,2%	-1,6%	-3,1%	-3,6%	-3,8%	-3,9%	-4,2%	-4,5%	-4,9%
Butter									
Production	0,3%	-0,3%	-1,3%	-1,7%	-1,8%	-1,8%	-1,9%	-2,0%	-2,1%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	-1,5%	-2,2%	-1,6%	-1,2%	-1,3%	-1,4%	-1,6%	-1,8%	-2,0%
SMP									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
WMP									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Cheese									
Production	0,2%	-0,2%	-0,8%	-1,1%	-1,2%	-1,2%	-1,2%	-1,3%	-1,4%
Domestic use	0,0%	0,7%	1,5%	1,7%	1,7%	1,7%	1,8%	1,8%	1,9%
Whole sale price	0,0%	-1,6%	-3,6%	-4,3%	-4,5%	-4,7%	-5,0%	-5,4%	-5,9%

Source: Slovene AGMEMOD Model (2006)

Table 19.9 : Slovenia: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0,0%	-0,6%	-1,8%	-0,8%	-0,7%	-0,7%	-0,7%	-0,8%	-0,8%
Domestic use	-0,3%	-0,8%	-1,1%	-1,2%	-1,3%	-1,3%	-1,4%	-1,5%	-1,6%
Soft wheat									
Production	0,0%	2,0%	2,7%	2,2%	1,9%	1,8%	1,8%	2,1%	2,3%
Domestic use	-0,4%	-0,8%	-0,9%	-0,9%	-0,9%	-0,9%	-1,0%	-1,0%	-1,1%
Producer price	-3,0%	-4,0%	-3,2%	-2,8%	-2,9%	-3,2%	-3,4%	-3,7%	-3,9%
Durum wheat									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Barley									
Production	0,0%	-5,0%	-6,8%	-5,9%	-5,3%	-5,1%	-5,2%	-5,7%	-6,3%
Domestic use	-0,8%	-1,4%	-1,5%	-1,5%	-1,5%	-1,6%	-1,7%	-1,8%	-1,8%
Producer price	-3,0%	-5,2%	-5,3%	-4,9%	-4,8%	-5,0%	-5,4%	-5,8%	-6,3%
Maize									
Production	0,0%	-1,4%	-2,0%	-1,7%	-1,5%	-1,4%	-1,5%	-1,6%	-1,7%
Domestic use	-0,2%	-0,7%	-1,0%	-1,3%	-1,4%	-1,5%	-1,5%	-1,6%	-1,8%
Producer price	-3,2%	-5,3%	-5,1%	-4,6%	-4,5%	-4,7%	-5,0%	-5,4%	-5,7%
Rye									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Other grains									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Total oilseeds									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Rapeseed									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Sunflower									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Soybeans									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Producer price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Beef and veal									
Production	-1,2%	-2,2%	-1,8%	-1,3%	-1,2%	-1,2%	-1,3%	-1,4%	-1,5%
Domestic use	0,0%	-1,0%	-1,4%	-1,2%	-1,0%	-1,0%	-1,0%	-1,1%	-1,1%
Producer price	-5,9%	-7,4%	-5,7%	-4,7%	-4,6%	-4,8%	-5,2%	-5,6%	-6,0%
Pig meat									
Production	-0,3%	-1,2%	-2,0%	-2,5%	-2,8%	-3,0%	-3,1%	-3,4%	-3,6%
Domestic use	0,6%	0,7%	0,6%	0,6%	0,6%	0,5%	0,6%	0,7%	0,8%
Producer price	-8,8%	-11,3%	-9,3%	-8,1%	-7,9%	-8,2%	-9,1%	-9,9%	-10,6%
Poultry meat									
Production	0,1%	0,0%	-0,1%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	-0,2%	-0,2%	-0,2%	-0,1%	-0,1%	-0,1%	-0,1%	-0,2%	-0,2%
Producer price	-1,2%	-2,8%	-2,8%	-2,3%	-2,1%	-2,2%	-2,4%	-2,6%	-2,8%
Sheep meat									
Production	0,0%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,2%
Domestic use	0,0%	0,0%	0,0%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Producer price	0,0%	0,0%	-0,1%	-0,1%	-0,1%	-0,1%	-0,1%	-0,1%	-0,1%
Fluid milk									
Production-quota	0,2%	-0,2%	-0,6%	-0,9%	-1,0%	-1,0%	-1,0%	-1,1%	-1,1%
Domestic use	0,2%	-0,1%	-0,6%	-0,9%	-1,0%	-1,0%	-1,1%	-1,1%	-1,1%
Whole sale price	-0,4%	-2,3%	-4,2%	-5,1%	-5,5%	-5,8%	-6,2%	-6,7%	-7,2%
Butter									
Production	0,4%	-0,5%	-1,8%	-2,4%	-2,6%	-2,7%	-2,8%	-2,9%	-3,1%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	-2,2%	-3,0%	-2,3%	-1,9%	-2,0%	-2,2%	-2,4%	-2,5%	-2,7%
SMP									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
WMP									
Production	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Domestic use	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Whole sale price	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Cheese									
Production	0,3%	-0,3%	-1,1%	-1,5%	-1,7%	-1,8%	-1,9%	-2,0%	-2,1%
Domestic use	0,0%	1,0%	2,0%	2,4%	2,5%	2,5%	2,6%	2,7%	2,8%
Whole sale price	0,0%	-2,3%	-4,9%	-6,0%	-6,6%	-7,0%	-7,5%	-8,0%	-8,6%

Source: Slovene AGMEMOD Model (2006)

20 Spain

Azucena Gracia, Agri-food Centre for Research and Technology (CITA), Zaragoza (Spain)

20.1 Baseline

Table 20.1 shows the specific projections of the macroeconomic variables for Spain that underlie the model's Baseline and scenario projections up to 2015.

Table 20.1 : Assumptions on macroeconomic variables for Spain

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	Million	40.3	42.9	43.5	44.0	44.3	44.5	44.7	44.9	45.1	45.2	45.4	45.5
GDP	bil. Euro97	535	608	624	640	656	672	689	706	724	742	760	779
GDP per capita	Euro97/cap	13298	14156	14355	14545	14814	15103	15409	15728	16057	16397	16749	17112
GDP deflator	1997=1	1.12	1.37	1.43	1.49	1.56	1.62	1.69	1.77	1.84	1.92	2.00	2.09

Source: INE, Eurostat

In the case of Spain, the least decoupled option available under the 2003 CAP reform was chosen in order to have as many payments as possible directly linked to production, and this is reflected in the Baseline. With effect from January 2006, the year of introduction of the SFP scheme in Spain, premiums for suckler cows and calves for slaughter remain fully coupled. By contrast, premiums for bulls are fully decoupled from livestock production. However, the premiums for adult cattle slaughtering remain 40% coupled, and the premiums for ewes and sheep are partially decoupled (50%). In the cereals and oilseeds regime, arable aid payments remain 25% coupled to production. In the dairy sector the intervention prices of milk will be reduced by 15%. Dairy compensation premiums will increase from 5.75 €/t in 2005 to 17.24 €/t in 2006. These compensation payments will be fully decoupled from 2007. The milk quota is to continue until 2015.

Table 20.2 shows the derived multipliers that reflect the supply-inducing effects of payments in the Spanish agricultural sectors. These multipliers are used to simulate the effect of the SFP by reducing the amounts of direct payments (as used under the old scheme) to 'synthetic' premium levels.

Table 20.2 : Supply-inducing multipliers of Spanish agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	1.00	0.59	0.58	0.56	0.55	0.53	0.52	0.51	0.50	0.48	0.47
Oilseeds	index	1.00	1.00	0.59	0.58	0.56	0.55	0.53	0.52	0.51	0.50	0.48	0.47
Suckler cows	index	1.00	1.00	1.00	0.95	0.90	0.86	0.81	0.77	0.74	0.70	0.66	0.63
Milk	index	1.00	1.00	0.58	0.54	0.52	0.49	0.47	0.44	0.42	0.40	0.38	0.36
Maize	index	1.00	1.00	0.59	0.58	0.56	0.55	0.53	0.52	0.51	0.50	0.48	0.47
Ewes	index	1.00	1.00	0.65	0.62	0.59	0.56	0.53	0.50	0.48	0.46	0.43	0.41
Sheep	index	1.00	1.00	0.65	0.62	0.59	0.56	0.53	0.50	0.48	0.46	0.43	0.41
Bulls	index	1.00	1.00	0.61	0.58	0.55	0.52	0.49	0.47	0.45	0.42	0.40	0.38

Source: Own calculations

The multipliers depend on the distributional effects of payments:

- to other sectors compared with the hectares and animals entitlement established in the reference years (in Spain, 36% of CAP payments will go to land that was not subsidised in the reference years),
- on (compulsory) modulation effects (which will reach 15% of subsidies in 2015) and
- on shift rate effects (it is assumed that annually 2.5% of arable farmers and 5% of livestock farmers will exit the Spanish agricultural sector).

The Spanish multipliers are relatively low because – in the case of decoupling – more than one third of the subsidies in the eligible sectors in the reference period will go to other land use.

Grains and oilseed sectors

The partial decoupling of direct payments from production is projected to induce a slight decrease in the grain area harvested (-1%) and a notable decrease in the sunflower area harvested (-16%)[6]. However, the projected development in area harvested for the various cereals varies. While the harvest area is projected to decrease for soft wheat (-7%), durum wheat (-35%) and maize (-9%) over the period 2005 to 2015, for barley there is a projected increase (13%). Since the introduction of the durum wheat supplementary payment in 1993, Spanish farmers have increased their durum wheat area harvested from 200 thousand hectares in 1992 to 800 thousand hectares in 2004. Due to the partial decoupling of these payments in 2005, durum wheat will become less attractive and this would result in a significant reduction in the land used for this crop. The same comment applies, incidentally, to sunflower production. Moreover, the 2003 CAP reform leads to an increase in productivity per hectare for all grains. In particular, soft wheat, barley and maize yields are projected to increase by 1% to 2% per year from 2005 to 2015. Consequently, the production of these grain types would increase.

The higher production levels are driven by increasing grain prices. The domestic consumption of grains in Spain is also expected to grow, albeit at a slower rate than the increase in production. In particular, durum wheat feed use shows a high growth rate due to growing pig numbers, while soft wheat, barley and maize are projected to increase around 7% over the period 2005 to 2015. In addition, sunflower and soybean domestic use are projected to increase by 23% and 3% respectively from 2005 to 2015.

Livestock and dairy sectors

In Spain, the number of livestock increased steadily over the period 1980 to 2000 (the number of pigs doubled and the number of sheep and cattle rose by 85% and 37%, respectively). As a consequence, meat production over this period likewise increased. Some aspects of the livestock modelling scheme for Spain remain to be resolved, and a commentary on detailed results is not provided at this point.

The reform will not have a direct bearing on pig or poultry producers, but will affect them through the markets for meat and supplies of grains and other feed ingredients. There will be a projected increase in the production of pork (10%), poultry (10%) and lamb meat (3%). Finally, domestic use of all meats is expected to increase from 2005 to 2015. Depending on the cross price effects, the largest increase is expected for pig meat (20%) and the lowest for lamb (8%).

6 There is no soybean and rapeseed production in Spain.

Table 20.3 : Baseline results concerning main agricultural commodities of Spain

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	18136	18838	19199	19436	19719	19935	20151	20378	20611	20857	21099	21343
Domestic use	1,000 ton	24556	26016	26129	26226	26364	26626	26899	27088	27243	27420	27622	27830
Soft wheat													
Production	1,000 ton	4348	4207	4294	4419	4519	4516	4533	4557	4585	4626	4657	4688
Domestic use	1,000 ton	6663	7336	7445	7529	7581	7636	7691	7742	7790	7835	7878	7919
Producer price	euro/ton	141	128	127	127	128	129	129	129	129	129	130	130
Durum wheat													
Production	1,000 ton	1621	1721	1325	1314	1297	1257	1233	1216	1198	1175	1158	1140
Domestic use	1,000 ton	990	1180	1210	1235	1259	1284	1308	1332	1356	1380	1404	1428
Producer price	euro/ton	174	177	186	195	200	199	202	207	212	216	221	225
Barley													
Production	1,000 ton	8002	8118	8830	9000	9193	9378	9522	9662	9801	9949	10092	10232
Domestic use	1,000 ton	9051	9445	9376	9318	9341	9484	9640	9718	9765	9836	9935	10042
Producer price	euro/ton	115	100	99	100	102	103	103	104	105	106	107	109
Maize													
Production	1,000 ton	4165	4793	4749	4704	4710	4785	4864	4944	5027	5106	5192	5283
Domestic use	1,000 ton	7853	8055	8099	8144	8183	8222	8259	8296	8332	8369	8405	8441
Producer price	euro/ton	137	118	117	121	124	124	124	123	123	124	124	124
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	1089	684	624	595	579	582	581	574	567	561	556	551
Domestic use	1,000 ton	4659	4734	4775	4871	4930	4941	4968	5015	5062	5109	5153	5199
Rapeseed													
Production	1,000 ton	44	6	6	6	6	6	6	6	6	6	6	6
Domestic use	1,000 ton	47	45	45	45	45	45	45	45	45	45	45	45
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Sunflower													
Production	1,000 ton	1039	677	617	588	572	575	574	567	560	554	549	544
Domestic use	1,000 ton	1572	1668	1725	1748	1771	1811	1849	1888	1926	1966	2007	2050
Producer price	euro/ton	251	264	262	265	270	270	269	269	269	269	269	270
Soybeans													
Production	1,000 ton	6	1	1	1	1	1	1	1	1	1	1	1
Domestic use	1,000 ton	3040	3022	3005	3078	3114	3084	3074	3082	3091	3098	3101	3104
Producer price	euro/ton	246	282	270	271	279	280	279	279	280	282	284	285
Beef and veal													
Production	1,000 ton	619	651	652	651	650	647	644	639	633	626	618	611
Domestic use	1,000 ton	595	656	669	679	686	695	704	712	720	727	734	741
Producer price	euro/100 kg	271	261	258	262	265	265	263	262	261	262	264	267
Pig meat													
Production	1,000 ton	2802	3225	3150	3071	3063	3170	3294	3348	3372	3417	3485	3561
Domestic use	1,000 ton	2611	2917	2992	3057	3108	3159	3211	3274	3342	3401	3459	3517
Producer price	euro/100 kg	163	150	141	138	143	148	153	151	147	149	153	157
Poultry meat													
Production	1,000 ton	1063	1159	1173	1184	1195	1207	1219	1229	1241	1252	1264	1275
Domestic use	1,000 ton	1074	1169	1187	1204	1215	1226	1236	1247	1257	1268	1278	1289
Producer price	euro/100 kg	129	113	107	103	102	100	96	91	87	84	81	78
Sheep meat													
Production	1,000 ton	251	268	269	269	269	269	270	271	272	273	274	275
Domestic use	1,000 ton	256	268	270	274	276	278	280	281	283	285	287	289
Producer price	euro/100 kg	231	272	276	281	287	293	298	303	308	313	318	323
Fluid milk													
Production	1,000 ton	6441	6572	6556	6545	6547	6536	6521	6520	6522	6523	6523	6524
Domestic use	1,000 ton	4147	4422	4436	4461	4525	4580	4633	4702	4777	4854	4934	5017
Whole sale price	euro/100 kg	30	28	27	27	27	27	27	27	27	27	27	27
Butter													
Production	1,000 ton	56	54	53	52	52	52	52	52	52	52	52	52
Domestic use	1,000 ton	40	47	50	52	53	54	55	56	57	58	60	61
Whole sale price	euro/100kg	330	293	269	261	264	262	261	262	263	264	265	266
SMP													
Production	1,000 ton	16	18	18	19	19	20	21	21	22	22	23	23
Domestic use	1,000 ton	24	29	31	32	33	34	35	36	38	39	40	41
Whole sale price	euro/100kg	243	196	185	181	184	183	182	182	183	184	184	185
WMP													
Production	1,000 ton	10	13	13	13	13	13	13	13	13	13	13	13
Domestic use	1,000 ton	9	10	11	11	12	13	13	13	14	14	15	16
Whole sale price	euro/100kg	256	246	243	235	219	215	221	223	221	218	215	213
Cheese													
Production	1,000 ton	369	326	313	319	326	333	334	339	344	350	355	361
Domestic use	1,000 ton	372	416	432	450	464	474	488	503	518	532	545	558
Whole sale price	euro/100kg	463	464	467	457	457	464	465	464	464	467	470	474

Source: Spanish AGMEMOD Model (2006)

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities and cover feedstuffs as the sole input variable, it is possible to approximate the future level of gross agricultural sector income. This is based on projections of agricultural output value, subsidies (direct payments and SFP) and feed costs respectively for the commodities modelled.

Table 20.4 : Agricultural output, subsidies, feed cost and gross income in Spain[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.00	0.96	0.95	0.97	0.99	1.02	1.02	1.01	1.03	1.05	1.07
Subsidies/SFP	2000=1	1.00	1.04	0.80	0.79	0.79	0.78	0.78	0.77	0.77	0.76	0.75	0.75
Feeding costs	2000=1	1.00	0.90	0.89	0.94	0.97	0.97	0.97	0.98	1.00	1.01	1.02	1.03
Gross agric. income	2000=1	1.00	1.04	0.94	0.91	0.92	0.95	0.97	0.97	0.96	0.96	0.98	1.00

[1)] Output, subsidies, costs and income are related to the commodities analysed in the study carried out for IPTS
Source: Spanish AGMEMOD Model (2006)

The share of subsidies/SFP in agricultural output value for the production modelled will decrease from 21% in 2000 to 15% in 2015 (Table 20.4). From 2005 to 2015, the Baseline shows a 7% increase in agricultural output value, which is mostly due to rising prices. Feed costs have also increased by 13% due to higher grain prices. Hence, gross agricultural income is projected to decrease by 5% in the projection period (ceteris paribus returns for other agricultural commodities, other inputs, depreciation, and taxes). Some caution must be expressed regarding the way agricultural income is estimated in Spain as the current commodities modelled in the AGMEMOD model are restricted and represent a limited amount of Spanish agricultural income. Fruit, vegetables, olive oil and wine, which are important crops in terms of output value, still need to be introduced into the model.

20.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across the EU MS. Above specific amounts, SPS payments in the EU15 MS were also subject to modulation. The 'Further CAP reform' scenario, described in Report III AGMEMOD - Model description, involves effectively standardising the currently nationally differentiated MS CAP implementation plans by imposing full decoupling from 2007, while the rates of compulsory modulation that are associated with the current SPS are increased to 10% from 2007 onwards.

The "full" decoupling of all CAP direct payments and increased rates of modulation would, *a priori*, be expected to have some impact on the supply and use of some agricultural commodities because Spain previously chose a partly decoupled regime in the 2003 CAP reform package. On the other hand, raising the rate of compulsory modulation by lowering the value of the SFP would be expected to have some (negative) impact on the supply of agricultural commodities. In addition, the full decoupling of CAP payments in all EU MS would be expected to alter the supply and use balance in EU agricultural commodity markets, since many MS have chosen to only partially decouple some direct payments. At EU level full decoupling would be expected to involve the contraction of indigenous production of those agricultural commodities that are still supported by coupled direct payments in the Baseline, and to consequently have at least some positive impact on EU market prices for agricultural commodities under the FCR scenario.

The further CAP reform scenario results set out below show that the impacts on Spanish agricultural commodity markets of introducing full decoupling and the increased rates of compulsory modulation are considerable for some specific commodities such as durum wheat,

barley, maize, sunflower seed, beef and sheep meat, but are relatively modest for other commodities.

Main Results

Table 20.5 and Table 20.6 compare the Spanish AGMEMOD model's projections under the FCR scenario with the Baseline projections. The remainder of this section comments on these results.

Grains and oilseed sectors

The impact of the FCR scenario on the Spanish crop markets when compared to the Baseline projections is quite modest for most of the commodities modelled except for durum wheat and sunflower seed. Under the FCR scenario, durum wheat and maize production are expected to decrease by respectively 20% and 4% compared with the Baseline. It means that once payments are fully decoupled the rate of growth in these commodities will fall. The same development is expected for sunflower production. Under the FCR scenario, sunflower production would decrease by about 5% compared with the Baseline scenario (when it was partially decoupled). It means that the expected declining trend in sunflower production under the Baseline will continue once the payments have been fully decoupled. Actually, production could fall back to levels that were normal when there were no complementary payments for durum wheat and sunflowers.

Livestock and dairy sectors

The Baseline projections show that the number of beef cattle was expected to decrease by 6% and is expected to remain stable in the FCR scenario. However, the increase expected in the number of pigs and sheep is the same under both scenarios. For suckler cows, an increase of 2% was expected under the Baseline scenario as these animals remained fully coupled. Due to the decoupling of the suckler cow premium under the FCR scenario, the number of sucker cows would decrease by 11% compared to the Baseline. As a consequence, the production of beef and veal will further decrease under the FCR scenario. The same development is expected for sheep meat production. It means that once animal payments are fully decoupled the rate of growth in meat production is reduced.

Agricultural income

Compared to the Baseline, Spanish agricultural incomes decrease under the FCR scenario (Table 20.5), due to the lower agricultural output value.

Table 20.5: Spain: Agricultural output and income FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-1.0%	-1.3%	-1.4%	-1.5%	-1.6%	-1.6%	-1.7%	-1.7%	-1.6%
Subsidies/SFP	-22.3%	-22.7%	-23.1%	-23.5%	-24.0%	-24.4%	-25.3%	-25.8%	-26.2%
Feeding costs	-0.1%	-0.6%	-0.6%	-0.6%	-0.6%	-0.7%	-0.7%	-0.7%	-0.7%
Gross agric. income	-6.0%	-6.2%	-6.3%	-6.3%	-6.4%	-6.6%	-6.7%	-6.7%	-6.7%

Source: Spanish AGMEMOD Model (2006)

Table 20.6: Spain: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.2%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soft wheat									
Production	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	-14.8%	-15.3%	-16.2%	-16.9%	-17.6%	-18.3%	-19.3%	-20.0%	-20.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.7%	0.3%	0.4%	0.3%	0.3%	0.4%	0.3%	0.3%
Barley									
Production	3.2%	3.3%	3.5%	3.6%	3.7%	3.7%	3.8%	3.9%	4.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Maize									
Production	-1.3%	-2.2%	-2.7%	-3.1%	-3.3%	-3.5%	-3.7%	-3.9%	-4.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-4.5%	-4.6%	-4.6%	-4.7%	-4.8%	-4.8%	-4.9%	-5.0%	-5.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	-4.5%	-4.6%	-4.7%	-4.8%	-4.8%	-4.9%	-5.0%	-5.0%	-5.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-5.8%	-7.4%	-8.4%	-9.0%	-9.4%	-9.6%	-9.9%	-10.0%	-10.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.2%	0.2%	0.3%	0.3%	0.4%	0.4%	0.3%	0.3%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	-0.2%	-1.3%	-2.0%	-2.4%	-2.6%	-2.8%	-2.9%	-2.9%	-3.0%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	-0.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Spanish AGMEMOD Model (2006)

20.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is US$ 1.24 per euro from 2007 onwards. In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar against the euro, with the exchange rate moving to 1.30 and 1.40 US dollar per euro in 2007. The third is one under which the euro depreciates versus the dollar to a parity exchange rate of US$ 1.00 per euro.

Spain is not a key price in the AGMEMOD model structure. Thus, the alternative exchange rate paths examined in this scenario operate through the impact of the different exchange rates examined on the key commodity price projections generated by the AGMEMOD model.

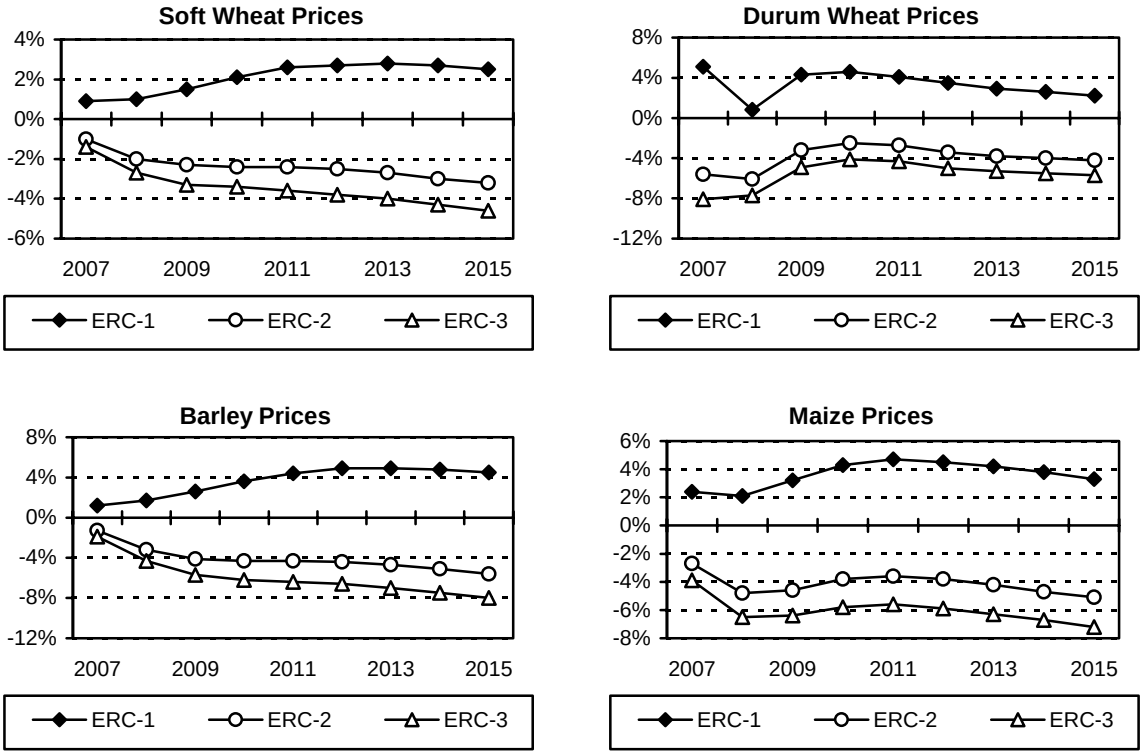
For a number of commodities, such as oilseeds and their associated meals and oils, the AGMEMOD model does not endogenously model their prices. Supply-inducing prices for European farmers are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products, any change in the exchange rate will have a direct impact on national currency prices and on the associated supplies of and demand for the commodity in question.

Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for Spain. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 21.7 to Table 20.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

The impact of the three ERC scenarios when compared with one another and with the Baseline projections indicate that the AGMEMOD model performs as one would have expected. Key prices under the ECR-1 scenario, where the euro / US dollar exchange rate is 1.0 from 2007, are characterised by increases. When compared with Baseline price projections for Spain, prices under both the ERC-2 and ERC-3 scenarios, where the euro appreciates against the dollar, decline as expected. The size of the increase in the key prices that are endogenously determined within the AGMEMOD modelling system are in general smaller than the percentage changes in prices that are determined exogenously to the AGMEMOD model. For these prices, the percentage change in the exchange rate from Baseline levels is fully reflected in the euro prices for these commodities (oilseeds and oil seed meals and oils). The impact of the changed exchange rate on the commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities. Figure 20.1 charts the percentage change in four Spanish grain prices under each of the three ERC scenarios, and Figure 20.2 charts the percentage change in three meat products (beef and veal, pork and broiler). The prices are endogenously determined in the AGMEMOD model.

Figure 20.1 : Spanish Crop Prices under ERC Scenarios (% Δ from Baseline)

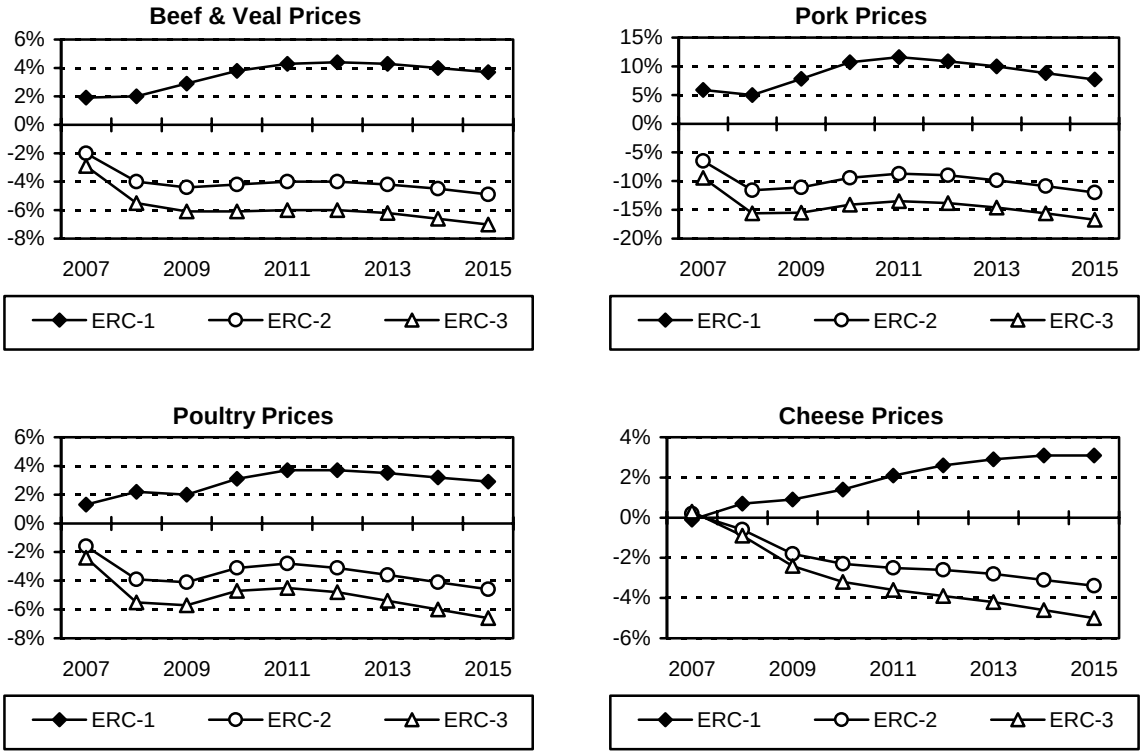


Source: Spanish AGMEMOD Model (2006)

When the projections for Spanish commodity markets under the ECR-1 scenario are compared with the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use compared to the Baseline.

The two exchange rate change scenarios, labelled ECR-2 and ECR-3, involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under the ECR-2 the euro / US dollar exchange rate is 1.30, while under ECR-3 the exchange rate is assumed to be 1.40 from 2007. As expected, the projections for Spain under both scenarios when compared with those under the Baseline are characterised by similar changes in prices, quantities supplied and demanded. Under each of the exchange rate scenarios, market prices in Spain are projected to be lower than under the Baseline, with often concomitant reductions in the volume of domestic production and small increases in domestic use. The magnitude of the impacts on prices and supply and use balances is, as expected, greater under ECR-3 than ECR-2.

Figure 20.2 : Spanish Meat Prices under ERC Scenarios (% Δ from Baseline)

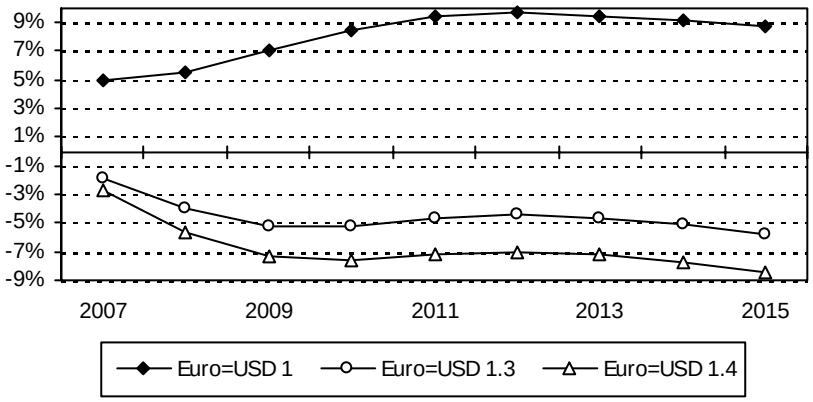


Source: Spanish AGMEMOD Model (2006)

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. The main influence on gross agricultural income (ceteris paribus) arises from agricultural output value. Higher prices and production levels in the ERC-1 scenario would lead to increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 20.3).

Figure 20.3 : Spain: Gross agriculture income in Exchange Rate Scenarios. (% Δ from Baseline)



Source: Spanish AGMEMOD Model (2006)

Table 20.7 : Spain: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.4%	0.4%	0.5%	0.7%	0.8%	0.8%	0.7%	0.7%	0.6%
Domestic use	0.0%	0.0%	0.2%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%
Soft wheat									
Production	1.7%	0.8%	1.5%	1.9%	1.9%	1.6%	1.4%	1.2%	1.0%
Domestic use	-0.2%	-0.2%	-0.3%	-0.5%	-0.5%	-0.6%	-0.6%	-0.5%	-0.5%
Producer price	0.9%	1.0%	1.5%	2.1%	2.6%	2.7%	2.8%	2.7%	2.5%
Durum wheat									
Production	3.0%	0.6%	2.6%	2.9%	2.6%	2.3%	2.0%	1.8%	1.5%
Domestic use	-0.2%	-0.3%	-0.5%	-0.7%	-0.9%	-1.0%	-1.0%	-0.9%	-0.9%
Producer price	5.1%	0.8%	4.3%	4.6%	4.1%	3.5%	2.9%	2.6%	2.2%
Barley									
Production	0.0%	0.3%	0.2%	0.3%	0.4%	0.4%	0.4%	0.3%	0.2%
Domestic use	0.1%	0.2%	0.8%	0.8%	1.2%	1.4%	1.5%	1.4%	1.4%
Producer price	1.2%	1.7%	2.6%	3.6%	4.4%	4.8%	4.9%	4.8%	4.4%
Maize									
Production	-0.6%	0.0%	-0.2%	-0.1%	0.1%	0.4%	0.6%	0.7%	0.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	2.4%	2.1%	3.2%	4.3%	4.7%	4.5%	4.2%	3.8%	3.3%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-2.7%	-1.0%	-2.3%	-3.0%	-2.8%	-2.4%	-2.1%	-1.8%	-1.5%
Domestic use	1.2%	0.5%	1.0%	1.2%	1.1%	0.8%	0.7%	0.5%	0.4%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	-2.7%	-1.1%	-2.3%	-3.0%	-2.8%	-2.4%	-2.1%	-1.8%	-1.5%
Domestic use	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%
Producer price	1.6%	1.7%	2.4%	3.3%	3.7%	3.8%	3.6%	3.4%	3.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	2.0%	0.8%	1.6%	1.9%	1.8%	1.5%	1.2%	0.9%	0.7%
Producer price	3.4%	3.9%	5.9%	8.3%	9.9%	10.5%	10.6%	10.2%	9.5%
Beef and veal									
Production	0.0%	0.1%	0.2%	0.3%	0.5%	0.7%	0.8%	0.9%	1.0%
Domestic use	-0.3%	-0.3%	-0.4%	-0.6%	-0.6%	-0.6%	-0.6%	-0.5%	-0.5%
Producer price	1.9%	2.0%	2.9%	3.8%	4.3%	4.4%	4.3%	4.0%	3.7%
Pig meat									
Production	-0.1%	0.0%	1.4%	1.2%	1.9%	2.4%	2.6%	2.5%	2.4%
Domestic use	-0.4%	-0.4%	-0.6%	-0.8%	-0.8%	-0.7%	-0.7%	-0.6%	-0.5%
Producer price	5.9%	5.0%	7.8%	10.7%	11.6%	10.9%	10.0%	8.8%	7.7%
Poultry meat									
Production	-0.1%	-0.1%	-0.3%	-0.4%	-0.5%	-0.6%	-0.7%	-0.7%	-0.7%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	1.3%	2.2%	2.0%	3.1%	3.7%	3.7%	3.5%	3.2%	2.9%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.4%	0.4%	0.6%	0.7%	0.8%	0.8%	0.8%	0.7%	0.6%
Producer price	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Fluid milk									
Production	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.1%	0.2%	0.2%	0.3%	0.4%	0.4%	0.4%	0.4%	0.3%
Whole sale price	0.7%	1.5%	2.1%	3.0%	3.9%	4.4%	4.7%	4.7%	4.6%
Butter									
Production	0.2%	-0.7%	-0.9%	-1.5%	-2.2%	-2.8%	-3.2%	-3.5%	-3.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.7%	0.8%	1.6%	2.1%	2.1%	1.9%	1.7%	1.6%	1.4%
SMP									
Production	0.1%	-1.1%	-1.4%	-2.6%	-3.8%	-5.1%	-6.2%	-7.1%	-7.9%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	1.8%	1.0%	1.9%	2.5%	2.6%	2.5%	2.3%	2.1%	1.9%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.2%	1.7%	1.5%	2.3%	2.4%	2.2%	1.9%	1.6%	1.3%
Whole sale price	-3.4%	-5.8%	-5.6%	-8.6%	-9.5%	-9.2%	-8.4%	-7.5%	-6.7%
Cheese									
Production	0.1%	0.6%	0.8%	1.2%	1.5%	1.8%	1.9%	1.9%	1.9%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-0.1%	0.7%	0.9%	1.4%	2.1%	2.6%	2.9%	3.1%	3.1%

Source: Spanish AGMEMOD Model (2006)

Table 20.8 : Spain: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.5%	-0.9%	-0.8%	-0.7%	-0.7%	-0.7%	-0.8%	-0.8%	-0.9%
Domestic use	0.0%	0.1%	-0.2%	-0.4%	-0.3%	-0.3%	-0.2%	-0.3%	-0.3%
Soft wheat									
Production	-2.0%	-2.8%	-1.9%	-1.4%	-1.3%	-1.6%	-1.8%	-1.9%	-2.1%
Domestic use	0.2%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%
Producer price	-1.0%	-2.0%	-2.3%	-2.4%	-2.4%	-2.5%	-2.7%	-3.0%	-3.2%
Durum wheat									
Production	-3.3%	-3.7%	-2.1%	-1.7%	-1.8%	-2.2%	-2.4%	-2.6%	-2.7%
Domestic use	0.3%	0.6%	0.8%	0.9%	0.9%	0.9%	0.9%	1.0%	1.1%
Producer price	-5.6%	-6.1%	-3.2%	-2.5%	-2.7%	-3.4%	-3.8%	-4.0%	-4.2%
Barley									
Production	0.0%	-0.4%	-0.6%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	-0.1%	-0.3%	-1.0%	-1.5%	-1.4%	-1.3%	-1.2%	-1.3%	-1.4%
Producer price	-1.3%	-3.2%	-4.1%	-4.3%	-4.3%	-4.4%	-4.7%	-5.1%	-5.6%
Maize									
Production	0.7%	0.8%	0.0%	-0.5%	-0.6%	-0.5%	-0.4%	-0.4%	-0.5%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-2.7%	-4.8%	-4.6%	-3.8%	-3.6%	-3.8%	-4.2%	-4.7%	-5.1%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	3.8%	4.9%	3.2%	2.4%	2.4%	2.8%	3.1%	3.5%	3.8%
Domestic use	-1.4%	-1.8%	-1.0%	-0.7%	-0.6%	-0.7%	-0.8%	-0.8%	-0.9%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	3.8%	4.9%	3.3%	2.4%	2.5%	2.8%	3.2%	3.5%	3.8%
Domestic use	0.0%	0.0%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Producer price	-1.7%	-3.4%	-3.7%	-3.4%	-3.2%	-3.3%	-3.5%	-3.8%	-4.1%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-2.1%	-2.9%	-1.7%	-1.1%	-1.1%	-1.3%	-1.4%	-1.5%	-1.5%
Producer price	-3.7%	-7.8%	-9.1%	-9.3%	-9.4%	-9.8%	-10.4%	-11.2%	-12.0%
Beef and veal									
Production	0.0%	-0.1%	-0.3%	-0.5%	-0.7%	-0.8%	-1.0%	-1.1%	-1.2%
Domestic use	0.3%	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Producer price	-2.0%	-4.0%	-4.4%	-4.2%	-4.0%	-4.0%	-4.2%	-4.5%	-4.9%
Pig meat									
Production	0.1%	0.1%	-1.6%	-2.8%	-2.5%	-2.2%	-2.0%	-2.1%	-2.3%
Domestic use	0.5%	0.9%	0.8%	0.7%	0.6%	0.6%	0.7%	0.7%	0.8%
Producer price	-6.5%	-11.6%	-11.1%	-9.4%	-8.7%	-9.0%	-9.9%	-10.9%	-12.0%
Poultry meat									
Production	0.1%	0.3%	0.4%	0.5%	0.6%	0.6%	0.6%	0.7%	0.8%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-1.6%	-3.9%	-4.1%	-3.1%	-2.8%	-3.1%	-3.6%	-4.1%	-4.6%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.4%	-0.8%	-0.9%	-0.8%	-0.7%	-0.7%	-0.8%	-0.8%	-0.9%
Producer price	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Fluid milk									
Production	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.2%	-0.4%	-0.4%	-0.4%	-0.3%	-0.4%	-0.4%	-0.4%	-0.5%
Whole sale price	-0.8%	-2.4%	-3.6%	-4.0%	-4.1%	-4.3%	-4.6%	-5.0%	-5.5%
Butter									
Production	-0.2%	0.6%	1.8%	2.5%	2.8%	2.9%	3.2%	3.5%	3.9%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-1.8%	-2.7%	-1.9%	-1.5%	-1.5%	-1.7%	-1.9%	-2.1%	-2.4%
SMP									
Production	0.0%	1.2%	3.1%	4.2%	4.9%	5.5%	6.3%	7.5%	9.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.2%	-3.2%	-2.6%	-2.2%	-2.3%	-2.5%	-2.7%	-2.9%	-3.1%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-1.7%	-3.4%	-3.4%	-2.4%	-2.0%	-2.0%	-2.1%	-2.2%	-2.3%
Whole sale price	4.9%	11.4%	12.4%	9.1%	7.9%	8.3%	9.3%	10.4%	11.5%
Cheese									
Production	-0.2%	-0.8%	-1.6%	-1.8%	-1.8%	-1.8%	-1.9%	-2.1%	-2.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.2%	-0.6%	-1.8%	-2.3%	-2.5%	-2.6%	-2.8%	-3.1%	-3.4%

Source: Spanish AGMEMOD Model (2006)

Table 20.9 : Spain: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.7%	-1.2%	-1.2%	-1.1%	-1.1%	-1.1%	-1.1%	-1.2%	-1.3%
Domestic use	0.1%	0.1%	-0.3%	-0.5%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%
Soft wheat									
Production	-2.9%	-3.8%	-2.8%	-2.2%	-2.2%	-2.4%	-2.6%	-2.7%	-2.9%
Domestic use	0.3%	0.6%	0.7%	0.7%	0.7%	0.8%	0.8%	0.8%	0.9%
Producer price	-1.4%	-2.7%	-3.3%	-3.4%	-3.6%	-3.8%	-4.0%	-4.3%	-4.6%
Durum wheat									
Production	-4.8%	-4.8%	-3.2%	-2.7%	-2.8%	-3.3%	-3.5%	-3.6%	-3.7%
Domestic use	0.4%	0.8%	1.1%	1.2%	1.3%	1.3%	1.4%	1.5%	1.5%
Producer price	-8.1%	-7.7%	-4.9%	-4.1%	-4.3%	-5.0%	-5.3%	-5.5%	-5.7%
Barley									
Production	0.0%	-0.5%	-0.7%	-0.6%	-0.5%	-0.4%	-0.4%	-0.5%	-0.5%
Domestic use	-0.1%	-0.4%	-1.5%	-2.0%	-2.0%	-1.9%	-1.9%	-2.0%	-2.1%
Producer price	-1.9%	-4.3%	-5.7%	-6.2%	-6.4%	-6.6%	-7.0%	-7.4%	-8.0%
Maize									
Production	1.1%	1.0%	0.1%	-0.5%	-0.7%	-0.7%	-0.7%	-0.7%	-0.8%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-3.9%	-6.5%	-6.4%	-5.8%	-5.6%	-5.9%	-6.3%	-6.7%	-7.2%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	5.9%	6.8%	5.1%	4.2%	4.2%	4.5%	4.9%	5.2%	5.5%
Domestic use	-2.0%	-2.3%	-1.5%	-1.1%	-1.0%	-1.1%	-1.1%	-1.1%	-1.1%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	6.0%	6.9%	5.2%	4.2%	4.2%	4.6%	4.9%	5.3%	5.6%
Domestic use	0.0%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Producer price	-2.5%	-4.6%	-5.1%	-5.0%	-4.9%	-5.0%	-5.2%	-5.5%	-5.8%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-3.1%	-3.7%	-2.5%	-1.9%	-1.8%	-1.9%	-2.0%	-2.0%	-2.1%
Producer price	-5.3%	-10.6%	-12.7%	-13.4%	-13.9%	-14.6%	-15.4%	-16.3%	-17.1%
Beef and veal									
Production	0.0%	-0.2%	-0.5%	-0.8%	-1.0%	-1.2%	-1.4%	-1.6%	-1.8%
Domestic use	0.5%	0.9%	0.9%	0.9%	0.9%	0.8%	0.8%	0.9%	0.9%
Producer price	-2.9%	-5.5%	-6.1%	-6.1%	-6.0%	-6.0%	-6.2%	-6.6%	-7.0%
Pig meat									
Production	0.2%	0.2%	-2.3%	-3.7%	-3.6%	-3.2%	-3.1%	-3.2%	-3.4%
Domestic use	0.7%	1.2%	1.2%	1.1%	1.0%	0.9%	1.0%	1.0%	1.1%
Producer price	-9.4%	-15.6%	-15.5%	-14.1%	-13.5%	-13.8%	-14.6%	-15.6%	-16.7%
Poultry meat									
Production	0.1%	0.3%	0.6%	0.8%	0.8%	0.9%	0.9%	1.0%	1.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-2.4%	-5.5%	-5.7%	-4.7%	-4.5%	-4.8%	-5.4%	-6.0%	-6.6%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.6%	-1.1%	-1.2%	-1.2%	-1.1%	-1.1%	-1.1%	-1.2%	-1.2%
Producer price	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Fluid milk									
Production	-0.1%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.2%	-0.5%	-0.6%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.6%
Whole sale price	-1.2%	-3.4%	-4.9%	-5.6%	-6.0%	-6.4%	-6.9%	-7.4%	-7.9%
Butter									
Production	-0.3%	0.9%	2.5%	3.5%	4.0%	4.4%	4.8%	5.3%	5.8%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-2.6%	-3.5%	-2.7%	-2.3%	-2.3%	-2.6%	-2.8%	-3.0%	-3.2%
SMP									
Production	0.1%	1.8%	4.2%	5.9%	7.1%	8.3%	9.6%	11.2%	13.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-3.3%	-4.4%	-3.8%	-3.5%	-3.6%	-3.8%	-4.0%	-4.2%	-4.5%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-2.6%	-4.8%	-4.8%	-3.8%	-3.3%	-3.2%	-3.3%	-3.3%	-3.3%
Whole sale price	7.6%	16.3%	17.5%	14.2%	12.8%	13.3%	14.4%	15.5%	16.6%
Cheese									
Production	-0.3%	-1.2%	-2.2%	-2.5%	-2.7%	-2.8%	-2.9%	-3.1%	-3.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.3%	-0.9%	-2.4%	-3.2%	-3.6%	-3.9%	-4.2%	-4.6%	-5.0%

Source: Spanish AGMEMOD Model (2006)

21 Sweden

Frédéric Chantreuil and Fabrice Levert, Institut National de la Recherche Agronomique (INRA), Rennes

21.1 Baseline

Table 21.1 shows the specific projections of the macroeconomic variables for Sweden that underlie the model's Baseline and scenario projections up to 2015.

Table 21.1 : Assumptions on macroeconomic variables for Sweden

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	8.9	9.0	9.0	9.1	9.1	9.2	9.2	9.2	9.3	9.3	9.3	9.4
GDP	bil. Euro97	134	150	153	156	159	162	165	169	172	175	179	182
GDP per capita	Euro97/cap	15092	16612	16878	17149	17423	17703	17987	18276	18568	18864	19164	19467
Inflation	1997=1	1.03	1.13	1.15	1.16	1.18	1.20	1.31	1.23	1.25	1.27	1.28	1.30

Source: GOLD, Eurostat

As part of the Luxembourg Agreement (2003), most premiums have been decoupled in Sweden with effect from 2006, the year in which Sweden introduced the SFP. Two production sectors (bulls and adult animal slaughtering) remain partially coupled, at a rate of 75% and 40% respectively. It is assumed that the decoupled payments will retain some supply-inducing impacts on the agricultural sector, which will depend on

- the distributional effects of payments to other sectors in comparison with the entitled hectares and animals in the reference years ,
- (compulsory) modulation effects (the total modulation rate will reach 15% of CAP subsidies in 2015 in Sweden);
- shift rate effects (it is assumed that each year 5% of livestock farmers and 2.5% of arable farmers will exit agriculture in Sweden).

Table 21.2 shows the derived multipliers that reflect these supply-inducing effects in the Swedish agricultural sectors. These multipliers are used to simulate the effect of the SFP by reducing the amounts of direct payments (as used under the old scheme) to 'synthetic' premium levels. The levels of the multiplier are relatively high, in particular because future subsidy amounts remain associated with the sectors that established them in the reference period. The multiplier for maize is zero because Sweden has no maize production (and no direct payments for maize in the reference period).

Table 21.2 : Supply-inducing multipliers of Swedish agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oilseeds	index	1.00	1.00	0.94	0.90	0.86	0.83	0.80	0.77	0.75	0.71	0.69	0.66
Suckler cows	index	1.00	1.00	0.91	0.85	0.80	0.75	0.71	0.66	0.62	0.58	0.54	0.51
Milk	index	1.00	1.00	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31
Maize	index	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ewes	index	1.00	1.00	0.91	0.85	0.80	0.75	0.71	0.66	0.62	0.58	0.54	0.51
Sheep	index	1.00	1.00	0.91	0.85	0.80	0.75	0.71	0.66	0.62	0.58	0.54	0.51
Bulls	index	1.00	1.00	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.89	0.89	0.88

Source: Own calculations

Grains and oilseed sectors

Grains and oilseed prices are expected to increase over the projection period. For soft wheat, barley and maize the increase is rather small (2.4%, 0.7% and 0.9% respectively) compared with the increase in rapeseed price (4.5%). This would lead to a greater area harvested for oilseeds (14%) and would reduce the area for grains by more than 10%. Productivity per hectare is then projected to grow, and the production impact would show an increase for all Swedish crop production (15.4% for rapeseed and 10.6% for soft wheat), with the exception of barley, where production would decrease by more than 20%. The decline in barley production is due to the switch between soft wheat and barley area, along with an overall decrease in the total grains harvested area. The Swedish total domestic use for grains is projected to increase by 4% despite the projected increase in grain prices. This outcome is driven by a mix of different factors. Soft wheat non-feed use in Sweden is projected to increase by 19%, while barley non-feed use is projected to decrease by 2% over the projection period. Hence, a decrease in soft wheat net exports is anticipated, while barley net exports would increase.

Livestock and dairy sectors

On livestock markets, the supply of cattle is projected to decrease (-13%), reflecting the decoupling of payments, while sheep numbers would remain constant over the projection period. Pig numbers show an increase of 30%. Beef and veal prices are projected to fall 8% to a level of € 102 per 100 kg by 2015.

Pig meat and poultry meat prices should increase by 2% and 4% respectively, while the lamb price should be 0.3 % up over the projection period.

In response to higher prices, pig meat production should show a 2% decrease, coupled with a 6% rise in total domestic use. Sheep meat production would remain constant, while lamb consumption should increase by 13%. Beef and veal production should decrease by 12% while total domestic consumption should increase by 12%. Finally, poultry production is expected to decrease by 7% over the projection period, coupled with a 6% rise in total domestic use.

In the dairy sector it is projected that milk prices will decrease by a relatively small amount to €30.61 per tonne in 2015 (-0.7% over the projection period). Ending numbers of dairy cows should fall 10% back to 404 000 heads in 2015. This results in a 4% decrease in milk production.

Table 21.3 summarises the Baseline projections for the main agricultural commodities in Sweden.

Table 21.3 : Baseline results concerning main agricultural commodities of Sweden

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	4241	4204	4099	4043	4031	3943	3981	3772	3929	3898	3882	3868
Domestic use	1,000 ton	3523	3664	3685	3692	3703	3725	3821	3760	3774	3787	3800	3813
Soft wheat													
Production	1,000 ton	2057	1857	1845	1858	1895	1928	1946	1869	1985	2007	2031	2054
Domestic use	1,000 ton	1668	1784	1802	1807	1815	1835	1917	1866	1879	1891	1904	1916
Producer price	euro/ton	113	110	110	111	112	112	112	112	112	112	113	113
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	2185	2347	2255	2185	2135	2086	2034	1902	1944	1892	1851	1814
Domestic use	1,000 ton	1770	1789	1790	1792	1794	1796	1803	1799	1799	1799	1799	1798
Producer price	euro/ton	113	111	111	111	112	112	112	112	112	112	112	112
Maize													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	85	92	93	93	94	94	101	95	97	97	98	98
Producer price	euro/ton	225	220	220	221	222	222	222	222	222	222	222	222
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	134	132	137	139	142	145	145	154	148	150	151	153
Domestic use	1,000 ton	307	301	304	304	305	306	306	311	305	306	306	306
Rapeseed													
Production	1,000 ton	134	132	137	139	142	145	145	154	148	150	151	153
Domestic use	1,000 ton	307	301	304	304	305	306	306	311	305	306	306	306
Producer price	euro/ton	242	243	244	259	267	258	254	253	253	254	255	255
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	149	156	156	155	154	153	151	148	146	143	140	137
Domestic use	1,000 ton	179	189	192	194	197	199	202	204	207	209	211	213
Producer price	euro/100 kg	118	111	108	111	112	106	102	100	99	100	101	102
Pig meat													
Production	1,000 ton	333	323	320	319	320	319	316	318	317	317	316	316
Domestic use	1,000 ton	320	335	339	341	342	343	350	347	350	352	353	355
Producer price	euro/100 kg	146	139	134	135	137	139	140	139	137	139	140	141
Poultry meat													
Production	1,000 ton	101	105	105	104	104	103	101	100	100	99	98	98
Domestic use	1,000 ton	84	87	88	88	89	89	90	90	91	91	92	92
Producer price	euro/100 kg	188	192	192	193	194	195	196	196	197	198	199	199
Sheep meat													
Production	1,000 ton	4	4	4	4	4	4	4	4	4	4	4	4
Domestic use	1,000 ton	7	8	8	8	8	8	8	9	9	9	9	9
Producer price	euro/100 kg	208	209	209	209	209	209	209	209	208	208	208	208
Fluid milk													
Production	1,000 ton	3514	3626	3625	3616	3613	3608	3568	3559	3544	3525	3505	3481
Domestic use	1,000 ton	3518	3629	3627	3618	3615	3609	3567	3560	3544	3526	3505	3482
Whole sale price	euro/100 kg	31	31	31	31	31	31	31	31	31	31	31	31
Butter													
Production	1,000 ton	43	46	46	46	46	46	46	45	45	45	44	44
Domestic use	1,000 ton	38	44	44	44	45	45	45	45	45	45	45	45
Whole sale price	euro/100kg	377	370	364	363	363	363	363	363	363	363	363	364
SMP													
Production	1,000 ton	40	42	42	42	42	42	42	42	42	41	41	41
Domestic use	1,000 ton	40	43	43	43	43	43	42	42	42	42	41	41
Whole sale price	euro/100kg	201	201	201	201	201	201	201	201	201	201	201	201
WMP													
Production	1,000 ton	8	7	7	6	6	6	6	6	6	6	6	6
Domestic use	1,000 ton	8	7	7	7	6	6	6	6	6	6	6	6
Whole sale price	euro/100kg	200	184	167	190	211	201	194	197	202	206	211	215
Cheese													
Production	1,000 ton	133	138	139	138	138	138	137	136	135	135	134	133
Domestic use	1,000 ton	144	150	151	153	154	155	158	158	159	160	161	162
Whole sale price	euro/100kg	201	246	217	245	268	255	247	251	259	265	271	276

Source: Swedish AGMEMOD Model (2006)

Agricultural income

The share of subsidies/SFP in the agricultural output value modelled will increase slightly

from 8.1% in 2000 to 9.8% in 2015. This is entirely due to the introduction of milk compensation payments in 2004, whereas subsidies for crops and livestock products will contract. From 2005 to 2015, the Baseline shows a 4% decrease in agricultural output value. Gross agricultural income would decrease by 6%.

Table 21.4 : Agricultural output, subsidies, feed cost and gross income in Sweden[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.99	0.98	0.98	0.98	0.98	0.96	0.95	0.95	0.95	0.95	0.95
Subsidies/SFP	2000=1	1.00	1.21	1.30	1.27	1.26	1.24	1.23	1.21	1.22	1.20	1.18	1.17
Feeding costs	2000=1	1.00	0.93	0.92	0.96	0.98	0.96	0.98	0.96	0.96	0.97	0.97	0.98
Gross agric. income	2000=1	1.00	1.02	1.01	1.01	1.01	1.00	0.99	0.97	0.98	0.97	0.97	0.96

[1)] Output, subsidies, costs and income are related to the commodities analysed in the study carried out for IPTS
Source: Swedish AGMEMOD Model (2006)

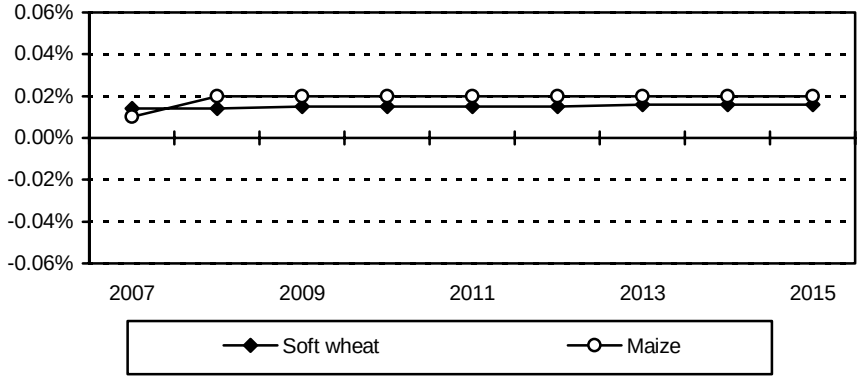
21.2 Further CAP Reform (FCR)

In 2004, Sweden chose to decouple from production almost all of the direct payments previously made to its farmers. Hence, the further CAP reform scenario analysed, involving the "full" decoupling of all CAP direct payments and increased rates of modulation, would not, *a priori*, be expected to have a major impact on the supply and use of agricultural commodities in Sweden.
On the one hand, the commodities in this study were already fully decoupled under the the 2003 CAP reform. On the other hand, increasing the rate of compulsory modulation by decreasing the value of the SFP would be expected to have some (negative) impact on supply of agricultural commodities.
The further CAP reform scenario results presented below show that, for Swedish agricultural commodity markets, the impacts of introducing full decoupling in other Member States and increased rates of compulsory modulation are rather limited.

Main Results
The impact of full decoupling on Swedish agricultural commodity markets is set out below, with the main emphasis on changes in the prices for crops markets and the general impacts on Swedish agriculture.

Figure 21.1 sets out the percentage changes from the Baseline level projections for grain prices (soft wheat and maize).

Figure 21.1: Swedish Prices: FCR Scenario (% Δ from Baseline)



Source: Swedish AGMEMOD Model (2006)

Table 21.5 and Table 21.6 compare the Swedish AGMEMOD model's projections under the FCR scenario to the Baseline projections. The remainder of this section comments on these results.

Grains and oilseed sectors

The FCR scenario would cause a fall in the harvested area for all grains and an increase in the rapeseed harvested area. Thus, total grains production would decrease by 1.3% (-0.9% for soft wheat and -3.8% for barley) in 2015 compared to the Baseline, while rapeseed production would increase by 1.2%.

Swedish grain prices are projected to increase slightly against the Baseline projections.
The expected impacts on the domestic use of grains and rapeseed (decrease in domestic use) are negligible for grains (-0.1%) and more evident for rapeseed (-0.45%).

Livestock and dairy sectors

The impact of the FCR scenario on Swedish livestock and dairy markets, when compared to the Baseline projections, is negligible, except for beef and veal. As pointed out in section 21.1, adult animal slaughtering was one of the two commodities for which payments were partially decoupled, hence the FCR scenario induces a decrease in cattle slaughter weight and in beef and veal production. The effect on beef production would be a fall of 1.5% against the Baseline projections in 2015.

This FCR scenario impact would lead to a slight decrease in beef and veal consumption (-1.4% each year compared to the Baseline projections). Hence Swedish net exports of beef and veal would increase.

Table 21.5 : Sweden: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-1.8%	-1.6%	-2.0%	-1.5%	-1.5%	-1.4%	-1.4%	-1.3%	-1.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soft wheat									
Production	-0.3%	0.6%	0.9%	1.1%	1.1%	1.1%	1.1%	1.0%	1.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-3.0%	-3.5%	-3.8%	-3.9%	-4.0%	-4.0%	-3.9%	-3.9%	-3.8%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.01%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	1.7%	1.7%	1.6%	1.5%	1.4%	1.4%	1.4%	1.3%	1.3%
Domestic use	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.4%
Rapeseed									
Production	1.7%	1.7%	1.6%	1.5%	1.4%	1.4%	1.4%	1.3%	1.3%
Domestic use	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.4%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.2%	-0.4%	-0.6%	-0.8%	-1.0%	-1.1%	-1.2%	-1.3%	-1.5%
Domestic use	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%
Producer price	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-1.6%	-1.6%	-1.7%	-1.7%	-1.7%	-1.8%	-1.8%	-1.8%	-1.8%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Swedish AGMEMOD Model (2006)

Agricultural income

The Baseline results show that the share of subsidies/SFP in the agricultural output value modelled would increase slightly from 8.1% in 2000 to 9.8% in 2015. Under the FCR scenario this ratio would decrease.

From 2005 to 2015, the FCR scenario shows a decrease in agricultural output value relative to the Baseline results (-0.3% each year). Gross agricultural income would decrease by more than 1.3% compared to the Baseline projections, while feed costs would remain constant.

Table 21.6 : Sweden: Agricultural output and income under FCR Scenario (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%
Subsidies/SFP	-5.9%	-6.0%	-5.9%	-6.1%	-6.3%	-8.3%	-9.0%	-8.9%	-9.1%
Feeding costs	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.1%
Gross agric. income	-1.0%	-1.0%	-1.0%	-1.0%	-1.0%	-1.3%	-1.4%	-1.3%	-1.4%

Source: Swedish AGMEMOD Model (2006)

21.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is US$ 1.24 per euro from 2007 onwards (FAPRI projection 2006). In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar against the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro, with the exchange rate moving to 1.30 and 1.40 US dollar per euro in 2007. The third is for the euro to depreciate against the dollar to a parity exchange rate of US$ 1.00 per euro.

The AGMEMOD model does not endogenously model the prices of a number of commodities. In the Swedish model, these commodities are rapeseed and all oilseed meals and oils for the crops sector. Thus, for these commodities, Swedish prices are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products, any change in the exchange rate will have a direct impact on the national currency prices and on the associated supplies of and demand for the commodity in question.

Main Results

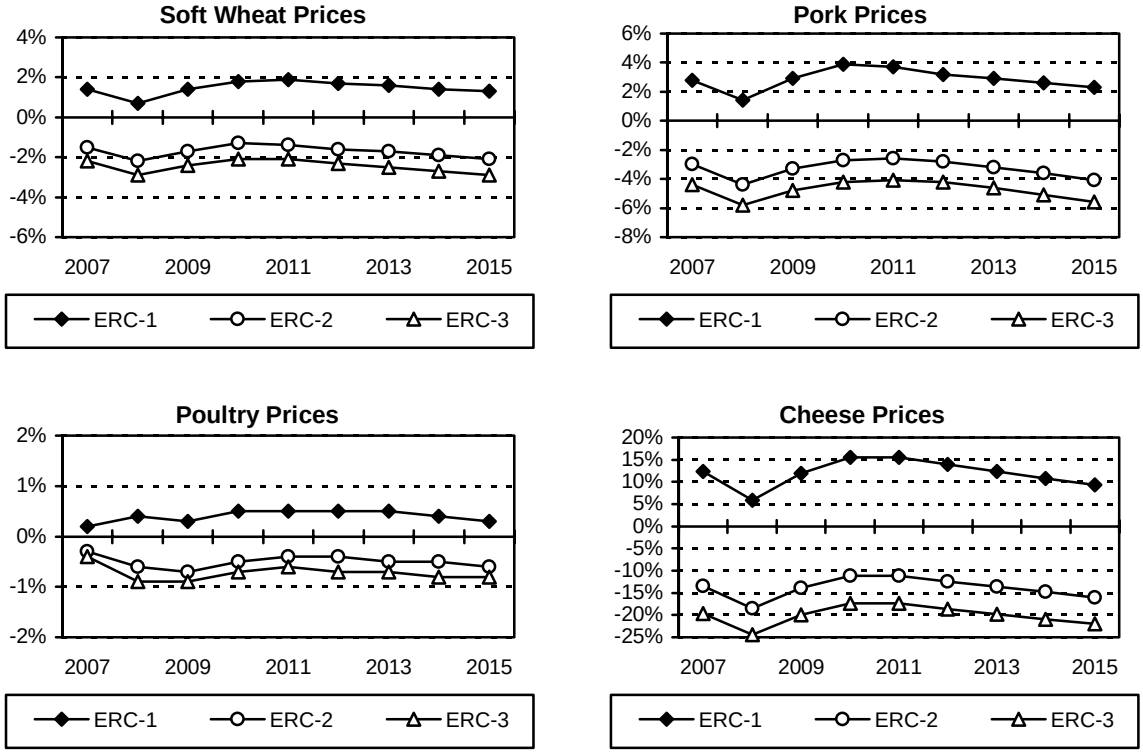
This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for Sweden. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 21.7 to Table 21.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

The impact of the three ERC scenarios when compared to one another and with the Baseline projections indicates that the AGMEMOD model performs as one would have expected.
Swedish prices under the ECR-1 scenario, where the euro / US dollar exchange rate is 1.00 from 2007, are characterised by increases. When compared with Baseline price projections for Sweden, prices under both the ERC-2 and ERC-3 scenarios decline as expected. The size of the increase in the Swedish prices that are endogenously determined within the AGMEMOD modelling system is in general smaller than the percentage changes in prices that are determined exogenously to the AGMEMOD model. For these prices, the percentage

change in the exchange rate from Baseline levels is fully reflected in the euro prices for these commodities. The impact of the changed exchange rate on the commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities.

Figure 21.2 charts the percentage change in four Swedish prices under each of the three ERC scenarios. The commodity prices chosen for Sweden are soft wheat, pig meat, poultry and cheese.

Figure 21.2 : Swedish Commodity Prices: ERC Scenarios (% Δ from Baseline)



Source: Swedish AGMEMOD Model (2006)

When the projections for Swedish commodity markets under the ECR-1 scenario are compared with the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use.

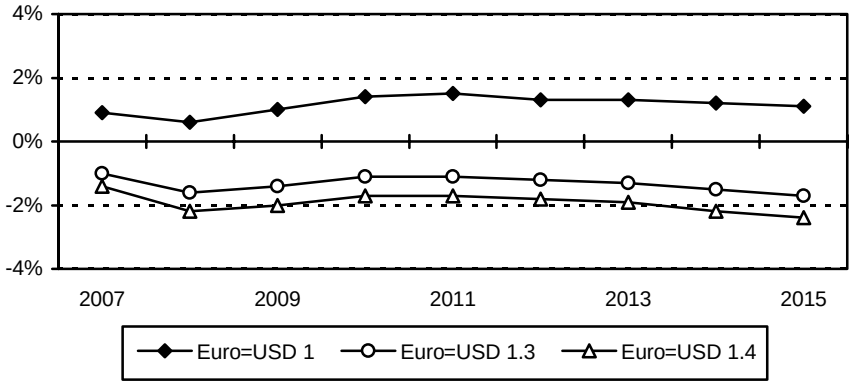
The two exchange rate change scenarios, labelled ECR-2 and ECR-3, involve increases in the value of the euro against the dollar when compared with the Baseline exchange rate assumptions. From 2007 under ECR-2, the euro / US dollar exchange rate is 1.30, while under ECR-3 it is assumed to be 1.40 from 2007. As expected, the projections for Sweden under both scenarios when compared with the Baseline are characterised by similar changes in prices, quantities supplied and demanded. As in the ECR-1 scenario, the impacts of the exchange rate changes are more fully expressed in the prices of those commodities exogenous to the AGMEMOD model system. For the majority of agricultural commodities in the AGMEMOD system prices are determined endogenously, together with all of the elements of supply and use balances. Under each of the exchange rate scenarios, market prices in Sweden are projected to be lower than under the Baseline, with often-concomitant

reductions in the volume of domestic production and small increases in domestic use. The magnitude of the impacts on prices and supply and use balances are, as expected, greater under ECR-3 than ECR-2.

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. Higher prices and production levels in the ERC-1 scenario would lead to increased values of agricultural outputs (1.3 % each year compared to the Baseline projections), while the opposite is the case in the ERC-2 and ERC-3 scenarios (-1.3% and -1.9% respectively). The impacts of these scenarios on gross agriculture income in Sweden are set out in Figure 21.3.

Figure 21.3 : Sweden: Gross agriculture income under ERC Scenarios (% Δ from Baseline)



Source: Swedish AGMEMOD Model (2006)

Table 21.7 : Sweden: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.6%	0.1%	0.6%	0.7%	0.8%	0.8%	0.7%	0.6%
Domestic use	-0.3%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%
Soft wheat									
Production	0.0%	0.9%	0.5%	0.9%	1.1%	1.2%	1.1%	1.0%	0.9%
Domestic use	-0.7%	-0.3%	-0.7%	-0.8%	-0.9%	-0.8%	-0.7%	-0.6%	-0.5%
Producer price	1.4%	0.7%	1.4%	1.8%	1.9%	1.7%	1.6%	1.4%	1.3%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.3%	0.2%	0.3%	0.4%	0.4%	0.4%	0.4%	0.3%
Domestic use	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Producer price	0.1%	0.1%	0.2%	0.3%	0.3%	0.4%	0.4%	0.4%	0.3%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.3%	-0.2%	-0.3%	-0.4%	-0.5%	-0.4%	-0.4%	-0.3%	-0.3%
Producer price	0.3%	0.3%	0.4%	0.6%	0.6%	0.6%	0.5%	0.5%	0.4%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	1.0%	0.5%	0.8%	1.0%	0.9%	0.8%	0.6%	0.5%
Domestic use	-0.1%	0.2%	0.0%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%
Rapeseed									
Production	0.0%	1.0%	0.5%	0.8%	1.0%	0.9%	0.8%	0.6%	0.5%
Domestic use	-0.1%	0.2%	0.0%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%
Producer price	6.4%	3.1%	6.2%	7.9%	7.9%	7.1%	6.4%	5.6%	4.8%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.1%	0.2%	0.3%	0.5%	0.6%	0.7%	0.8%	0.9%	0.9%
Domestic use	-1.7%	-1.6%	-1.7%	-1.7%	-1.7%	-1.7%	-1.7%	-1.7%	-1.6%
Producer price	6.5%	3.2%	6.2%	7.9%	7.9%	7.1%	6.3%	5.7%	5.0%
Pig meat									
Production	0.4%	0.2%	0.4%	0.5%	0.5%	0.4%	0.4%	0.4%	0.3%
Domestic use	-0.6%	-0.3%	-0.6%	-0.7%	-0.8%	-0.6%	-0.6%	-0.5%	-0.4%
Producer price	2.8%	1.4%	2.9%	3.9%	3.7%	3.2%	2.9%	2.6%	2.3%
Poultry meat									
Production	0.0%	0.1%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.2%	0.3%	0.3%	0.5%	0.5%	0.5%	0.4%	0.4%	0.3%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%
Domestic use	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.3%
Whole sale price	0.2%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%
Butter									
Production	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.3%	0.1%	0.2%	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%
SMP									
Production	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%
Domestic use	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%
Whole sale price	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%
WMP									
Production	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.5%	-0.6%
Domestic use	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.5%	-0.5%
Whole sale price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%
Cheese									
Production	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%
Domestic use	-1.6%	-1.9%	-1.9%	-2.1%	-2.3%	-2.4%	-2.5%	-2.5%	-2.5%
Whole sale price	12.4%	5.9%	11.9%	15.6%	15.6%	13.9%	12.3%	10.8%	9.3%

Source: Swedish AGMEMOD Model (2006)

Table 21.8 : Sweden: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.6%	-0.3%	-0.7%	-0.6%	-0.6%	-0.7%	-0.7%	-0.8%
Domestic use	0.3%	0.5%	0.4%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
Soft wheat									
Production	0.0%	-0.9%	-1.4%	-1.1%	-0.8%	-0.9%	-1.0%	-1.1%	-1.2%
Domestic use	0.8%	1.1%	0.8%	0.6%	0.6%	0.7%	0.8%	0.8%	0.9%
Producer price	-1.5%	-2.2%	-1.7%	-1.3%	-1.4%	-1.6%	-1.7%	-1.9%	-2.1%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-0.3%	-0.5%	-0.4%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Domestic use	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%
Producer price	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.3%	0.5%	0.5%	0.3%	0.4%	0.4%	0.4%	0.4%	0.5%
Producer price	-0.3%	-0.6%	-0.6%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%	-0.7%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	-1.5%	-1.9%	-1.3%	-1.1%	-1.0%	-1.0%	-1.0%	-1.1%
Domestic use	0.2%	-0.2%	-0.4%	-0.3%	-0.2%	-0.1%	-0.2%	-0.2%	-0.2%
Rapeseed									
Production	0.0%	-1.5%	-1.9%	-1.3%	-1.1%	-1.0%	-1.0%	-1.0%	-1.1%
Domestic use	0.2%	-0.2%	-0.4%	-0.3%	-0.2%	-0.1%	-0.2%	-0.2%	-0.2%
Producer price	-7.0%	-9.8%	-7.2%	-5.6%	-5.7%	-6.3%	-7.0%	-7.7%	-8.3%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.2%	-0.4%	-0.5%	-0.6%	-0.7%	-0.8%	-0.9%	-1.0%	-1.1%
Domestic use	-1.3%	-1.2%	-1.2%	-1.3%	-1.3%	-1.3%	-1.3%	-1.3%	-1.2%
Producer price	-7.1%	-10.0%	-7.2%	-5.6%	-5.6%	-6.3%	-7.0%	-7.8%	-8.6%
Pig meat									
Production	-0.4%	-0.6%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%	-0.5%	-0.6%
Domestic use	0.6%	0.9%	0.7%	0.5%	0.5%	0.5%	0.6%	0.7%	0.8%
Producer price	-3.0%	-4.4%	-3.3%	-2.7%	-2.6%	-2.8%	-3.2%	-3.6%	-4.1%
Poultry meat									
Production	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.3%	-0.6%	-0.6%	-0.5%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%
Whole sale price	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%
Butter									
Production	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-0.3%	-0.4%	-0.3%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.4%
SMP									
Production	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%
Domestic use	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%
Whole sale price	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
WMP									
Production	0.1%	0.1%	0.2%	0.2%	0.3%	0.4%	0.4%	0.6%	0.7%
Domestic use	0.0%	0.1%	0.2%	0.2%	0.3%	0.4%	0.4%	0.5%	0.7%
Whole sale price	-13.5%	-18.5%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%
Cheese									
Production	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%
Domestic use	-1.6%	-1.4%	-1.2%	-1.1%	-1.1%	-1.1%	-1.1%	-1.1%	-1.0%
Whole sale price	-13.5%	-18.5%	-13.9%	-11.1%	-11.1%	-12.4%	-13.6%	-14.8%	-16.0%

Source: Swedish AGMEMOD Model (2006)

Table 21.9 : Sweden: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.9%	-0.3%	-1.0%	-0.9%	-0.9%	-1.0%	-1.1%	-1.2%
Domestic use	0.5%	0.7%	0.5%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%
Soft wheat									
Production	0.0%	-1.3%	-1.8%	-1.5%	-1.3%	-1.4%	-1.5%	-1.6%	-1.7%
Domestic use	1.1%	1.4%	1.1%	0.9%	1.0%	1.0%	1.1%	1.2%	1.2%
Producer price	-2.2%	-2.9%	-2.4%	-2.1%	-2.1%	-2.3%	-2.5%	-2.7%	-2.9%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-0.5%	-0.6%	-0.5%	-0.4%	-0.5%	-0.5%	-0.6%	-0.6%
Domestic use	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	-0.1%	-0.3%	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.4%	0.7%	0.6%	0.5%	0.5%	0.6%	0.6%	0.6%	0.7%
Producer price	-0.5%	-0.9%	-0.8%	-0.7%	-0.7%	-0.8%	-0.8%	-0.9%	-0.9%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-4.8%	-6.2%	-6.5%	-5.9%	-5.6%	-5.5%	-5.5%	-5.5%	-5.5%
Domestic use	-0.9%	-1.3%	-1.5%	-1.4%	-1.4%	-1.3%	-1.3%	-1.3%	-1.3%
Rapeseed									
Production	-4.8%	-6.2%	-6.5%	-5.9%	-5.6%	-5.5%	-5.5%	-5.5%	-5.5%
Domestic use	-0.9%	-1.3%	-1.5%	-1.4%	-1.4%	-1.3%	-1.3%	-1.3%	-1.3%
Producer price	-10.1%	-12.9%	-10.4%	-8.9%	-8.9%	-9.5%	-10.2%	-10.8%	-11.4%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.2%	-0.5%	-0.7%	-0.8%	-1.0%	-1.1%	-1.2%	-1.4%	-1.6%
Domestic use	-1.2%	-1.1%	-1.1%	-1.2%	-1.2%	-1.2%	-1.2%	-1.2%	-1.1%
Producer price	-10.4%	-13.1%	-10.4%	-8.8%	-8.8%	-9.4%	-10.2%	-11.0%	-11.8%
Pig meat									
Production	-0.6%	-0.8%	-0.7%	-0.6%	-0.6%	-0.6%	-0.6%	-0.7%	-0.8%
Domestic use	0.9%	1.2%	1.0%	0.8%	0.8%	0.8%	0.9%	1.0%	1.1%
Producer price	-4.4%	-5.8%	-4.8%	-4.2%	-4.1%	-4.2%	-4.6%	-5.1%	-5.6%
Poultry meat									
Production	-0.1%	-0.2%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%	-0.6%	-0.6%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.4%	-0.9%	-0.9%	-0.7%	-0.6%	-0.6%	-0.7%	-0.7%	-0.8%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.3%	-0.4%	-0.5%
Domestic use	0.0%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.5%
Whole sale price	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%
Butter									
Production	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.5%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	-0.4%	-0.5%	-0.4%	-0.3%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%
SMP									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.5%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.5%
Whole sale price	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%
WMP									
Production	0.1%	0.2%	0.2%	0.3%	0.4%	0.5%	0.6%	0.8%	1.0%
Domestic use	0.1%	0.2%	0.2%	0.3%	0.4%	0.5%	0.6%	0.8%	0.9%
Whole sale price	-19.7%	-24.4%	-20.0%	-17.4%	-17.4%	-18.6%	-19.8%	-20.9%	-22.0%
Cheese									
Production	0.0%	-0.1%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.4%	-0.5%
Domestic use	-1.6%	-1.3%	-1.0%	-0.9%	-0.8%	-0.8%	-0.8%	-0.7%	-0.7%
Whole sale price	-19.7%	-24.4%	-20.0%	-17.4%	-17.4%	-18.6%	-19.8%	-20.9%	-22.0%

Source: Swedish AGMEMOD Model (2006)

22 The Netherlands

Myrna van Leeuwen and Andrzej Tabeau, Agricultural Economics Research Institute (LEI), The Hague

22.1 Baseline

Table 22.1 shows the specific assumptions on macroeconomic variables for the Netherlands that underlie the model's Baseline and scenario projections up to 2015.

Table 22.1 : Assumptions on macroeconomic variables for the Netherlands

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	15.9	16.3	16.4	16.5	16.6	16.6	16.7	16.7	16.8	16.8	16.9	17.0
GDP	bil. Euro97	341	389	401	452	488	470	465	474	491	508	526	544
GDP per capita	Euro97/cap	21383	23792	24392	27386	29498	28314	27878	28358	29258	30180	31125	32093
Inflation	1997=1	1.06	1.20	1.23	1.25	1.28	1.30	1.33	1.35	1.38	1.41	1.44	1.47

Source: National Accounts (CBS), CPB

The 2003 CAP reform changes the premiums applied to cereals, oilseeds, livestock and dairy sub-sectors. From 2006, the year of introduction of the SFP in the Netherlands, the production of adult cattle will remain partly coupled, at a rate of 60%. Payments for other agricultural commodities, however, will become independent of the use of land or keeping of animals (full decoupling). It is assumed that the decoupled payments will retain some supply-inducing impacts on the agricultural sector, which will depend on the distribution effects of payments to other sectors compared with the entitled hectares and animals in the reference years (8% of subsidies in the reference period will go to non-subsidised horticultural land), on (compulsory) modulation effects (the total modulation rate will reach 25% of CAP subsidies in 2015 in the Netherlands) and on shift rate effects (it is assumed that each year 5% of livestock farmers and 2.5% of arable farmers will exit agriculture in the Netherlands). Table 22.2 shows the derived multipliers that reflect these supply-inducing effects in the Dutch agricultural sectors. In other words, these multipliers are designed to indicate the proportionate share of direct payments in the reference year that 'remains in the mind of the farmer'. For example, in 2015 the farmer would engage in a level of beef production as if in receipt of 42% of the reference bull premium (0.42 x € 210 per bull).

Table 22.2 : Supply-inducing multipliers of Dutch agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	1.00	0.84	0.80	0.76	0.73	0.69	0.66	0.63	0.60	0.57	0.54
Oilseeds	index	1.00	1.00	0.84	0.80	0.76	0.73	0.69	0.66	0.63	0.60	0.57	0.54
Suckler cows	index	1.00	1.00	0.82	0.76	0.71	0.66	0.61	0.56	0.52	0.48	0.45	0.42
Milk	index	1.00	0.60	0.57	0.54	0.51	0.49	0.46	0.44	0.42	0.40	0.38	0.36
Maize	index	1.00	1.00	0.84	0.80	0.76	0.73	0.69	0.66	0.63	0.60	0.57	0.54
Ewes	index	1.00	1.00	0.82	0.76	0.71	0.66	0.61	0.56	0.52	0.48	0.45	0.42
Sheep	index	1.00	1.00	0.82	0.76	0.71	0.66	0.61	0.56	0.52	0.48	0.45	0.42
Bulls	index	1.00	1.00	0.82	0.76	0.71	0.66	0.61	0.56	0.52	0.48	0.45	0.42

Source: Own calculations

Grains and oilseed sectors

From 2006, the decoupling of direct payments from production is projected to lead to lower receipts from grain production. On the other hand, increasing producer prices of grains due to rising EU and world market prices is projected to stimulate production. This is likely to lead to an increase in area harvested for soft wheat (13%) and barley (12%), but would reduce the area for maize (-5%). The projected increase in the total grains area harvested is almost 4%. Productivity per hectare is projected to grow due to higher prices, whereas the effect of the policy changes (lower direct payments) on grain yields is assumed to be slight. The projected production impact in the Netherlands suggests that the 2003 CAP reform may increase soft

wheat and barley outputs by one fifth by 2015 and increase maize production by 10%.

The total domestic use of grains in the Netherlands is projected to increase (up 2%) despite the rise in grain prices. On the one hand, maize and barley feed use tends to decrease, the former by less than the latter, which indicates a shift towards feeding animals maize. There is an opposite movement in terms of food use, where soft wheat (up 20%) and barley (up 11%) are projected to replace maize (down 40%) in the projected period. This development is due to income and population growth. Soft wheat stocks will decline significantly, while the projections show larger net imports of soft wheat and maize in 2015.

For rapeseeds, the maximum application of the reforms under the Luxembourg Agreement is projected to gradually reduce the area harvested more than for grains (a reduction of 60% by 2015 compared to 2004). Rapeseed production, however, is just a marginal sector in the Netherlands, with an area harvested of just 830 hectares in 2003.

Livestock and dairy sectors

The Dutch suckler herd is projected to decline in size due to the CAP reform, finishing 40% down in 2015 on the 2005 level. Despite this large decline in numbers, cattle slaughtering is projected to decline by only 4% by 2015. This is due not only to the restricted share of suckler cows in the cattle herd, but more particularly to an offsetting increase in cattle imports. Consequently, together with a 12% growth in slaughter weights, this would even result in a 7% rise in beef and veal production by 2015. The negative impact of the higher producer prices on beef consumption is projected to be more than balanced out by the positive impact of income growth.

The reform will not have a direct bearing on pig or poultry producers, but will affect them through the markets for meat, grains and other feed ingredients. Pork production shows a projected increase in the period 2005 to 2015 of 5% due to a slight rise in pig slaughtering numbers (1%) and increased slaughter weights (4%). Projection results show an increase in the use of pig meat, met by a net increase in imports and prices. Due to lower prices, poultry production is projected to decrease (down 4%) and poultry consumption is projected to increase by 20%.

The cuts in the butter intervention prices (25% from 2004) in the Baseline scenario are reflected in changes in market prices. This would tend to reduce the use of milk for butter production by 30% in the period 2005 to 2015. Results for the Dutch butter balance sheet show that butter stocks in 2015 will shrink to 40% of their level in 2004. Skimmed milk and raw milk prices would decrease after the cut in the butter intervention price by about 8%. Dairy cow milk production, however, will continue at the quota level and will even show a small increase in the projected period due to farm (cheese) production activities. Finally, results show a slight rise in the consumption of butter and fluid milk, whereas the consumption of cheese is expected to grow by almost a quarter over the projection period. Higher cheese production will allow for cheese export growth from the Netherlands. Baseline results are set out in Table 22.3.

Table 22.3 : Baseline results concerning main agricultural commodities of the Netherlands

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	1654	1748	1799	1803	1820	1707	1827	1856	1930	1950	1969	1950
Domestic use	1,000 ton	7219	6127	6167	6193	6176	6140	6154	6185	6237	6263	6274	6266
Soft wheat													
Production	1,000 ton	1143	1174	1237	1256	1281	1264	1290	1311	1368	1379	1393	1374
Domestic use	1,000 ton	4535	3300	3358	3409	3448	3466	3497	3533	3579	3616	3648	3672
Producer price	euro/ton	108	99	99	102	103	103	102	102	103	103	104	104
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	91	65	63	61	61	66	68	69	69	70	72	73
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	288	309	301	290	283	278	278	283	292	298	301	302
Domestic use	1,000 ton	930	1067	1063	1056	1039	1036	1040	1042	1043	1042	1039	1034
Producer price	euro/ton	106	91	93	96	99	99	99	100	101	102	104	105
Maize													
Production	1,000 ton	223	265	262	258	256	255	258	262	270	273	275	274
Domestic use	1,000 ton	1663	1760	1745	1729	1690	1639	1617	1610	1615	1604	1587	1561
Producer price	euro/ton	124	106	106	109	111	112	111	111	111	111	112	112
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	3	4	3	3	3	3	3	3	2	2	2	2
Domestic use	1,000 ton	4669	4885	4789	4704	4608	4512	4419	4326	4239	4160	4086	4019
Rapeseed													
Production	1,000 ton	3	4	3	3	3	3	3	3	2	2	2	2
Domestic use	1,000 ton	158	240	247	251	255	255	253	249	244	239	234	228
Producer price	euro/ton	181	136	136	139	140	135	131	128	126	124	122	120
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	651	500	505	512	518	523	529	535	541	547	553	559
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	3860	4145	4037	3941	3835	3733	3637	3542	3455	3374	3298	3231
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	471	453	453	452	447	446	444	443	442	440	440	439
Domestic use	1,000 ton	308	345	354	358	362	366	369	371	372	374	376	379
Producer price	euro/100 kg	266	265	264	276	281	277	275	275	276	280	284	288
Pig meat													
Production	1,000 ton	1623	1328	1345	1355	1362	1368	1374	1379	1385	1390	1396	1401
Domestic use	1,000 ton	687	675	688	696	699	702	705	712	719	722	726	731
Producer price	euro/100 kg	148	158	148	149	155	158	161	158	154	158	161	164
Poultry meat													
Production	1,000 ton	751	710	709	703	700	700	699	695	692	690	688	687
Domestic use	1,000 ton	332	379	387	395	403	410	417	425	432	439	446	453
Producer price	euro/100 kg	60	75	73	72	71	70	69	66	64	63	62	61
Sheep meat													
Production	1,000 ton	19	17	17	16	15	13	13	14	15	15	14	13
Domestic use	1,000 ton	24	28	29	30	31	32	33	34	35	36	37	37
Producer price	euro/100 kg	178	168	159	162	166	171	173	173	171	172	174	177
Fluid milk													
Production	1,000 ton	11155	11257	11234	11285	11374	11357	11373	11402	11430	11463	11500	11541
Domestic use	1,000 ton	2023	2053	2084	2094	2083	2083	2081	2076	2070	2065	2059	2054
Whole sale price	euro/100 kg	29	28	26	26	26	26	26	26	26	26	26	26
Butter													
Production	1,000 ton	126	110	104	101	98	94	91	89	86	84	81	79
Domestic use	1,000 ton	52	53	54	55	55	55	55	55	56	56	56	56
Whole sale price	euro/100kg	317	283	260	253	256	254	253	254	255	256	257	258
SMP													
Production	1,000 ton	69	52	47	42	38	34	30	27	24	22	19	17
Domestic use	1,000 ton	210	195	192	184	178	175	171	168	164	161	158	155
Whole sale price	euro/100kg	244	197	186	181	184	183	183	183	183	184	185	185
WMP													
Production	1,000 ton	97	96	91	87	84	80	77	74	71	69	66	64
Domestic use	1,000 ton	15	18	18	19	19	19	19	19	19	20	20	20
Whole sale price	euro/100kg	285	238	222	217	220	218	218	218	219	220	221	221
Cheese													
Production	1,000 ton	671	688	696	707	722	729	738	749	759	771	782	795
Domestic use	1,000 ton	231	254	260	267	274	278	284	290	296	302	308	313
Whole sale price	euro/100kg	293	331	333	326	323	326	326	324	323	323	324	326

Source: Dutch AGMEMOD Model (2006)

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities

and covers feedstuffs as the sole input variable, it is possible to project the gross agricultural income of the sector (Table 22.4). This estimate is based on projected changes in agricultural output value, subsidies (direct payments and SFP) and feed costs for the Dutch agricultural sector (for the commodities modelled).

Table 22.4 : Agricultural output, subsidies, feed cost and gross income in the Netherlands[1]

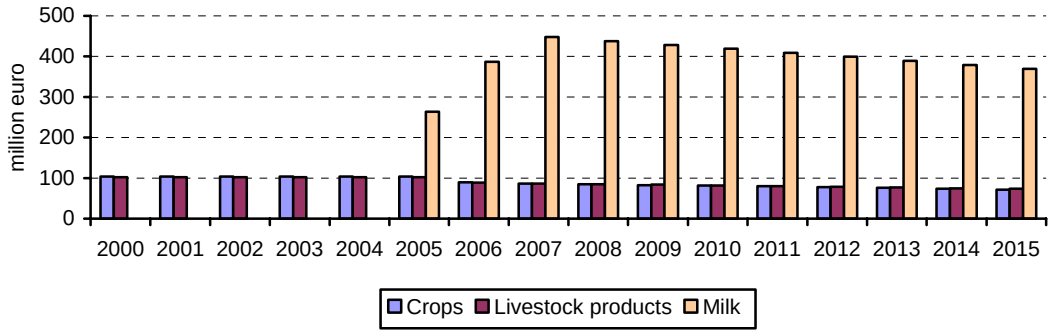
	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.94	0.90	0.90	0.92	0.92	0.93	0.92	0.92	0.93	0.94	0.95
Subsidies/SFP	2000=1	1.00	2.29	2.75	3.03	2.96	2.90	2.83	2.77	2.70	2.64	2.57	2.51
Feeding costs	2000=1	1.00	0.75	0.76	0.77	0.77	0.76	0.76	0.76	0.77	0.77	0.77	0.77
Gross agric. income	2000=1	1.00	1.05	1.01	1.02	1.04	1.04	1.04	1.03	1.03	1.04	1.05	1.06

[1)] Output, subsidies, costs and income are related to the commodities analysed in the study carried out for IPTS
Source: Dutch AGMEMOD Model (2006)

The share of subsidies/SFP in the agricultural output value of the commodities under consideration will increase from 3% in 2000 to 7% in 2015. This is entirely due to the introduction of milk compensation payments in 2004, whereas subsidies for crops and livestock products will contract (Figure 22.1). In the period 2004-07, the milk price will decline each year because the butter intervention price is cut in four steps (from € 328 /100 kg in 2003 to € 246.4 /100 kg from 2007). Compared to the reference year, the milk price will reach its lowest level in 2007 and hence the compensation payments to dairy farmers will increase. In the Baseline from 2007, there will be no further changes in dairy intervention prices. However, the amount of payments will be lowered by the voluntary modulation rate (which will increase by 2% up to 2015).

From 2005 to 2015, the Baseline shows a 1% increase in agricultural output value, which is mostly due to increased prices and a 2% increase in feed costs. Hence, gross agricultural income is projected to increase by 3% in the Baseline projection period (returns for other agricultural commodities, other inputs, depreciation, and taxes - ceteris paribus).

Figure 22.1 : Dutch Subsidies: payments for crops, livestock products and milk (€ million)



Source: Own calculations (2006)

22.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU MS. Once in excess of specific amounts, SPS payments in the EU15 MS were also subject to modulation. The 'Further CAP reform' scenario, described in Report III AGMEMOD - Model description,

involves the standardisation of the MS' CAP implementation plans by imposing full decoupling from 2007, while the rates of compulsory modulation that are associated with the current SPS are increased to 10% from 2007 onwards.

The Netherlands chose in 2004 to decouple from production almost all direct payments previously made to Dutch farmers and to introduce an SPS based strictly on historical entitlements. Dutch farmers receiving single farm payments (SFP) in excess of € 5 000 were, like other farmers in the EU15 MS, subject to modulation at rates that from 2007 will reach 5%. Further, there is quite a large voluntary SFP modulation in the Netherlands, reaching 22% in 2015.

The further CAP reform scenario analysed, involving the 'full' decoupling of all CAP direct payments and increased rates of modulation, would not, *a priori*, be expected to have a major impact on the supply and use of agricultural commodities in the Netherlands. On the one hand, the commodities included in this study were already fully decoupled under the 2003 CAP reform. On the other, increasing the rate of compulsory modulation by decreasing the value of the SFP would be expected to have some (negative) impact on the supply of agricultural commodities. The attitude of farmers towards continued production will take account of lower 'synthetic' direct premiums. In addition, the full decoupling of CAP payments in all EU MS would be expected to alter the supply and use balance in EU agricultural commodity markets, since many MS have chosen to only partially decouple some direct payments. The altered supply and use balance at EU level would be expected to involve the contraction of indigenous production of those agricultural commodities that are still supported by coupled direct payments, and consequently to have at least some positive impact on EU market prices for agricultural commodities.

The further CAP reform scenario results presented below reflect the rather limited impact on Dutch agricultural commodity markets of introducing full decoupling in other MS and the increased rates of compulsory modulation.

Main Results

The impact of full decoupling in other EU MS on Dutch agricultural commodity markets is reflected in the development of the prices which balance supply and use in the Dutch agricultural commodity sub-models. However, implementing full decoupling across all EU MS leads to rather small increases in the supply-inducing prices that are used in the Dutch AGMEMOD sub-model. Consequently, the prices of the commodities in the Dutch AGMEMOD model under the FCR scenario show some minor changes from the Baseline projections.

Table 22.5 and Table 22.6 compare the Dutch AGMEMOD model's projections under the FCR scenario with the Baseline projections. The remainder of this section comments on these FCR results.

Grains and oilseed sectors

The impact of the FCR scenario on Dutch grain markets when compared to the Baseline projections is, as expected, quite modest. One important reason is that the AGMEMOD crop commodities in this study were already fully decoupled in the Baseline and hence the main effect of decoupling direct payments was already reflected in the Baseline projections shown in Section 22.1. Under the FCR scenario, EU grain prices would show a slight increase due to the full decoupling of arable aid direct payments in all MS. The result is that the impact on the Dutch grain prices is minimal when compared to Baseline levels.

Normally, a modest increase in prices would be expected (ceteris paribus) to lead to a contraction in the domestic use of cereals when compared with the Baseline. This does happen in the Dutch case, but the effect is rather limited.

Livestock and dairy sectors

The Baseline showed that the number of suckler cows is projected to decline by 40% in the Netherlands due to the full decoupling of the animal premiums. Nevertheless, beef and veal production would rise by 8% due to a 13% growth in slaughter weights and the restricted share of suckler cows in the cattle herd. The impact of the FCR scenario on Dutch livestock markets when compared to the Baseline projections is quite small. The reason is that there are no differences between the two situations in the decoupling rates of the animals covered in the Dutch model. In other words, the direct payments of the commodities examined here are already fully decoupled. On the other hand, the introduction of full decoupling in other EU MS could lead to reduced indigenous EU supply of meats and somewhat higher EU prices for these meats. This could influence the Dutch agricultural sector indirectly. Compared with the Baseline, the suckler cow stock would decrease by a further 2% in 2015 under the FCR scenario. Due to the small share of beef cows in the cattle herd, the ultimate effect on beef production is negligible. Further, there is quite a small increase in prices for Dutch livestock farmers, but the impact is smaller than would *a priori* be expected. The influence of the FCR scenario on the other animal sectors is similarly small.

The reform of the dairy commodity market organisation under the Baseline is largely unaffected by the reforms examined under the further CAP reform (FCR) scenario. The increased rate of modulation of SFP is not projected to lead to any contraction in the total volume of milk produced in the Netherlands. Dutch milk production is projected to continue to fill the quota. Changes in the rate of modulation are not expected to change the relative prices of different dairy commodities, and as a consequence changes in the supply and use balance in dairy commodity markets in the Netherlands and the Dutch farm gate milk price, under the FCR scenario, are negligible.

Agricultural income

It was expected that the somewhat higher agricultural commodity prices under the FCR scenario and the modest increases in the levels of production in response to the projected price would lead to an increase in Dutch agricultural income. Compared to the Baseline, however, Dutch agricultural incomes decrease under the FCR scenario (Table 22.5), which is entirely due to the lower subsidy receipts (from the increase in the rate of modulation). This reduction more than offsets the small increase in agricultural output value, which was hardly affected by changed price and production levels.

Table 22.5 : Netherlands: Agricultural output and income under FCR (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Subsidies/SFP	-5.8%	-5.9%	-6.1%	-6.3%	-6.4%	-6.6%	-6.8%	-7.0%	-7.3%
Feeding costs	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross agric. income	-0.6%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%

Source: Dutch AGMEMOD Model (2006)

Table 22.6 : Netherlands: Further CAP Reform (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.4%	-0.3%	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	-0.02%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Soft wheat									
Production	-0.4%	-0.3%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	-1.4%	-0.7%	-0.7%	-0.6%	-0.6%	-0.7%	-0.7%	-0.7%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%	-0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Maize									
Production	-0.2%	-0.2%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.2%	-0.2%
Producer price	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.9%	-1.2%	-1.3%	-1.4%	-1.3%	-1.3%	-1.3%	-1.3%	-1.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	-0.9%	-1.2%	-1.3%	-1.4%	-1.3%	-1.3%	-1.3%	-1.3%	-1.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.1%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.4%	0.0%	-0.4%	-0.7%	-0.9%	-0.9%	-1.4%	-0.9%	-0.8%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.2%	0.0%	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%	0.2%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: Dutch AGMEMOD Model (2006)

22.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining

the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is US$ 1.24 per euro in 2006 and a rate of around US$ 1.13 from 2007 onwards. In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar versus the euro, with the exchange rate moving to rates of 1.30 and 1.40 US dollar per euro in 2007. The third is for the euro to depreciate against the dollar to a parity exchange rate of US$ 1.00 per euro.

With the exception of the skim milk powder market, the Netherlands is not a key price market in the AGMEMOD model structure. Thus, the alternative exchange rate paths examined in this scenario operate through the impact of the different exchange rates examined on the key commodity price projections generated by the AGMEMOD model.

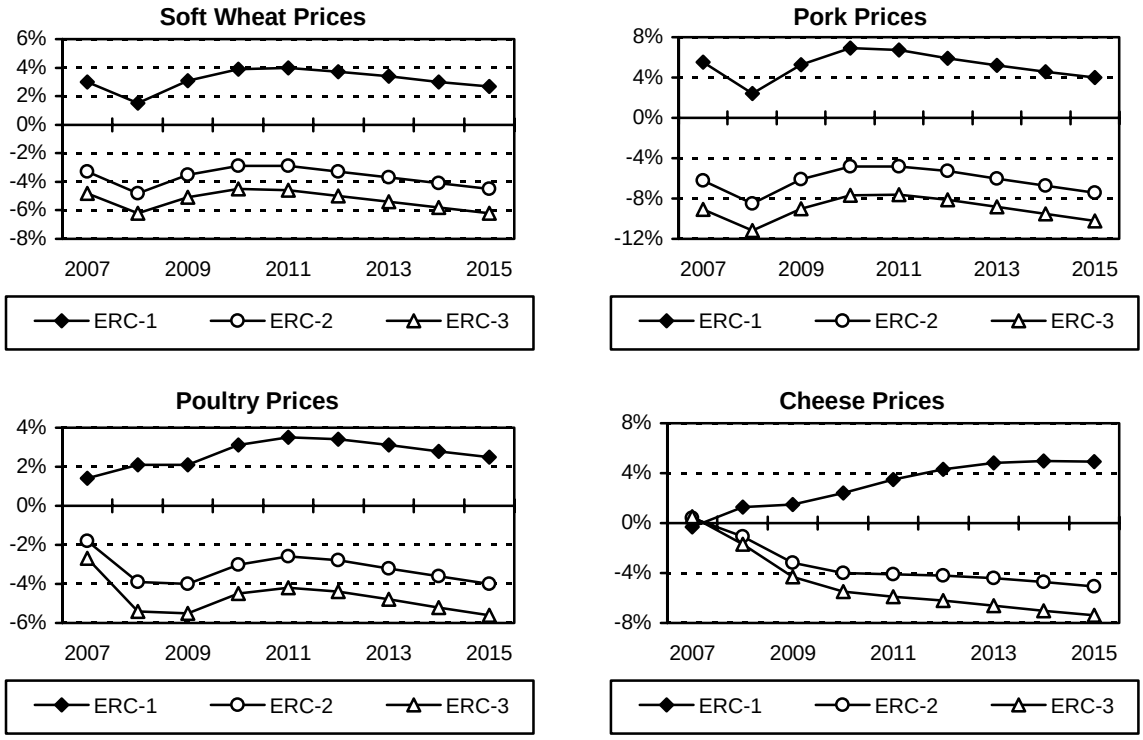
For a number of commodities, such as oilseeds and their associated meals and oils, the AGMEMOD model does not endogenously model their prices. Supply-inducing prices for European farmers are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products, any change in the exchange rate will have a direct impact on the national currency prices and on the associated supplies of and demand for the commodity in question. Given that the Netherlands is not a significant producer of oilseeds or oilseed products, the impact of changes in the euro / US dollar exchange rate will for such products operate on the demand in this country for these products.

Main Results

This section provides a summary of the Exchange Rate Change (ERC) scenario projection results for the Netherlands. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 22.7 to Table 22.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

The impact of the three ERC scenarios when compared with one another and with the Baseline projections indicate that the AGMEMOD model performs as one would have expected. Key prices under the ECR-1 scenario, where the euro / US dollar exchange rate is 1.0 from 2007, are characterised by increases. When compared with Baseline price projections for the Netherlands, prices under both the ERC-2 and ERC-3 scenarios (where the euro appreciates against the dollar) decline as expected. The size of the increase in the key prices that are endogenously determined within the AGMEMOD modelling system are in general smaller than the percentage changes in prices that are determined exogenously to the AGMEMOD model. For these prices, the percentage change in the exchange rate from Baseline levels is fully reflected in the euro prices for these commodities (oilseeds and oil seed meals and oils). The impact of the changed exchange rate on the commodity prices determined endogenously by the AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities. Figure 22.2 charts the percentage change in four Dutch prices under each of the three ERC scenarios. The commodity prices chosen for the Netherlands are soft wheat, pork, poultry and milk. The prices are endogenously determined in the AGMEMOD model.

Figure 22.2 : Dutch Commodity Prices under ERC Scenarios (% Δ from Baseline)



Source: Dutch AGMEMOD Model (2006)

When the projections for Dutch commodity markets under the ECR-1 scenario are compared with those under the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use.

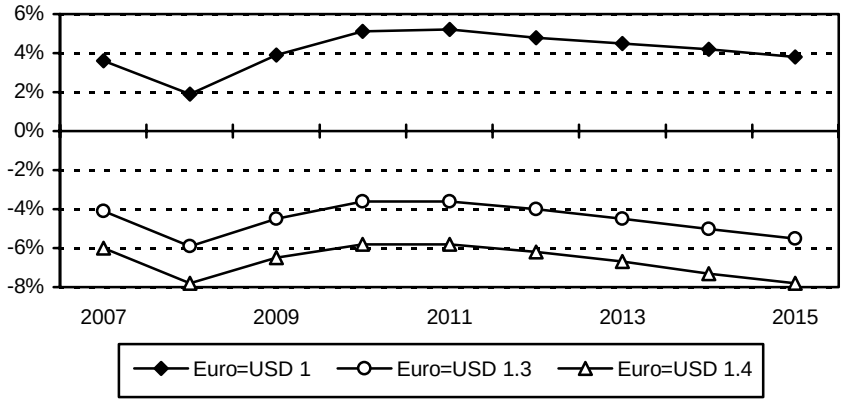
The two exchange rate change scenarios, labelled ECR-2 and ECR-3, involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under ECR-2, the euro / US dollar exchange rate is 1.30, while under ECR-3 it is assumed to be 1.40 from 2007. As expected, the projections for the Netherlands under both scenarios when compared with the Baseline are characterised by similar changes in prices, quantities supplied and demand. As in the ECR-1 scenario, the impact of the exchange rate changes is most fully expressed in the prices of commodities exogenous to the AGMEMOD model system. For the majority of agricultural commodities in the AGMEMOD modelling system prices are determined endogenously together with all of the elements of supply and use balances. Under each of the exchange rate scenarios market prices in the Netherlands are projected to be lower than under the Baseline, with often concomitant reductions in the volume of domestic production and small increases in domestic use. The magnitude of the impacts on prices and supply and use balances is, as expected, greater under ECR-3 than ECR-2.

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. The main influence on gross agricultural income (ceteris paribus) arises from changes in agricultural output value. Higher prices and production levels in the ERC-1 scenario would lead to

increased values of these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 22.3).

Figure 22.3 : Netherlands: Gross agriculture income under ERC Scenarios (% Δ from Baseline)



Source: Dutch AGMEMOD Model (2006)

Table 22.7 : Netherlands: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.6%	0.2%	0.9%	1.1%	1.3%	1.2%	1.0%	0.9%
Domestic use	0.1%	-0.3%	-0.3%	-0.5%	-0.7%	-0.8%	-0.8%	-0.8%	-0.8%
Soft wheat									
Production	0.0%	0.7%	0.6%	0.9%	1.0%	1.1%	0.9%	0.6%	0.4%
Domestic use	0.1%	0.1%	0.0%	0.0%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%
Producer price	3.0%	1.5%	3.1%	3.9%	4.0%	3.7%	3.4%	3.0%	2.7%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-9.8%	-1.7%	-8.4%	-8.4%	-8.0%	-6.4%	-4.9%	-4.1%	-3.5%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.3%	0.7%	1.1%	1.6%	2.1%	2.4%	2.6%	2.6%
Domestic use	-1.4%	-1.7%	-2.3%	-3.1%	-3.6%	-3.7%	-3.5%	-3.2%	-2.9%
Producer price	2.3%	2.1%	3.1%	4.3%	4.8%	4.8%	4.5%	4.1%	3.7%
Maize									
Production	0.0%	0.3%	0.5%	0.7%	0.9%	1.1%	1.2%	1.2%	1.1%
Domestic use	0.7%	-0.4%	0.0%	-0.1%	-0.4%	-0.6%	-0.6%	-0.7%	-0.7%
Producer price	2.3%	2.0%	3.0%	4.0%	4.4%	4.2%	3.8%	3.4%	3.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.3%	1.4%	2.2%	3.3%	4.2%	5.1%	5.4%	5.3%	5.0%
Domestic use	0.1%	0.1%	0.2%	0.3%	0.4%	0.5%	0.5%	0.6%	0.6%
Rapeseed									
Production	0.3%	1.4%	2.2%	3.3%	4.2%	5.1%	5.4%	5.3%	5.0%
Domestic use	0.9%	1.2%	1.9%	2.8%	3.5%	4.0%	4.4%	4.5%	4.6%
Producer price	3.6%	1.7%	3.4%	4.5%	4.4%	4.0%	3.5%	3.1%	2.7%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.3%	0.2%	0.3%	0.4%	0.5%	0.5%	0.4%	0.4%	0.4%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.4%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.1%	0.1%	0.0%	0.1%	0.2%	0.3%	0.3%	0.4%	0.4%
Domestic use	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	3.8%	1.8%	3.4%	4.3%	4.1%	3.6%	3.2%	2.8%	2.5%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.6%	-0.2%	-0.5%	-0.7%	-0.6%	-0.5%	-0.4%	-0.3%	-0.3%
Producer price	5.5%	2.4%	5.3%	6.9%	6.7%	5.9%	5.2%	4.6%	4.0%
Poultry meat									
Production	-0.3%	0.0%	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.2%	-0.1%
Domestic use	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	1.4%	2.1%	2.1%	3.1%	3.5%	3.4%	3.1%	2.8%	2.5%
Sheep meat									
Production	4.4%	16.6%	32.7%	46.0%	56.4%	65.8%	78.1%	87.5%	100.3%
Domestic use	0.5%	0.2%	0.4%	0.5%	0.4%	0.3%	0.3%	0.2%	0.1%
Producer price	-0.3%	0.3%	0.3%	0.5%	1.0%	1.4%	1.6%	2.0%	2.3%
Fluid milk									
Production-quota	0.6%	0.2%	0.7%	0.9%	1.1%	1.2%	1.3%	1.3%	1.3%
Domestic use	-0.4%	-0.2%	-0.4%	-0.6%	-0.6%	-0.5%	-0.5%	-0.4%	-0.4%
Whole sale price	1.9%	1.0%	1.9%	2.5%	2.5%	2.3%	2.0%	1.8%	1.6%
Butter									
Production	0.7%	0.3%	0.8%	1.1%	1.2%	1.4%	1.5%	1.5%	1.5%
Domestic use	-0.4%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%	-0.3%	-0.3%
Whole sale price	1.6%	0.8%	1.6%	2.0%	2.0%	1.9%	1.7%	1.5%	1.3%
SMP									
Production	0.9%	0.4%	1.1%	1.4%	1.6%	1.7%	1.7%	1.8%	1.7%
Domestic use	-0.3%	0.3%	0.3%	0.6%	1.0%	1.4%	1.7%	1.9%	2.0%
Whole sale price	2.1%	1.1%	2.0%	2.7%	2.7%	2.4%	2.2%	1.9%	1.7%
WMP									
Production	0.8%	0.3%	1.0%	1.2%	1.4%	1.5%	1.6%	1.6%	1.6%
Domestic use	-0.4%	-0.2%	-0.4%	-0.5%	-0.5%	-0.4%	-0.4%	-0.3%	-0.3%
Whole sale price	1.9%	1.0%	1.8%	2.4%	2.4%	2.2%	2.0%	1.8%	1.5%
Cheese									
Production	0.7%	0.4%	1.0%	1.3%	1.5%	1.7%	1.8%	1.8%	1.8%
Domestic use	0.1%	-0.5%	-0.6%	-0.9%	-1.3%	-1.6%	-1.8%	-1.9%	-1.8%
Whole sale price	-0.3%	1.3%	1.5%	2.4%	3.5%	4.3%	4.8%	5.0%	4.9%

Source: Dutch AGMEMOD Model (2006)

Table 22.8 : Netherlands: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.6%	-0.3%	-1.3%	-1.1%	-0.8%	-0.9%	-0.9%	-1.1%
Domestic use	-0.2%	0.2%	0.6%	0.7%	0.6%	0.6%	0.7%	0.8%	0.9%
Soft wheat									
Production	0.0%	-0.8%	-1.4%	-1.3%	-0.8%	-0.5%	-0.5%	-0.5%	-0.7%
Domestic use	-0.3%	-0.3%	-0.1%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%
Producer price	-3.3%	-4.8%	-3.5%	-2.9%	-2.9%	-3.3%	-3.7%	-4.1%	-4.5%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	13.4%	14.6%	7.2%	4.1%	4.2%	6.1%	7.6%	8.4%	8.8%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-0.3%	-1.1%	-1.7%	-2.1%	-2.2%	-2.2%	-2.3%	-2.6%
Domestic use	1.5%	3.3%	3.7%	3.3%	3.0%	3.2%	3.5%	3.9%	4.4%
Producer price	-2.5%	-4.6%	-4.5%	-4.0%	-3.8%	-4.0%	-4.4%	-4.9%	-5.5%
Maize									
Production	0.0%	-0.3%	-0.8%	-1.1%	-1.2%	-1.1%	-1.0%	-1.0%	-1.1%
Domestic use	-1.0%	-0.5%	0.5%	0.6%	0.4%	0.4%	0.3%	0.4%	0.5%
Producer price	-2.5%	-4.6%	-4.3%	-3.5%	-3.3%	-3.5%	-3.9%	-4.4%	-4.8%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.3%	-2.0%	-4.1%	-5.4%	-5.5%	-5.2%	-5.1%	-5.3%	-5.8%
Domestic use	-0.1%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%	-0.5%	-0.6%	-0.8%
Rapeseed									
Production	-0.3%	-2.0%	-4.1%	-5.4%	-5.5%	-5.2%	-5.1%	-5.3%	-5.8%
Domestic use	-1.0%	-2.2%	-2.9%	-3.2%	-3.4%	-3.8%	-4.2%	-4.7%	-5.2%
Producer price	-4.4%	-6.0%	-4.4%	-3.3%	-3.4%	-3.8%	-4.3%	-4.7%	-5.1%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.4%	-0.6%	-0.5%	-0.4%	-0.3%	-0.4%	-0.4%	-0.5%	-0.6%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.4%	-0.5%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.2%	0.0%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%
Domestic use	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%
Producer price	-4.2%	-5.8%	-4.0%	-3.0%	-2.9%	-3.2%	-3.6%	-4.0%	-4.4%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.7%	0.9%	0.6%	0.4%	0.4%	0.5%	0.5%	0.6%	0.7%
Producer price	-6.2%	-8.5%	-6.1%	-4.8%	-4.8%	-5.3%	-6.0%	-6.7%	-7.4%
Poultry meat									
Production	0.4%	0.4%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%
Domestic use	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-1.8%	-3.9%	-4.0%	-3.0%	-2.6%	-2.8%	-3.2%	-3.6%	-4.0%
Sheep meat									
Production	4.4%	16.6%	32.7%	46.0%	56.4%	65.8%	78.1%	87.5%	100.3%
Domestic use	-0.5%	-0.7%	-0.5%	-0.3%	-0.3%	-0.3%	-0.3%	-0.4%	-0.4%
Producer price	0.4%	0.0%	-0.8%	-1.4%	-1.5%	-1.6%	-1.7%	-2.0%	-2.3%
Fluid milk									
Production-quota	-0.7%	-0.9%	-0.9%	-1.0%	-1.2%	-1.4%	-1.5%	-1.6%	-1.8%
Domestic use	0.5%	0.8%	0.6%	0.4%	0.5%	0.5%	0.6%	0.6%	0.7%
Whole sale price	-2.3%	-3.3%	-2.4%	-1.9%	-1.9%	-2.2%	-2.4%	-2.7%	-2.9%
Butter									
Production	-0.7%	-1.0%	-0.9%	-1.1%	-1.3%	-1.5%	-1.7%	-1.9%	-2.1%
Domestic use	0.4%	0.6%	0.4%	0.3%	0.3%	0.4%	0.4%	0.5%	0.5%
Whole sale price	-1.8%	-2.6%	-1.9%	-1.4%	-1.4%	-1.6%	-1.9%	-2.1%	-2.3%
SMP									
Production	-1.1%	-1.5%	-1.4%	-1.5%	-1.7%	-1.9%	-2.1%	-2.3%	-2.5%
Domestic use	0.4%	0.0%	-0.9%	-1.3%	-1.5%	-1.6%	-1.8%	-1.9%	-2.2%
Whole sale price	-2.5%	-3.6%	-2.7%	-2.2%	-2.2%	-2.4%	-2.7%	-2.9%	-3.1%
WMP									
Production	-0.9%	-1.3%	-1.2%	-1.3%	-1.5%	-1.7%	-1.9%	-2.1%	-2.3%
Domestic use	0.4%	0.6%	0.5%	0.4%	0.4%	0.4%	0.5%	0.5%	0.6%
Whole sale price	-2.2%	-3.2%	-2.3%	-1.8%	-1.9%	-2.1%	-2.3%	-2.6%	-2.8%
Cheese									
Production	-0.8%	-1.2%	-1.2%	-1.5%	-1.7%	-1.8%	-2.0%	-2.2%	-2.4%
Domestic use	-0.1%	0.4%	1.3%	1.6%	1.7%	1.7%	1.8%	1.9%	2.1%
Whole sale price	0.4%	-1.1%	-3.2%	-4.0%	-4.1%	-4.2%	-4.4%	-4.7%	-5.1%

Source: Dutch AGMEMOD Model (2006)

Table 22.9 : Netherlands: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.9%	-0.4%	-1.9%	-1.6%	-1.3%	-1.3%	-1.4%	-1.5%
Domestic use	-0.4%	0.2%	0.8%	0.9%	0.9%	1.0%	1.0%	1.2%	1.3%
Soft wheat									
Production	0.0%	-1.1%	-1.8%	-1.8%	-1.2%	-0.8%	-0.8%	-0.8%	-0.9%
Domestic use	-0.4%	-0.5%	-0.2%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%
Producer price	-4.8%	-6.2%	-5.1%	-4.5%	-4.6%	-5.0%	-5.4%	-5.8%	-6.2%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	20.7%	19.3%	11.6%	7.3%	7.1%	9.2%	10.8%	11.6%	11.9%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-0.5%	-1.5%	-2.4%	-2.9%	-3.2%	-3.3%	-3.5%	-3.8%
Domestic use	2.1%	4.5%	5.1%	4.8%	4.7%	4.9%	5.2%	5.7%	6.3%
Producer price	-3.6%	-6.2%	-6.4%	-5.9%	-5.8%	-6.1%	-6.5%	-7.1%	-7.7%
Maize									
Production	0.0%	-0.4%	-1.1%	-1.6%	-1.7%	-1.6%	-1.6%	-1.6%	-1.7%
Domestic use	-1.5%	-0.7%	0.5%	0.7%	0.6%	0.6%	0.5%	0.7%	0.7%
Producer price	-3.7%	-6.2%	-6.0%	-5.3%	-5.1%	-5.4%	-5.8%	-6.2%	-6.6%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	-0.5%	-2.9%	-5.8%	-7.7%	-8.1%	-7.9%	-7.8%	-8.1%	-8.6%
Domestic use	-0.2%	-0.4%	-0.4%	-0.5%	-0.6%	-0.7%	-0.8%	-0.9%	-1.1%
Rapeseed									
Production	-0.5%	-2.9%	-5.8%	-7.7%	-8.1%	-7.9%	-7.8%	-8.1%	-8.6%
Domestic use	-1.4%	-3.0%	-4.0%	-4.5%	-5.0%	-5.5%	-6.1%	-6.8%	-7.4%
Producer price	-6.5%	-8.1%	-6.4%	-5.4%	-5.4%	-5.9%	-6.3%	-6.8%	-7.2%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.5%	-0.7%	-0.6%	-0.6%	-0.5%	-0.6%	-0.6%	-0.7%	-0.8%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.1%	-0.1%	-0.2%	-0.2%	-0.3%	-0.3%	-0.4%	-0.5%	-0.7%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.3%	0.0%	-0.3%	-0.3%	-0.4%	-0.4%	-0.5%	-0.5%	-0.6%
Domestic use	-0.1%	-0.1%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%
Producer price	-6.1%	-7.6%	-5.8%	-4.7%	-4.6%	-4.9%	-5.2%	-5.6%	-6.1%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	1.0%	1.2%	0.9%	0.7%	0.7%	0.7%	0.8%	0.9%	0.9%
Producer price	-9.1%	-11.2%	-9.0%	-7.7%	-7.6%	-8.1%	-8.8%	-9.5%	-10.2%
Poultry meat									
Production	0.6%	0.5%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%
Domestic use	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.1%
Producer price	-2.7%	-5.4%	-5.5%	-4.5%	-4.2%	-4.4%	-4.8%	-5.2%	-5.6%
Sheep meat									
Production	4.4%	16.6%	32.7%	46.0%	56.4%	65.8%	78.1%	87.5%	100.3%
Domestic use	-0.8%	-1.0%	-0.7%	-0.5%	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%
Producer price	0.6%	0.0%	-1.1%	-1.9%	-2.2%	-2.4%	-2.5%	-3.0%	-3.5%
Fluid milk									
Production-quota	-1.0%	-1.2%	-1.3%	-1.6%	-1.8%	-2.0%	-2.2%	-2.4%	-2.7%
Domestic use	0.8%	1.0%	0.8%	0.7%	0.7%	0.8%	0.8%	0.9%	1.0%
Whole sale price	-3.4%	-4.4%	-3.6%	-3.1%	-3.1%	-3.4%	-3.6%	-3.8%	-4.1%
Butter									
Production	-1.0%	-1.3%	-1.3%	-1.7%	-2.0%	-2.3%	-2.5%	-2.7%	-3.0%
Domestic use	0.6%	0.8%	0.6%	0.5%	0.5%	0.6%	0.6%	0.7%	0.7%
Whole sale price	-2.6%	-3.5%	-2.7%	-2.2%	-2.3%	-2.5%	-2.7%	-2.9%	-3.1%
SMP									
Production	-1.7%	-2.0%	-2.0%	-2.3%	-2.6%	-2.9%	-3.1%	-3.4%	-3.6%
Domestic use	0.6%	-0.1%	-1.2%	-1.8%	-2.1%	-2.4%	-2.7%	-2.9%	-3.2%
Whole sale price	-3.8%	-4.9%	-4.0%	-3.5%	-3.5%	-3.7%	-4.0%	-4.2%	-4.5%
WMP									
Production	-1.4%	-1.7%	-1.7%	-2.0%	-2.3%	-2.6%	-2.8%	-3.0%	-3.3%
Domestic use	0.7%	0.9%	0.7%	0.6%	0.6%	0.7%	0.7%	0.8%	0.8%
Whole sale price	-3.3%	-4.3%	-3.4%	-2.9%	-3.0%	-3.2%	-3.4%	-3.7%	-3.9%
Cheese									
Production	-1.2%	-1.6%	-1.8%	-2.2%	-2.5%	-2.8%	-3.0%	-3.3%	-3.5%
Domestic use	-0.2%	0.7%	1.7%	2.2%	2.4%	2.5%	2.7%	2.9%	3.1%
Whole sale price	0.5%	-1.7%	-4.3%	-5.5%	-5.9%	-6.2%	-6.6%	-7.0%	-7.4%

Source: Dutch AGMEMOD Model (2006)

23 United Kingdom

ZiPing Wu and Philip Kostov, Queen's University of Belfast (QUB), Belfast

23.1 Baseline

Table 23.1 shows the specific assumptions on macroeconomic variables for the UK that underlie the model's Baseline and scenario projections up to 2015.

Table 23.1: Assumptions on macroeconomic variables for the United Kingdom

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	59.8	60.9	61.2	61.4	61.6	61.9	62.1	62.4	62.6	62.8	63.1	63.3
GDP	bil. Euro97	1538	1556	1564	1589	1618	1648	1678	1710	1742	1774	1807	1841
GDP per capita	Euro97/cap	25738	25550	25556	25879	26266	26624	27021	27404	27827	28248	28637	29084
Inflation	1997=1	1.06	1.21	1.24	1.27	1.31	1.34	1.38	1.42	1.46	1.49	1.54	1.58

Sources: National statistics, HM treasury, ECOWIN

Due to the fact that the UK is still outside the euro zone, the exchange rate between sterling and the euro is fixed at a level of 0.704 from 2007 onwards. GDP and GDP per capita growth in the UK are expected to be slightly higher than the average for the euro zone. This, however, will not have a significant impact for the projection since income and price elasticities for most of the agricultural products in the model are relatively small.

The Fischler reform of the Common Agricultural Policy in 2003 introduced decoupled support and modulation for European agriculture. Starting from 2005, the UK has adopted a full decoupling approach for all sectors, although various approaches, either flat rate or synthetic payments, have been used in different UK regions.

Quite how, and to what extent, this decoupled single farm payment (SFP) will affect UK production and market price is still debatable. It is, however, commonly agreed that the decoupled payments will retain some supply-inducing impacts on the agricultural sector, which will depend on:

- the distribution effects of payments to other sectors in comparison with the hectares and animals-based entitlement established in the reference years;
- (compulsory) modulation effects; and
- shift rate effects.

Table 23.2 shows the derived multipliers that reflect these supply-inducing effects in the UK agricultural sectors. These multipliers are used to simulate the effect of the SFP by reducing the amounts of direct payments (as used under the old scheme) to 'synthetic' premium levels. As a more liberal policy is being introduced in the UK, these multiplier effects are smaller than in many other EU countries.

Table 23.2: Supply- inducing multipliers of UK agriculture in the Baseline

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Grains	index	1.00	0.64	0.44	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27
Oilseeds	index	1.00	0.64	0.44	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27
Suckler cows	index	1.00	0.64	0.44	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27
Milk	index	1.00	0.45	0.36	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Maize	index	1.00	1.00	0.84	0.80	0.76	0.73	0.69	0.66	0.63	0.60	0.57	0.54
Ewes	index	1.00	0.64	0.44	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27
Sheep	index	1.00	0.64	0.44	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27
Bulls	index	1.00	0.64	0.44	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27
Adult slaughtering	index	1.00	0.64	0.44	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27
Calves slaughtering	index	1.00	0.64	0.44	0.26	0.26	0.26	0.27	0.27	0.27	0.27	0.27	0.27

Source: Own calculations

Grains and oilseed sectors

The decoupling of direct payments from production is expected to lead to lower receipts from grain production. On the other hand, the producer price of grains is projected to increase due to rising EU and world market prices. Increases in the yield of crops are mainly due to technical progress, while the effect of the policy changes on grain yields is no more than slight. Compared to the 2005 level, soft wheat and barley outputs in 2015 will increase by 19% and 3%. The total grain output will increase by 13%.

The total domestic use of grains in the United Kingdom is projected to increase by almost 9%. Due to higher prices, this increase is smaller than the corresponding rise in production levels. Of the main commodities, maize, barley and soft wheat domestic use will increase by 24%, 4% and 8% respectively, mainly due to changes in relative prices.

Owing to higher prices caused by strong demand for biofuel products, total rapeseed production will increase by 50% in 2015. On the domestic use side, rape oil uses increase by 30.3%, mainly due to bio-diesel demand. The total oilseed uses only increase by 20%, since the UK produces only rapeseed.

Livestock and dairy sectors

The Baseline projections show a decrease in the UK suckler herd due to the CAP reform, down 3% in 2015. Despite this decline in numbers, beef and veal production actually increases by 5%. This is entirely due to the general trend of increasing slaughter weight. Additionally, the discontinuation of the OTMS (over thirty months scheme) increases slaughter, since animals that used to pass through the OTMS are now going onto the market. Higher domestic uses (12%) are attributed to an increase in income per capita and population growth.

The reform will not have direct impact on pig or poultry producers, but will affect them through the markets for meats, grains and other feed ingredients. Following the increase in the key pig meat price, the UK pork price increases by 5%, resulting in higher production (+23%) and higher domestic use (+6%). The higher production is mainly a result of the assumption of a recovery in the pig industry following the massive restructuring over recent years. However this recovery may be endangered if the implementation of the Nitrates Directive imposes further significant costs on the sector. At this point in the model such an increase in costs is not under consideration.

The poultry sector shows a similar trend in production and domestic use as the pig industry, though poultry prices falls by 11.6%. The main driver of the production increase in the poultry sector is the upward trend in poultry demand. If avian flu fears, higher energy costs

and a switch in consumer tastes take place, however, this projected rate of increase may be questionable. The large increase in poultry domestic uses is mainly due to the drop in the relative price of poultry meat compared to other meats.

Ewe numbers in the UK show a stable trend in the projected period, mainly due to the effect of decoupling and partly due to lower prices. There has been recent evidence of significant restructuring in the UK sheep herds, with the less efficient herds dropping out. This would lead to an improvement in overall efficiency (better lambing ratios and lower mortality) which should ultimately significantly increase lamb production.

The dairy sector is very much driven by the milk quota. Total milk production in the UK may decrease by 1%. Hence, production of dairy products will diminish proportionally, mainly due to changes in relative market prices and due to technical restrictions. The cuts in the butter intervention prices (25% from 2004) in the Baseline scenario are reflected in market prices. By 2015 the butter market prices would be 13% below the 2005 level. Butter consumption increases by 8%, reflecting demographic trends. SMP prices are projected to decrease by 8%, while cheese and WMP prices are expected to increase by 2%.

From 2000 to 2015, cheese production is the winner, while milk powders (both SMP and WMP) will be the main losers under this process. The production of SMP and WMP drops by 40%, while cheese production actually increases by 20%. This follows from the projected strong domestic consumer demand for cheese (+40%). The specific costs of cheese production depend more heavily on electricity costs, while fuel prices are an important determinant of powders production. Finally, the results show rises in the consumption of butter and fluid milk in the UK from 2000. Table 23.3 summarises the Baseline projections for the main agricultural commodities in the United Kingdom.

Table 23.3: Baseline results concerning main agricultural commodities of the United Kingdom

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	21447	22183	22610	22862	23310	23552	23737	24018	24311	24624	24890	25159
Domestic use	1,000 ton	19977	18909	19200	19486	19606	19704	19850	20025	20204	20377	20487	20595
Soft wheat													
Production	1,000 ton	14860	14468	15016	15292	15706	15848	15976	16236	16517	16804	17022	17237
Domestic use	1,000 ton	13015	10807	10934	11118	11193	11219	11277	11378	11500	11613	11666	11713
Producer price	euro/ton	125	118	117	120	121	121	120	121	121	121	122	122
Durum wheat													
Production	1,000 ton	6	7	8	8	9	9	9	10	10	10	11	11
Domestic use	1,000 ton	145	317	326	335	343	352	361	370	379	389	399	410
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	6581	7707	7586	7562	7596	7695	7752	7773	7784	7810	7858	7911
Domestic use	1,000 ton	5325	6002	6119	6160	6149	6178	6222	6248	6254	6260	6265	6273
Producer price	euro/ton	101	89	91	93	95	96	96	97	98	99	100	102
Maize													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	1492	1783	1821	1873	1921	1955	1990	2029	2071	2115	2157	2199
Producer price	euro/ton	121	98	97	95	93	91	90	89	87	86	85	83
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	1354	1392	1691	1656	1485	1715	1781	1841	1901	1961	2023	2084
Domestic use	1,000 ton	2319	2812	2888	2936	2971	3041	3097	3153	3208	3263	3319	3375
Rapeseed													
Production	1,000 ton	1354	1392	1691	1656	1485	1715	1781	1841	1901	1961	2023	2084
Domestic use	1,000 ton	1366	1618	1690	1733	1764	1830	1882	1933	1985	2036	2087	2139
Producer price	euro/ton	195	189	187	206	216	198	188	184	179	174	170	164
Sunflower													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	3	61	66	71	77	82	88	93	98	104	109	115
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	950	1133	1132	1131	1130	1129	1127	1126	1125	1124	1123	1121
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	708	687	705	720	727	729	731	732	731	729	725	721
Domestic use	1,000 ton	1025	993	1004	1012	1025	1041	1055	1066	1076	1089	1100	1112
Producer price	euro/100 kg	265	257	253	264	267	261	258	258	259	262	266	271
Pig meat													
Production	1,000 ton	923	688	713	716	716	734	763	797	811	812	824	846
Domestic use	1,000 ton	1415	1452	1466	1477	1485	1491	1497	1507	1518	1526	1535	1543
Producer price	euro/100 kg	114	125	115	115	121	125	128	125	121	124	128	131
Poultry meat													
Production	1,000 ton	1514	1667	1717	1761	1787	1813	1843	1874	1898	1922	1947	1973
Domestic use	1,000 ton	1343	2028	2090	2160	2229	2291	2357	2422	2489	2558	2629	2700
Producer price	euro/100 kg	178	173	168	166	166	165	163	159	157	156	154	153
Sheep meat													
Production	1,000 ton	359	274	282	302	310	308	310	315	318	320	322	324
Domestic use	1,000 ton	394	346	337	335	340	342	342	336	331	331	331	331
Producer price	euro/100 kg	232	234	229	224	223	222	221	218	216	214	212	210
Fluid milk													
Production	1,000 ton	14200	14402	14406	14362	14338	14336	14328	14312	14297	14281	14269	14257
Domestic use	1,000 ton	7856	7989	8016	8021	8061	8095	8128	8159	8191	8226	8263	8300
Whole sale price	euro/100 kg	25	25	24	24	24	24	24	24	24	24	24	25
Butter													
Production	1,000 ton	132	128	122	119	123	122	123	124	126	127	128	129
Domestic use	1,000 ton	175	182	183	174	186	185	189	191	192	194	195	196
Whole sale price	euro/100kg	281	253	227	216	222	219	218	218	219	220	220	221
SMP													
Production	1,000 ton	89	61	52	51	52	50	49	48	48	48	47	46
Domestic use	1,000 ton	154	82	86	88	89	89	90	91	91	91	91	91
Whole sale price	euro/100kg	236	234	220	215	218	217	216	216	217	217	218	219
WMP													
Production	1,000 ton	105	71	63	61	63	60	59	59	59	58	57	56
Domestic use	1,000 ton	98	76	76	82	84	84	85	88	90	91	92	92
Whole sale price	euro/100kg	43	41	41	40	40	41	41	41	41	41	41	42
Cheese													
Production	1,000 ton	310	391	402	399	393	395	394	391	388	385	384	382
Domestic use	1,000 ton	483	580	590	597	606	616	625	634	643	652	662	672
Whole sale price	euro/100kg	522	504	505	495	495	501	503	502	503	506	510	515

Source: UK AGMEMOD model (2006)

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities and cover feedstuffs as the sole input variable, it is possible to project gross sectoral income. This is based on changes in agricultural output value, subsidies (direct payments and SFP) paid for the commodities modelled and the feed costs incurred (Table 24.4).

Table 23.4: Agricultural output, subsidies, feed cost and gross income in the United Kingdom[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	0.96	0.96	0.98	1.00	1.01	1.01	1.01	1.02	1.03	1.04	1.05
Subsidies/SFP	2000=1	1.00	0.94	0.95	0.97	0.97	0.98	0.98	0.99	1.00	0.99	0.99	0.99
Feeding costs	2000=1	1.00	0.65	0.65	0.70	0.72	0.70	0.69	0.69	0.69	0.70	0.70	0.70
Gross agric. income	2000=1	1.00	1.00	1.01	1.02	1.03	1.05	1.05	1.06	1.06	1.07	1.08	1.09

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Own calculations

It is projected that subsidies/SFP will increase by 4% due to the introduction of the milk compensation payments. From 2005 to 2015, the Baseline shows a projected 9% increase in agricultural output value. This increase is due to rising prices, productivity advances and the sizable growth of the pig and poultry sectors. Given the reservations already expressed about developments in the pig and poultry sector, these results should be interpreted with some caution. Although feeding costs drop compared to 2000, they remain almost unchanged compared to 2005. In general, the increased demand for feed for poultry and pig production almost compensates for the reductions due to the contraction of the other livestock sectors, with the rest being due to higher feed prices. Hence, gross agricultural income would increase by 12% in the projection period and by 9% compared to 2005 (returns for other agricultural commodities, other inputs, depreciation, taxes – ceteris paribus).

23.2 Further CAP Reform (FCR)

The CAP reform of June 2003 introduced decoupled direct payments to EU farmers, while allowing for the differential implementation of these payments across EU Member States. Above certain amounts, SPS payments in the EU15 Member States were subject to modulation. The 'Further CAP reform' scenario, described in Report III AGMEMOD - Model description, involves standardising Member States' CAP implementation plans by imposing full decoupling from 2007, while the rates of compulsory modulation associated with the current SPS are increased to 10% from 2007 onwards.

The single farm payment (SFP) was introduced in the UK in 2005. All direct payments are decoupled under the SFP, though the ways of decoupling differ slightly across the four UK regions. The SFP is subject to a 5% compulsory modulation, with € 5000 as a franchise. Further, there is considerable voluntary modulation of SFP in the UK. Accounting for the franchise (of € 5000), the effective total modulation rate for the UK peaks at 8.7% in 2007 and then decreases to 6.8% by the end of the period under consideration. The reason for this is that regional governments use different additional rates of voluntary modulation to fund existing commitments (e.g. agri-environmental schemes) and then revert to lower modulation rates.

The further CAP reform scenario, involving the "full" decoupling of all CAP direct payments and increased rates of modulation, would not, *a priori*, be expected to have a major impact on the supply and use of agricultural commodities in the United Kingdom. On the one hand, the commodities in this study were already fully decoupled under the LA. On the other hand, increasing the rate of compulsory modulation by decreasing the value of the SFP would be

expected to have some (negative) impact on the supply of agricultural commodities. Taking into consideration that the 'additional' (relative to the UK Baseline) rate of modulation is only between 1.5% and 3.2%, and given its limited assumed production impact, the results are expected to be very small in scale. In addition, the full decoupling of CAP payments in all EU Member States would be expected to alter the supply and use balance in EU agricultural commodity markets since many MS have chosen to only partially decouple some direct payments. Such an altered supply and use balance at EU level would be expected to involve lower indigenous production of agricultural commodities that are still supported by coupled direct payments and to consequently have at least some positive impact on the EU market prices for agricultural commodities.

The further CAP reform scenario results presented below indicate that the impacts on UK agricultural commodity markets of introducing full decoupling in other Member States and the increased rates of compulsory modulation are somewhat limited.

FCR Scenario Main Results

Since the country models are linked together to reflect market integration, the impact of full decoupling in other EU MS on UK agricultural commodity markets is reflected in the development of prices in the UK model and agricultural commodity supply and use. However, the implementation of full decoupling across all EU MS leads to fairly small increases in UK prices. The soft wheat price rises by only 0.02% and the pork price by 0.01%, which are negligibly small impacts

Table 23.5 and Table 23.6 compare the UK AGMEMOD model's projections under the FCR scenario with the Baseline projections. The remainder of this section comments on these results.

Grains and oilseed sectors

The impact of the FCR scenario on UK grain markets, when compared to the Baseline projections, is, as expected, virtually non-existent. The key reason for this is that the AGMEMOD crop commodities in this study were already fully decoupled in the UK Baseline and hence the main effect of decoupling direct payments was already projected in Section 23.1. Under the FCR scenario, EU grain prices would show a slight increase due to the full decoupling of arable aid direct payments in all MS. The result is that the impact on UK grain prices is negligible when compared to Baseline levels.

Livestock and dairy sectors

The Baseline projections suggested that the number of suckler cows would decline by 3% in the UK due to the full decoupling of the animal premiums. Nevertheless, beef and veal production would increase 5% in the Baseline due to the discontinuation of the OTMS. The impact of the FCR scenario on UK livestock markets when compared to the Baseline projections is quite small. This is because for the livestock modelled, there are no differences in the decoupling rates in the FCR scenario relative to the Baseline. It is expected that the introduction of full decoupling in other EU Member States could lead to a reduction in the EU domestic supply of meats and somewhat higher EU prices for meats. Relative to the Baseline, suckler cow numbers under the FCR scenario are projected to decrease by a further 1% by 2015. Due to the small share of beef cows in the total UK cattle population, the ultimate effect on beef production is very limited. Further, there is quite a small increase in prices for UK livestock farmers, but the impact is smaller than would be *a priori* expected.

The influence of the FCR scenario on the other animal sectors is of similarly small magnitude.

The impact of the reform of the dairy commodity market organisation under the Baseline is largely unaffected by the reforms examined under the further CAP reform (FCR) scenario. The increased rate of modulation of SFP is not projected to lead to any contraction in the total volume of milk produced in the UK, and milk production is projected to continue to fill the quota. Changes in the rate of modulation will not impact on the relative prices of dairy commodities, and as a consequence changes in the UK dairy supply and use balance and UK farm gate milk price, under the FCR scenario, are negligible.

Agricultural income

It was expected that somewhat higher agricultural commodity prices than prevail under the FCR scenario, and the modest increases in the levels of production in response to the projected price, would lead to an increase in UK agricultural income. Compared to the Baseline, however, UK agricultural incomes decrease under the FCR scenario (Table 23.5) which is entirely due to lower subsidy receipts (from the increase in the rate of modulation). This reduction more than offsets the small increase in agricultural output value as these were affected very little by changing price and production levels.

Table 23.5: Agricultural output and income in the United Kingdom: FCR (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	-0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%
Subsidies/SFP	-5.5%	-5.4%	-5.4%	-5.4%	-5.3%	-5.3%	-5.4%	-5.4%	-5.4%
Feeding costs	0.0%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Gross agric. income	-1.0%	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%	-0.8%

Source: UK AGMEMOD Model (2006)

Table 23.6: The United Kingdom: FCR (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	-0.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.11%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Soft wheat									
Production	-0.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Durum wheat									
Production	-0.6%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.3%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Domestic use	0.2%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Producer price	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.1%	0.4%	0.5%	0.4%	0.3%	0.2%	0.1%	0.1%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.3%	0.2%	0.2%	0.3%	0.3%	0.3%	0.2%	0.2%
Pig meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.5%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.1%	0.0%	0.0%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Fluid milk									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Butter									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: UK AGMEMOD Model (2006)

23.3 Exchange Rate Change (ERC)

The exchange rate between the US dollar and the euro is an important factor in determining the influence of world prices of agricultural commodities on EU agricultural markets and the competitiveness of EU agricultural exports on world markets. Under the Baseline, the exchange rate projection is US$ 1.24 per euro from 2007 onwards (FAPRI projection). In evaluating the impact of changes in this key macroeconomic assumption three alternative paths of the US dollar versus the euro were analysed. Two of these involve a depreciation of the US dollar against the euro, with the exchange rate moving to 1.30 and 1.40 US dollar per euro in 2007. The third is for the euro to depreciate against the dollar to a parity exchange rate of US$ 1.00 per euro.

Since the UK is outside the euro-zone, an additional consideration is the impact of the £/euro exchange rate. Currently this sterling/euro exchange rate is uniform across the scenarios with the £/US$ exchange rate being calculated from the euro/US$ rate. Historically, the pound had a closer link with the dollar than with the euro (or ECU); however, the exchange rate assumption used in the UK model enables the UK macroeconomic assumptions to be consistent with those of the euro-zone, and in this case isolate the effects of the euro/dollar exchange rate from the UK commodity market outlook.

The UK is not a key price country in the AGMEMOD model structure. Thus the alternative exchange rate paths examined in this scenario operate through the UK model via the impact of the different exchange rates examined on the key commodity price projections generated by the AGMEMOD model.

AGMEMOD does not endogenously model prices for a number of commodities, such as oilseeds and their associated meals and oils. In such cases, prices for EU farmers are assumed to be world prices (in dollars) when converted into national currency equivalents. For such products, any change in the exchange rate will have a direct impact on the national currency prices and on the associated supplies of, and demand for, the commodity in question. Given that the only oilseed which the UK produces is rapeseed, the impact of changes in the €/US dollar exchange rate will largely be felt on the demand side for these products and their derived products (meals and oils).

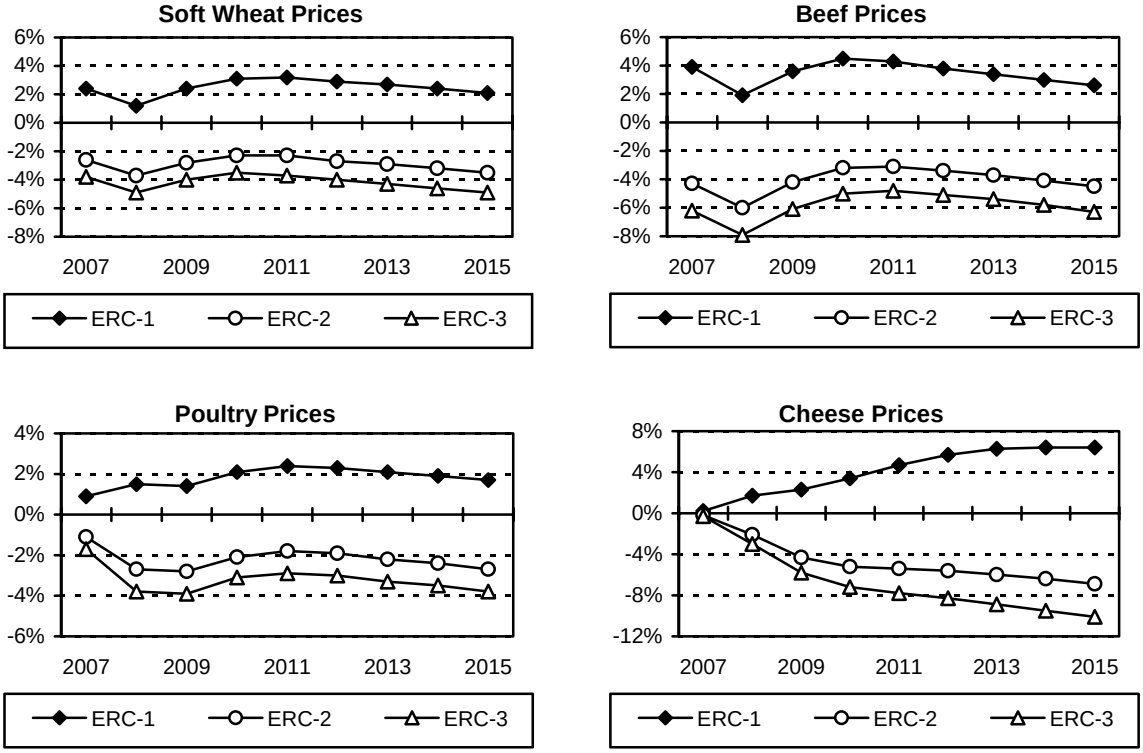
ERC Scenario Main Results

This section gives a summary of the Exchange Rate Change (ERC) scenario projection results for the UK. We have labelled the three exchange rate sub-scenarios ERC-1 (€ = 1.00 US$), ERC-2 (€ = 1.30 US$) and ERC-3 (€ = 1.40 US$). Table 23.7 to Table 23.9 set out the results of the scenarios relative to the Baseline projections in terms of percentage changes.

The impact of the three ERC scenarios, when compared to each other and with the Baseline projections, indicate that the AGMEMOD model performs as one would have expected. Key prices under the ECR-1 scenario, where the euro / US dollar exchange rate is 1.00 from 2007, are characterised by increases. When compared with Baseline price projections for the UK, under both the ERC-2 and ERC-3 scenarios, where the euro appreciates against the dollar, prices decline as expected. The increase in key prices that are endogenously determined within the AGMEMOD modelling system is in general smaller than the percentage changes in prices that are determined exogenously in the AGMEMOD model. For these prices the percentage change in the exchange rate from Baseline levels is fully reflected in the euro prices for these commodities (oilseeds and oil seed meals and oils). The impact of the exchange rate shocks on the commodity prices that are determined endogenously by the

AGMEMOD modelling system is moderated by the endogenous response of EU supply and demand for agricultural commodities. Figure 23.1 charts the percentage change in four UK prices under each of the three ERC scenarios. The commodity prices chosen for the UK are soft wheat, beef, poultry and cheese. The prices are endogenously determined in the AGMEMOD model.

Figure 23.1: UK Commodity Prices under ERC Scenarios (% Δ from Baseline)



Source: UK AGMEMOD Model (2006)

When the projections for UK commodity markets under the ECR-1 scenario are compared with those under the Baseline, market clearing prices are seen to be generally higher. These higher prices are associated with small increases in production of most agricultural commodities and somewhat reduced domestic use.

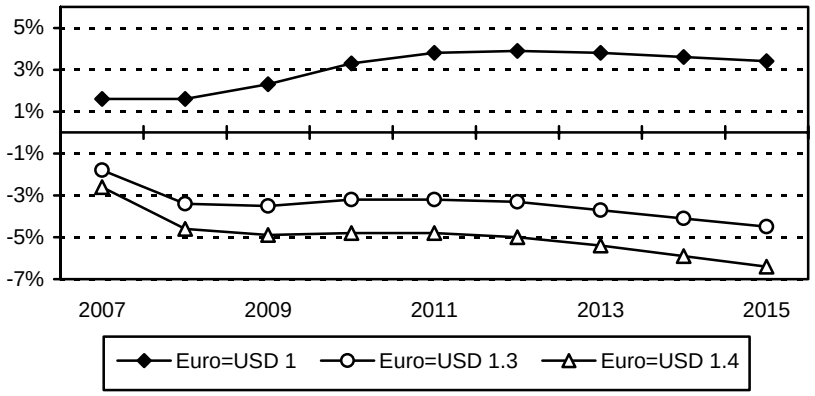
The two exchange rate change scenarios, labelled ECR-2 and ECR-3, involve increases in the value of the euro versus the dollar when compared with the Baseline exchange rate assumptions. From 2007 under ECR-2 the exchange rate is 1.30, while under ECR-3 it is assumed to be 1.40 from 2007. As expected, the projections for the UK under both scenarios when compared with the Baseline are characterised by similar changes in prices, quantities supplied and demand. As in the ECR-1 scenario, the impact of the exchange rate changes is most fully expressed in the prices of commodities exogenous to the AGMEMOD model system. For the majority of agricultural commodities in the AGMEMOD modelling system, prices are determined endogenously, together with all of the elements of supply and use balances. Under both the exchange rate scenarios, market prices in the UK are projected to be lower than under the Baseline, with often concomitant reductions in the volume of domestic production and small increases in domestic use. The magnitude of the impacts on prices and supply and use balances is, as expected, greater under ECR-3 than ECR-2.

As noted above, summaries of the three ERC scenario projections are presented in Table 23.7 to Table 23.9.

Agricultural income

Total subsidy receipts are not really influenced by the exchange rate shocks. The main influence of these shocks on gross agricultural income (ceteris paribus) arises from the impact on agricultural output value. Higher prices and production levels in the ERC-1 scenario would lead to increased values for these agricultural outputs, while the opposite is the case in the ERC-2 and ERC-3 scenarios (Figure 23.2).

Figure 23.2: United Kingdom: Gross agriculture income in Exchange Rate Scenarios. (% Δ from Baseline)



Source: UK AGMEMOD Model (2006)

Table 23.7: United Kingdom: ERC-1 Scenario € = US$ 1.00 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	0.4%	0.2%	0.5%	0.5%	0.7%	0.6%	0.6%	0.5%
Domestic use	-0.1%	-0.2%	0.0%	0.1%	0.2%	0.4%	0.6%	0.7%	0.7%
Soft wheat									
Production	0.0%	0.6%	0.1%	0.4%	0.3%	0.3%	0.0%	-0.1%	-0.1%
Domestic use	0.0%	-0.2%	0.1%	0.3%	0.5%	0.8%	1.1%	1.2%	1.2%
Producer price	2.4%	1.2%	2.4%	3.1%	3.2%	2.9%	2.7%	2.4%	2.1%
Durum wheat									
Production	0.0%	0.4%	-0.2%	-0.1%	-0.4%	-0.6%	-0.9%	-1.1%	-1.1%
Domestic use	-0.2%	-0.1%	-0.2%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	0.0%	0.5%	0.7%	1.1%	1.4%	1.8%	1.9%	1.9%
Domestic use	-0.4%	-0.4%	-0.4%	-0.6%	-0.5%	-0.4%	-0.4%	-0.3%	-0.3%
Producer price	2.3%	2.1%	3.2%	4.4%	4.9%	4.9%	4.6%	4.3%	3.8%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.6%	0.4%	0.7%	0.9%	1.0%	1.0%	1.0%	1.0%	0.9%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	12.4%	5.9%	11.9%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	-0.1%	-0.3%	-0.3%	-0.2%	-0.2%	-0.1%	0.1%	0.2%	0.3%
Domestic use	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	3.9%	1.9%	3.6%	4.5%	4.3%	3.8%	3.4%	3.0%	2.6%
Pig meat									
Production	0.3%	2.5%	2.9%	4.4%	6.0%	6.7%	6.4%	5.8%	5.0%
Domestic use	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	7.6%	3.7%	7.5%	9.9%	9.7%	8.3%	7.3%	6.5%	5.6%
Poultry meat									
Production	0.1%	-0.2%	0.0%	-0.2%	-0.2%	-0.2%	-0.2%	-0.2%	-0.3%
Domestic use	0.4%	0.1%	0.3%	0.4%	0.3%	0.3%	0.2%	0.2%	0.2%
Producer price	0.9%	1.5%	1.4%	2.1%	2.4%	2.3%	2.1%	1.9%	1.7%
Sheep meat									
Production	0.8%	-1.0%	-0.7%	-1.1%	-1.8%	-2.1%	-2.2%	-2.2%	-2.2%
Domestic use	1.9%	1.1%	1.9%	2.6%	2.6%	2.3%	2.0%	1.7%	1.5%
Producer price	0.3%	0.5%	0.6%	0.8%	1.0%	1.0%	1.0%	1.0%	0.9%
Fluid milk									
Production	-0.1%	0.0%	-0.1%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.1%	0.2%	0.3%	0.4%	0.4%	0.5%	0.5%	0.4%
Whole sale price	0.7%	1.9%	2.7%	4.0%	5.2%	6.1%	6.6%	6.7%	6.6%
Butter									
Production	1.0%	0.2%	0.6%	0.6%	0.4%	0.1%	0.0%	-0.2%	-0.3%
Domestic use	-0.2%	-0.1%	-0.2%	-0.3%	-0.3%	-0.3%	-0.2%	-0.2%	-0.2%
Whole sale price	2.1%	1.1%	2.1%	2.7%	2.7%	2.5%	2.2%	2.0%	1.7%
SMP									
Production	3.5%	-1.3%	-0.6%	-1.6%	-4.0%	-6.2%	-7.6%	-8.4%	-8.8%
Domestic use	-1.7%	-1.2%	-2.1%	-2.7%	-3.0%	-3.0%	-3.0%	-2.8%	-2.6%
Whole sale price	2.1%	1.1%	2.1%	2.7%	2.7%	2.5%	2.3%	2.0%	1.8%
WMP									
Production	2.5%	-1.0%	-0.5%	-1.4%	-3.2%	-4.8%	-5.9%	-6.5%	-6.8%
Domestic use	-0.4%	-3.8%	-4.9%	-7.3%	-9.8%	-11.7%	-12.7%	-13.0%	-12.9%
Whole sale price	0.2%	1.6%	2.1%	3.2%	4.4%	5.3%	5.8%	5.9%	5.9%
Cheese									
Production	-0.9%	0.3%	0.0%	0.2%	0.8%	1.3%	1.6%	1.7%	1.8%
Domestic use	0.0%	0.2%	0.3%	0.5%	0.6%	0.8%	0.8%	0.8%	0.8%
Whole sale price	0.2%	1.7%	2.3%	3.4%	4.7%	5.7%	6.3%	6.4%	6.4%

Source: UK AGMEMOD Model (2006)

Table 23.8: United Kingdom: ERC-2 Scenario € = US$ 1.30 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.5%	-0.7%	-0.6%	-0.5%	-0.4%	-0.5%	-0.6%	-0.7%
Domestic use	0.0%	0.3%	0.1%	-0.3%	-0.6%	-0.7%	-0.6%	-0.6%	-0.6%
Soft wheat									
Production	0.0%	-0.7%	-0.7%	-0.3%	0.1%	0.1%	-0.1%	-0.2%	-0.2%
Domestic use	-0.1%	0.1%	0.0%	-0.6%	-1.1%	-1.1%	-1.1%	-1.0%	-1.0%
Producer price	-2.6%	-3.7%	-2.8%	-2.3%	-2.3%	-2.7%	-2.9%	-3.2%	-3.5%
Durum wheat									
Production	0.0%	-0.4%	-0.2%	0.6%	1.0%	1.0%	0.8%	0.7%	0.8%
Domestic use	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-0.1%	-0.6%	-1.3%	-1.7%	-1.7%	-1.6%	-1.6%	-1.8%
Domestic use	0.5%	1.0%	0.8%	0.4%	0.2%	0.2%	0.3%	0.3%	0.3%
Producer price	-2.5%	-4.8%	-4.7%	-4.1%	-3.9%	-4.2%	-4.6%	-5.1%	-5.7%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.7%	-1.1%	-1.0%	-0.9%	-0.9%	-1.0%	-1.0%	-1.0%	-1.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.0%	-0.1%	-0.2%	-0.3%	-0.2%	-0.2%	-0.2%	-0.1%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-13.6%	-18.6%	-13.9%	-11.1%	-11.1%	-11.1%	-11.1%	-11.1%	-11.1%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.1%	0.4%	0.5%	0.3%	0.0%	-0.2%	-0.2%	-0.2%	-0.2%
Domestic use	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	-4.3%	-6.0%	-4.2%	-3.2%	-3.1%	-3.4%	-3.7%	-4.1%	-4.5%
Pig meat									
Production	-0.3%	-3.1%	-5.7%	-6.2%	-5.8%	-5.4%	-5.5%	-5.9%	-6.6%
Domestic use	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-8.3%	-11.7%	-8.6%	-6.7%	-6.5%	-7.3%	-8.3%	-9.2%	-10.2%
Poultry meat									
Production	-0.1%	0.1%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Domestic use	-0.4%	-0.5%	-0.3%	-0.2%	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%
Producer price	-1.1%	-2.7%	-2.8%	-2.1%	-1.8%	-1.9%	-2.2%	-2.4%	-2.7%
Sheep meat									
Production	-1.0%	0.3%	2.4%	2.7%	2.2%	1.9%	1.8%	1.8%	1.8%
Domestic use	-2.3%	-3.4%	-2.5%	-1.8%	-1.8%	-2.1%	-2.4%	-2.7%	-3.1%
Producer price	-0.3%	-0.9%	-1.1%	-1.0%	-1.0%	-1.0%	-1.1%	-1.2%	-1.3%
Fluid milk									
Production	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.1%	-0.2%	-0.3%	-0.4%	-0.4%	-0.4%	-0.5%	-0.5%	-0.5%
Whole sale price	-0.8%	-2.9%	-4.7%	-5.5%	-5.7%	-6.0%	-6.4%	-6.9%	-7.4%
Butter									
Production	-1.1%	-1.3%	-0.3%	0.1%	0.1%	0.0%	-0.1%	-0.2%	-0.3%
Domestic use	0.3%	0.4%	0.3%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%
Whole sale price	-2.3%	-3.4%	-2.5%	-1.9%	-1.9%	-2.2%	-2.5%	-2.7%	-3.0%
SMP									
Production	-4.2%	-2.5%	3.4%	6.4%	6.8%	6.7%	6.9%	7.4%	8.1%
Domestic use	2.1%	3.3%	3.1%	2.8%	2.9%	3.1%	3.4%	3.7%	4.1%
Whole sale price	-2.5%	-3.6%	-2.8%	-2.2%	-2.2%	-2.5%	-2.8%	-3.0%	-3.3%
WMP									
Production	-3.0%	-1.6%	2.7%	4.9%	5.2%	5.1%	5.3%	5.7%	6.2%
Domestic use	0.4%	4.8%	10.1%	12.4%	13.0%	13.5%	14.4%	15.6%	17.1%
Whole sale price	-0.2%	-1.9%	-3.9%	-4.7%	-5.0%	-5.1%	-5.5%	-5.9%	-6.4%
Cheese									
Production	1.1%	0.8%	-0.7%	-1.4%	-1.5%	-1.5%	-1.6%	-1.7%	-1.8%
Domestic use	0.0%	-0.3%	-0.6%	-0.7%	-0.8%	-0.8%	-0.8%	-0.9%	-1.0%
Whole sale price	-0.2%	-2.1%	-4.3%	-5.2%	-5.4%	-5.6%	-6.0%	-6.4%	-6.9%

Source: UK AGMEMOD Model (2006)

Table 23.9: United Kingdom: ERC-3 Scenario € = US$ 1.40 (% Δ from Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	0.0%	-0.7%	-0.9%	-0.9%	-0.7%	-0.7%	-0.8%	-0.9%	-1.0%
Domestic use	0.0%	0.4%	0.1%	-0.5%	-0.9%	-1.0%	-0.9%	-0.9%	-0.9%
Soft wheat									
Production	0.0%	-1.0%	-0.9%	-0.4%	0.1%	0.1%	-0.1%	-0.2%	-0.2%
Domestic use	-0.2%	0.1%	-0.1%	-0.9%	-1.5%	-1.7%	-1.6%	-1.6%	-1.6%
Producer price	-3.8%	-4.9%	-4.0%	-3.5%	-3.7%	-4.0%	-4.3%	-4.6%	-4.9%
Durum wheat									
Production	0.0%	-0.7%	-0.2%	0.7%	1.4%	1.4%	1.2%	1.2%	1.2%
Domestic use	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	0.0%	-0.1%	-0.9%	-1.8%	-2.4%	-2.5%	-2.4%	-2.5%	-2.7%
Domestic use	0.7%	1.3%	1.1%	0.6%	0.4%	0.4%	0.4%	0.5%	0.5%
Producer price	-3.7%	-6.4%	-6.6%	-6.2%	-6.1%	-6.4%	-6.9%	-7.4%	-8.0%
Maize									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-1.1%	-1.5%	-1.4%	-1.4%	-1.4%	-1.5%	-1.5%	-1.5%	-1.6%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	0.0%	0.1%	-0.1%	-0.3%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rapeseed									
Production	0.0%	0.1%	-0.1%	-0.3%	-0.4%	-0.3%	-0.3%	-0.3%	-0.3%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	-19.7%	-24.4%	-20.1%	-17.5%	-17.5%	-17.5%	-17.5%	-17.5%	-17.5%
Sunflower									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	0.2%	0.6%	0.8%	0.5%	0.0%	-0.2%	-0.3%	-0.3%	-0.3%
Domestic use	0.3%	0.3%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Producer price	-6.2%	-7.9%	-6.1%	-5.0%	-4.8%	-5.1%	-5.4%	-5.8%	-6.3%
Pig meat									
Production	-0.5%	-4.4%	-7.8%	-8.7%	-8.6%	-8.3%	-8.3%	-8.7%	-9.3%
Domestic use	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Producer price	-12.1%	-15.4%	-12.4%	-10.6%	-10.4%	-10.9%	-12.0%	-13.0%	-13.9%
Poultry meat									
Production	-0.1%	0.2%	0.3%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%
Domestic use	-0.6%	-0.7%	-0.5%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.5%
Producer price	-1.7%	-3.8%	-3.9%	-3.1%	-2.9%	-3.0%	-3.3%	-3.5%	-3.8%
Sheep meat									
Production	-1.5%	0.7%	3.3%	3.8%	3.3%	3.1%	2.9%	2.9%	2.9%
Domestic use	-3.4%	-4.6%	-3.7%	-3.0%	-2.9%	-3.2%	-3.6%	-3.9%	-4.2%
Producer price	-0.5%	-1.3%	-1.6%	-1.6%	-1.5%	-1.6%	-1.6%	-1.8%	-1.9%
Fluid milk									
Production	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	-0.1%	-0.3%	-0.5%	-0.6%	-0.6%	-0.7%	-0.7%	-0.8%	-0.8%
Whole sale price	-1.2%	-4.1%	-6.5%	-7.8%	-8.4%	-8.9%	-9.5%	-10.1%	-10.8%
Butter									
Production	-1.6%	-1.6%	-0.5%	0.0%	0.1%	0.0%	-0.1%	-0.1%	-0.2%
Domestic use	0.4%	0.5%	0.4%	0.3%	0.3%	0.4%	0.4%	0.4%	0.5%
Whole sale price	-3.4%	-4.5%	-3.5%	-3.0%	-3.0%	-3.3%	-3.6%	-3.9%	-4.2%
SMP									
Production	-6.3%	-3.0%	4.3%	8.2%	9.5%	10.0%	10.7%	11.5%	12.5%
Domestic use	3.1%	4.6%	4.5%	4.3%	4.5%	4.8%	5.1%	5.5%	5.9%
Whole sale price	-3.8%	-4.9%	-4.1%	-3.6%	-3.6%	-3.9%	-4.1%	-4.4%	-4.6%
WMP									
Production	-4.5%	-1.9%	3.4%	6.3%	7.2%	7.6%	8.1%	8.8%	9.5%
Domestic use	0.6%	6.9%	14.1%	17.8%	19.5%	20.8%	22.4%	24.2%	26.2%
Whole sale price	-0.2%	-2.7%	-5.3%	-6.6%	-7.2%	-7.6%	-8.1%	-8.7%	-9.3%
Cheese									
Production	1.6%	1.0%	-0.9%	-1.8%	-2.1%	-2.2%	-2.4%	-2.5%	-2.7%
Domestic use	0.0%	-0.4%	-0.9%	-1.0%	-1.1%	-1.2%	-1.3%	-1.3%	-1.4%
Whole sale price	-0.3%	-3.0%	-5.8%	-7.2%	-7.8%	-8.3%	-8.9%	-9.5%	-10.1%

Source: UK AGMEMOD Model (2006)

24 Bulgaria

Nedka Ivanova, Maria Peneva and Plamen Mishev, UNWEBG, Sofia

24.1 Baseline (Non-Enlargement)

The support policy mechanisms used in Bulgaria in the period up to 2004 consisted mainly of credit subsidies (lower interest rate credits for long and short term credits provided via the State "Agriculture" Fund) as well as small direct payments per hectare/animal. These direct payments were introduced in 2002 and increased on a per hectare basis up to 2004, but remained at a much lower rate compared to similar payments in the EU. The policy in the pre-accession period was structured along the lines of CAP payments to make it possible to estimate the policy impact on supply. This was achieved on the basis of the OECD PSE methodology application (total support for the product under consideration by elements according to direct support, indirect support and MPS) and appropriate multipliers. To capture the effect of the support from credit subsidies, they were converted into payment per hectare using a multiplier of 0.33. Under the Baseline projection, policy support is fixed at its 2004 level over the projection period.

Since no production quotas for milk existed in the pre-accession period, the milk quota is set at a relatively high level so that it is not binding on milk production.

A particular consideration for Bulgaria is the exchange rate with the euro. Since 1997 the Bulgarian currency has been subject to a currency board regime, and the exchange rate is linked to the euro (and previously to the Deutschmark) at a rate of € = 1.95583 leva. While there is some speculation, there is no hard evidence that the currency board will be disbanded, and therefore in the Baseline and in the accession scenario this fixed exchange rate with the euro is preserved.

For Bulgaria all the products covered by the model with the exception of sunflower seeds, sunflower oil and sunflower meal adopt EU key prices. For the other three products, world market prices are used as key prices.

Table 24.1 summarises the basic Baseline and accession scenario assumptions used in the standalone Bulgarian country model.

Detailed information on the macroeconomic variables, policy variables and key prices used in the Bulgarian model are shown in Table 24.2 to Table 24.4. Table 24.2 notes the specific assumptions on macroeconomic variables for Bulgaria that underlie the model's Baseline and scenario projections up to 2015. Table 24.3 shows the policy variables assumptions, and Table 24.4 notes the reference prices used for the projections.

Table 24.1 : Scenario assumptions for Bulgaria

Baseline = Non-Enlargement Scenario	EU Enlargement Scenario
Reference (Key) market prices: - updated key prices from the combined EU model for wheat, barley, maize, four types of meat, butter, SMP, cheese and world market price for sunflower seeds, sunflower oil and sunflower meal - fixed for the period 2011 – 2015 as in 2010	Reference (Key) market prices: - same as in Baseline/Non-Enlargement scenario
Macroeconomic indicators (see Table 24.2): - exchange rate in 2007-2015 period (EU dependent): - BG leva fixed to euro at rate of 1.95583 due to the currency board arrangements	Macroeconomic indicators (see Table 24.2): - same as in Baseline/Non-Enlargement scenario
Agricultural Policy: - unchanged Pre-accession agricultural policy regime up to 2015 - payments per hectare plus converted into payments per hectare credit subsidy	Agricultural Policy: - SAPS in 2007/08-2015 [1)] * CR=0.5 * phasing-in rates in 2007- 2016 period * MULT=0.5 - CNDP in 2007/08-2015: * CR=0.5 * national top-up rates up to 2016 * MULT=0.5

Source: Expert assessment

[1)] CR=coupling rates; MULT=multiplier rates

Table 24.2 : Assumptions on macroeconomic variables for Bulgaria

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	7.9	7.6	7.5	7.4	7.3	7.3	7.2	7.1	7.03	6.96	6.88	6.81
GDP	bil. Euro97	10	12	13	13	13	14	14	15	15	15	16	16
GDP per capita	Euro97/cap	1208	1556	1617	1680	1745	1812	1878	1943	2021	2094	2169	2245
Inflation	1997=1	1.08	1.14	1.15	1.16	1.17	1.18	1.19	1.20	1.21	1.22	1.23	1.24

Source: BG NSI, own calculations

In Bulgaria the inflation rate over the transition period has been very high. This was particularly the case at the beginning of the period and also in 1996 and 1997. In fact by 1997 the inflation rate had reached 1000%. Since 1998 inflation has been brought under control and has moderated substantially. However, as a result of the very high inflation in the 1990s, the base inflation index after the second crisis in the country is very high.

Table 24.3 : Bulgaria: Policy variable assumptions under Baseline scenario

		2000	2004	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Wheat intervention prices	euro/t	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3
Barley intervention prices	euro/t	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3
Corn intervention prices	euro/t	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3
Direct payments for grains	lv per HA	0.13	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Direct payments for oilseeds	lv per HA	0.78	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Milk quota (applied)	1,000 tonne	1368	1330	1384	1411	1439	1468	1498	1528	1558	1589	1621	1653
Suckler cow quota	1,000 head	0	0	0	0	0	0	0	0	0	0	0	0
Beef intervention price	lv/100 kg	0	0	0	0	0	0	0	0	0	0	0	0
Butter intervention price	lv/100 kg	0	0	0	0	0	0	0	0	0	0	0	0
SMP intervention price	lv/100 kg	0	0	0	0	0	0	0	0	0	0	0	0
Suckler and dairy cow premium	lv/head	505	597	597	597	597	597	597	597	597	597	597	597
Male bovine premium	lv/head	0	0	0	0	0	0	0	0	0	0	0	0
Ewe premium	lv/head	0	0	0	0	0	0	0	0	0	0	0	0
Butter cons. subsidy	lv/100 kg	0	0	0	0	0	0	0	0	0	0	0	0
SMP feed subsidy	lv/100 kg	0	0	0	0	0	0	0	0	0	0	0	0

Source: Expert assessment

Table 24.4 : Reference prices used for projections

		2000	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Soft wheat price	euro/tonne	113	102	103	105	106	107	108	110	111	113	114	115	117
Durum wheat price	euro/tonne	179	149	150	151	153	155	156	157	159	160	162	163	164
Barley price	euro/tonne	113	104	103	104	105	105	106	106	106	107	107	107	108
Maize price	euro/tonne	124	112	110	112	112	112	112	113	112	113	113	113	113
Rapeseed price	euro/tonne													
Sunflowerseed price	euro/tonne	213	260	228	205	275	232	201	238	238	238	238	238	238
Soybean price	euro/tonne													
Sun. oil price	euro/tonne	464	522	510	502	499	498	500	502	502	502	502	502	502
sun meal price	euro/tonne	128	123	122	122	123	124	125	127	127	127	127	127	127
French cattle price	euro/100 kg	270	251	258	253	246	242	242	245	243	243	243	242	242
French pig meat price	euro/100 kg	130	122	125	124	122	122	124	125	126	127	128	129	130
French chicken price	euro/100 kg	128	141	139	138	138	139	140	141	142	143	143	144	145
French sheep meat price	euro/100 kg	130	153	153	152	152	152	152	152	152	152	152	152	152
French cheese price	euro/100 kg	473	465	457	450	445	447	447	448	449	450	451	451	452
French butter price	euro/100 kg	324	325	312	300	291	292	291	290	289	289	288	288	287
French SMP price	euro/100 kg	244	187	187	185	184	184	186	187	187	187	188	188	189

Source: Combined EU15 model, August 2006; FAPRI outlook 2006

Grains and oilseed sectors

Generally grain prices exhibit a strong relationship with EU key prices, particularly in the recent period (2000–2004). In line with this tendency, under the Baseline scenario, simulations show that on average grain prices would increase by nearly 8%. The most substantial increase is expected in wheat prices (12% compared to 2004). The increase in barley and maize prices are 1% and 7% respectively

As a result of the combined impact of the increase in grain prices and the maintenance of support to farmers at a level similar to the base (2004) year, total grain area is projected to remain relatively stable (increasing by only 2%) through the years. Mainly due to higher productivity per hectare, grain production is expected to rise by 6%, compared to 2004. The improvements in yields in all three grains analysed is expected to be on average 9%. Particularly high yields of maize were observed in 2004 (twice the level of yields achieved in the transition years), and hence the increase in maize yields over the projection period is expected to be the relatively low, at just 3%.

For maize, more substantial improvements are projected in terms of area harvested (increasing by 11%). In part this increase reflects the relatively small area planted in 2004 (which represented a 9% decrease on the 2003 level). The combined effect of the increase in area and relatively low increase in yields is estimated at 14%, and maize production is estimated to reach a level of 2.4 million tonnes by the end of the projection period.

Production of wheat exceeds that of any of the other grains in Bulgaria, accounting for about 60% of the total grain area. Over the projection period, the projected increase in wheat area is just 1% compared to 2004, but it has to be mentioned that the wheat area harvested in 2004

was among the highest levels ever achieved. As a result of the increase in yields (9%), wheat production is projected to increase by 6%, reaching a level of 4.2 million tonnes.

Relative price changes tend to reduce the area under barley (by 10%), but this reduction in area harvested is caused by the fact that in the base year, the area under barley was more than 20% higher than in the previous years. The projected increase in yields (10% compared to the base year) will not offset the decline in barley area. Despite the projected reduction in barley production (10% compared to 2004), barley production is expected to reach a level of 1.1 million tonnes, which is more than 20% higher than the average production over the period 2000–2004.

The total domestic use of grains will decline by 16% compared to 2004, and this follows the reduction in the number of animals and a projected decline in the human population. The reduction in wheat feed use is the smallest at 5%, while for maize and barley the decline is 13% and 42% respectively. The large reduction in barley use for feed is better understood in the context of by the high rate of barley production in the base year.

Over the projection period Bulgaria will remain a net exporter of grains, with the most substantial increase in exports observed for wheat and maize. Exports will practically double compared to recent levels and will reach two million tonnes. For maize and barley exports will reach one million tonnes and half a million tonnes, respectively.

Production of sunflower seeds (the only oilseeds analysed) will decline. A decrease in sunflower prices leads to a projected decline of 18% in area harvested and more than a 35% decrease in production. However, in the base year, sunflower seeds yield was 1.8 tonnes/hectare, which is exceptionally high. Compared to the previous year, this represents an increase in yield of more than 50%. The very large projected decrease in sunflower seed production is mainly attributable to exceptional yields previously recorded. If compared to2003, a more representative recent year, the projected decline in sunflower seed production is 15%, while yields relative to 2003 are projected to increase by 10-15%.

The domestic use of sunflower seeds will increase by 11%, mainly to meet oil production, while other uses will remain practically unchanged. The estimates show that Bulgaria will remain a net exporter of sunflower seeds.

Livestock and dairy sectors

The Bulgarian suckler herd is quite small, at 5 000 head. Having in mind the increase in the herd over recent years as well as increases in cattle prices (estimated at 20%), the number of suckler cows is projected to increase to 9 000 or by more than 60%. Favourable developments in the projected beef/feed ratio mean that the number of dairy cows (also the main source of beef and veal production) is expected to increase by 24%, with a similar increase in calf numbers (23%). Despite this relatively high increase in livestock numbers, the expected increase in the number of animals slaughtered is relatively small (4%) which, together with the increase in slaughter weight (4-5%), points to a relatively small increase in beef and veal production (9%). As a result of the combined impact of the increase in income (34% compared to 2004) and the relative increase in beef prices (compared to other types of meat), beef consumption per capita is projected to increase slightly, but this will be practically offset by the decline in the Bulgarian population. Expectations are that, by the end of the projection period, domestic use of beef will be 3% higher compared to the base year.

By the end of the period, Bulgaria will remain a net importer of beef and veal, while a decline in net imports could be expected.

Under the Baseline, it is expected that the decline in the number of pigs will continue, and by 2015 will be13% down. This decline is even larger if compared to the level in 2000 and 2001. There are three main reasons for this: change in the methodology of collecting data; the continued relative increase in feed prices compared to pig meat prices (accounting for 1%); and a lack of financial support for the pig sector. Even though slaughter weights increase by 5%, pig meat production will decline by 8%. As in the case of beef, the domestic consumption of pork will remain relatively stable, with an expected increase of 3%. As a result of the decline in production and the increase in utilisation, Bulgaria will remain a net importer of pork as the level of imports increases.

By the end of the projection period, broiler production is expected to increase by 22% compared to the base year. One of the main reasons behind this increase is the relatively low production reported in 2002, 2003 and 2004 due to the change in the methodology used for collecting the data and a slight increase in prices (3%). The level of broiler production is estimated at 109 000 tonnes, a 3% increase on the 2000 and 2001 levels. For other meats, per capita domestic consumption of poultry will increase, despite the slight increase in prices, but as a result of the decline in population, total domestic use will decline by about 4%, and Bulgaria will remain a net importer of broiler meat.

As a result of the projected increase in the number of dairy cows and milk yield, milk production will increase by 23%. Given that milk prices will remain relatively stable (the decline in dairy product prices will be offset by milk price support) and income will rise, fresh milk consumption per capita will increase by 9%. However, this increase will be practically offset by the reduction in population, and fluid milk domestic consumption will remain practically at the same level as in the base year. The increase in milk production will lead to an increase in manufactured milk, which is estimated to increase by 31% and to reach 1.1 million tonnes. The main dairy product for Bulgaria is cheese. The level of production of butter is a mere one to two thousand tonnes, while production of SMP in Bulgaria is less than a thousand tonnes. As a result of relative dairy product price changes (cheese and butter mainly), the milk will go mainly to cheesemaking. The estimated increase in cheese production is 16%. For the same reason as for meat, the domestic consumption of cheese per capita will increase by almost 25%, while domestic use of cheese increases by only 14%, as result of population decline. Over the projection period Bulgaria will remain a net exporter of cheese with the estimates showing that exports will increase by 25%.

National statistics indicate that production as well as domestic consumption of SMP in Bulgaria is too low (production is well below 1 000 tonnes as consumption per capita is at the level of 0.01kg). In addition, there are no significant SMP imports (Source: Customs Agency statistics) and practically no exports. There is no evidence that this situation will change in the future. Table 24.5 summarises the Baseline projections for the main agricultural commodities in Bulgaria.

Table 24.5 : Baseline projections for the main agricultural commodities of Bulgaria

	Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains																	
Production	1,000 ton	4 260	5 881	6 622	3 690	7 265	7 077	7 382	7 361	7 375	7 420	7 499	7 504	7 508	7 574	7 619	7 666
Domestic use	1,000 ton	3 940	5 228	5 064	3 312	5 479	5 204	5 154	5 105	5 041	4 982	4 941	4 898	4 851	4 809	4 769	4 731
Soft wheat																	
Production	1,000 ton	2 781	4 077	4 123	2 004	3 961	3 893	4 014	4 028	4 021	4 053	4 093	4 099	4 101	4 137	4 162	4 189
Domestic use	1,000 ton	2 310	3 565	2 937	1 661	2 783	2 756	2 718	2 691	2 653	2 619	2 589	2 561	2 532	2 504	2 477	2 451
Producer price	euro/ton	95	101	84	80	81	86	84	84	85	86	87	88	89	90	91	92
Durum wheat																	
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Barley																	
Production	1,000 ton	674	931	1 211	525	1 181	904	1 064	1 005	1 035	1 028	1 044	1 041	1 042	1 050	1 056	1 061
Domestic use	1,000 ton	546	770	933	515	859	660	654	646	636	628	624	618	612	606	601	597
Producer price	euro/ton	79	89	85	74	86	86	85	84	84	84	85	85	85	85	86	86
Maize																	
Production	1,000 ton	804	873	1 288	1 161	2 123	2 280	2 304	2 328	2 319	2 339	2 363	2 364	2 365	2 387	2 401	2 416
Domestic use	1,000 ton	1 083	893	1 194	1 136	1 837	1 787	1 782	1 768	1 752	1 736	1 728	1 719	1 707	1 698	1 690	1 683
Producer price	euro/ton	104	104	105	97	100	101	101	102	102	103	104	104	105	105	106	107
Rye																	
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other grains																	
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds																	
Production	1,000 ton	425	405	645	789	1 079	707	614	603	652	630	616	644	681	665	670	673
Domestic use	1,000 ton	372	385	480	499	694	642	679	698	718	737	746	748	755	760	766	771
Rapeseed																	
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sunflower																	
Production	1,000 ton	425	405	645	789	1 079	707	614	603	652	630	616	644	681	665	670	673
Domestic use	1,000 ton	372	385	480	499	694	642	679	698	718	737	746	748	755	760	766	771
Producer price	euro/ton	168	197	220	202	188	203	182	243	205	178	211	258	228	227	223	218
Soybeans																	
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal																	
Production	1,000 ton	73	57	49	60	62	56	61	63	64	64	64	65	66	67	67	68
Domestic use	1,000 ton	92	73	71	79	95	94	95	95	96	96	96	97	97	97	98	98
Producer price	euro/100 kg	176	159	158	157	160	166	167	167	169	172	177	179	183	186	189	192
Pig meat																	
Production	1,000 ton	243	183	62	90	111	106	110	108	106	105	104	103	103	102	102	102
Domestic use	1,000 ton	252	205	80	103	126	127	127	128	127	127	127	127	127	127	126	126
Producer price	euro/100 kg	134	150	158	122	156	157	155	154	154	154	155	155	155	156	156	157
Poultry meat																	
Production	1,000 ton	100	105	72	85	90	93	96	97	99	101	102	104	105	106	108	109
Domestic use	1,000 ton	117	117	101	114	125	129	128	127	126	125	124	123	123	122	121	120
Producer price	euro/100 kg	122	117	111	111	106	103	102	103	104	104	105	107	107	108	109	109
Sheep meat																	
Production	1,000 ton	59	20	19	20	21	21	21	21	21	22	22	22	22	22	22	22
Domestic use	1,000 ton	23	13	12	14	13	13	13	13	13	13	13	13	13	14	14	14
Producer price	euro/100 kg	124	172	160	159	187	177	177	183	181	180	185	190	189	190	192	193
Fluid milk																	
Production-quota	1,000 ton	1 368	1 253	1 306	1 309	1 345	1 468	1 486	1 484	1 497	1 520	1 544	1 567	1 589	1 611	1 635	1 660
Domestic use	1,000 ton	1 656	1 488	1 509	1 460	1 598	1 721	1 740	1 737	1 751	1 773	1 797	1 820	1 843	1 865	1 889	1 914
Whole sale price	euro/100 kg	25	19	17	16	19	21	20	18	18	19	19	19	19	19	19	19
Butter																	
Production	1,000 ton	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2
Domestic use	1,000 ton	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Whole sale price	euro/100kg	269	249	236	231	242	229	219	214	214	213	213	214	213	213	213	212
SMP																	
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Whole sale price	euro/100kg	178	133	118	111	136	136	135	134	134	135	136	136	136	137	137	138
WMP																	
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Whole sale price	euro/100kg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cheese																	
Production	1,000 ton	48	46	82	82	84	94	93	91	91	92	93	94	94	95	96	98
Domestic use	1,000 ton	36	39	74	71	73	76	77	78	78	79	80	80	81	82	82	83
Whole sale price	euro/100kg	167	162	187	195	229	228	230	232	234	237	240	243	246	249	252	255

Source: AGMEMOD Country Models (2006)

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities and cover feedstuffs as the sole input variable, it is possible to project gross agricultural

sector income. This is based on agricultural output value, subsidies on the commodities under consideration (direct payments and SFP) and feed costs. Table 24.6 shows the results for agricultural output, subsidies and gross agricultural income.

Table 24.6 : Agricultural output, subsidies, feed cost and gross income, Bulgaria[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.01	1.00	1.01	1.01	1.01	1.04	1.08	1.08	1.10	1.11	1.12
Subsidies/SFP	2000=1	1.00	1.04	1.05	1.06	1.06	1.05	1.04	1.04	1.04	1.03	1.03	1.03
Feeding costs	2000=1	1.00	1.20	1.19	1.20	1.20	1.19	1.19	1.18	1.18	1.18	1.18	1.18
Gross agric. income	2000=1	1.00	0.98	0.97	0.99	0.98	0.98	1.02	1.06	1.06	1.07	1.09	1.11

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Own calculations

The share of subsidies in agricultural output value for the products under review will remain relatively constant, at 9 to 10%. This is entirely due to the basic assumption that the level of support will remain at the base year level. In the Baseline scenario, agricultural output is projected to increase by 16% in the study period, and gross agricultural income by 17.5%.

24.2 Enlargement Scenario

Basic assumptions for the accession scenario are shown in Table 24.1. As mentioned earlier, macroeconomic assumptions and key (reference) prices are the same as for the Baseline scenario and are shown in Table 24.2 and Table 24.4. In terms of policy, it is assumed that the SAPS will be applied from 2007, as the SAPS payments will increase over the years that follow in accordance with the scheme as adopted: 25% in year 1, 30% in year 2 etc. Reflecting the policy decision, complementary national direct payments (CNDP) amounting to 20% will be applied on the same basis as SAPS. Both types of support (SAPS and CNDP) will be applied on a per hectare basis for both the crop and livestock sectors. No commodity-specific payments are to be applied. The coupled rate for all products analysed is assumed to be 0.5, for both SAPS payments and for CNDP. The milk quota is fixed at 979 000 tonnes. For the purposes of modelling, the direct payments for the livestock sector are recalculated from payments per hectare to payments per head on the basis of density (for cattle 1.4 head per hectare and for sheep 9.3 head per hectare). Detailed descriptions of all policy instruments incorporated in the model are shown in Table 24.7.

Another assumption in the model is that the land allocated to crop products analysed in the model is not limited (there is no equation in the model for restricting the land under grains and sunflower) since the land suitable for cultivating these products greatly exceeds the level used in the transition period. In practice, utilisation of land for these products depends only on economic conditions. The increase in land use under the accession scenario is within the limits of land suitable for grain and sunflower production, and in this context the absence of a land constraint in the model in not problematic.

Table 24.7 : Policy variable assumptions under Enlargement scenario

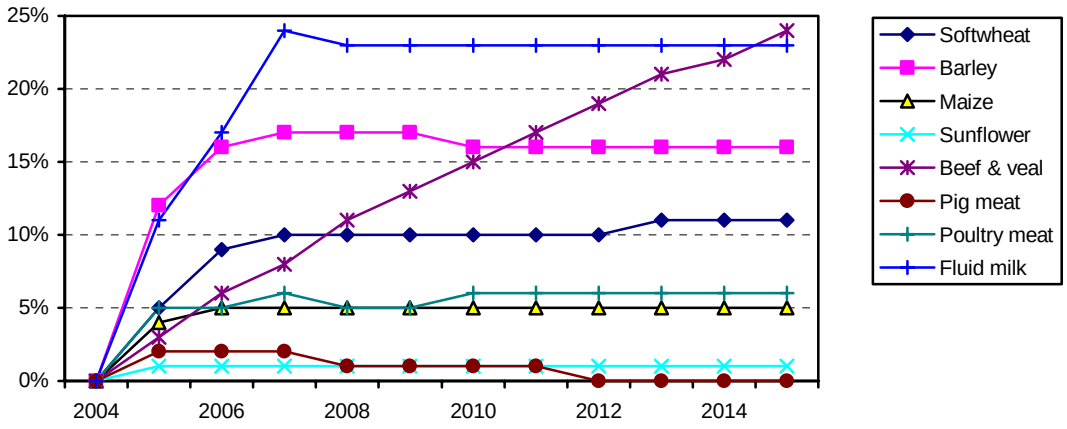
		2000	2004	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Wheat intervention prices	euro/t	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3
Barley intervention prices	euro/t	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3
Corn intervention prices	euro/t	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3	101.3
Direct payments for grains	lv per HA	13.0	20.0	20.0	196.5	214.4	232.3	250.1	268.0	285.9	303.7	321.6	339.5
Direct payments for oilseeds	lv per HA	10.0	13.0	13.0	196.5	214.4	232.3	250.1	268.0	285.9	303.7	321.6	339.5
Milk quota (applied)	1,000 tonne	1253	1330	1384	979	979	979	979	979	979	979	979	979
Suckler cow quota	1,000 head	0	0	0	16	16	16	16	16	16	16	16	16
Beef intervention price	lv/100 kg	0	0	0	171	171	171	171	171	171	171	171	171
Butter intervention price	lv/100 kg	0	0	0	196	196	196	196	196	196	196	196	196
SMP intervention price	lv/100 kg	0	0	0	0	0	0	0	0	0	0	0	0
Suckler and dairy cow premium	lv/head	597	597	597	748	762	775	789	803	817	830	844	858
Male bovine premium	lv/head	0	0	0	151	165	178	192	206	219	233	247	261
Ewe premium	lv/head	0	0	0	21	23	25	27	29	31	33	35	36
Butter cons. subsidy	lv/100 kg	0	0	0	11	11	11	11	11	11	11	11	11
SMP feed subsidy	lv/100 kg	0	0	0	0	0	0	0	0	0	0	0	0

Source: Expert assessment

Main Results

Figure 24.1 shows the percentage changes from the Baseline level projections for the prices of four key commodities in the Bulgarian AGMEMOD model (soft wheat, barley, maize, sunflower, beef, pork, poultry and milk).

Figure 24.1 : Bulgarian Prices: Enlargement Scenario (% Δ from Non-Enlargement Baseline)



Source: Bulgarian AGMEMOD Model (2006)

As illustrated in Figure 24.1, the most substantial price increases after accession to the EU could be expected in milk prices (close to 25%) followed by barley prices (17%) and wheat (10%). For all other products analysed, except for beef, the initial increase in prices would be at most 5%. Beef price in the base year is substantially lower than the EU key price, and price transmission could be expected to increase, and by the end of the projection period the price gap would be eliminated. After accession to the EU it could be expected that prices of all products analysed will move largely in line with the EU key prices and the changes would be much smaller than in the previous period.

Grains and oilseed sectors

As a result of the price increase for all three grains analysed, relative to the Baseline scenario, grain production in Bulgaria is expected to increase by nearly 11%, by 16% for wheat and 20% in the case of barley. In addition to this positive price movement, the increase in production is also driven by the substantial increase in support for farmers (although even with only 50% of the direct payments considered as coupled support it is much higher than

under the Baseline). As a result of the negative relative change in prices for maize, production of maize is expected to decline by 2% compared to the Baseline projection, but it will remain 12% higher than in the base year. The increase in production is a result of the increase in area harvested for all three grains as well as the increase in yields (with the exception of maize, for which a slight decline compared to the Baseline is observed; this could be explained by the negative relative change in prices).

Total grains domestic consumption is expected to decline by 13% compared to the base year as a result of a decline in both feed use (reduction in the number of animals) and food use (decline in the human population). Compared to the Baseline, domestic consumption is expected to increase slightly (by 0.5%), as maize consumption is projected to increase by 5%, compensating for the reduction in use of wheat (2%) and barley (3%). Under the accession scenario, it is expected that Bulgaria will remain a net exporter of grains as the level of export will be higher than under the Baseline.

Sunflower seeds production will increase by 40% compared to the Baseline, the main reason for this being the much higher support (although only 50% is considered coupled) than under the Baseline and the substantially higher price compared to the base year. This increase in production is a result of both the increase in area harvested (20%) and higher yields (2%) compared to the Baseline. As a result of the price increase compared to the Baseline, per capita consumption will decline, followed by a reduction in total domestic use estimated at 10% compared to the Baseline. In nominal terms the total domestic consumption of sunflower seeds will remain at the level of 2004, which is well above the previous year's level (this is explained in detail in the description of the Baseline results). As for grains, Bulgaria will remain a net exporter of sunflower seed, as the level of export will be higher than under the Baseline.

Livestock and dairy sectors

Generally speaking, the results for the livestock sector under the accession scenario show that the application of SAPS and NCDP, while boosting the level of support to farmers, does not have a positive impact on the sector, with the exception of the sheep sector. The most important results relate to cattle. As a result of the positive relative price changes over the projection period, it is projected that animal numbers and productivity will increase. In respect of productivity, slaughter weights are projected to increase relative to the Baseline by 3% and in the case of milk by 6%. However, the milk quota is quite restrictive for Bulgaria and as a result the number of dairy cows is projected to decline from 2007, so that by 2015 the decrease is estimated at 10% compared to the base year and by 24% compared to the Baseline. This reduction in the number of dairy cows is reflected in the total number of cattle, and the decline is estimated at 13% compared to the Baseline. Against the background of a decline in beef and veal production of 4%, part of the reduction in total cattle slaughtered (13%) will be offset by the increase in slaughter weight.

Compared to the Baseline, the impact of increases in beef prices on per capita consumption will be practically offset by the increase in income, but the increases are projected to lead to lower per capita consumption increase than in the Baseline. Following on from this, the total domestic consumption of beef is projected to be less than 4% lower than in the Baseline.

In the accession scenario, the steeper increase in feed prices relative to pork and poultry prices leads to some reduction in pork and poultry production and is not projected to be offset by the increase in productivity. It is estimated at 4% and 1% respectively. The negative

relative price impact on these two sub-sectors is not projected to be offset, since there is practically no support going to them. Initially it is projected that there will be a slight decline in per capita domestic pork consumption as a result of the price increase under the accession scenario. Thereafter pig meat prices decline somewhat (they are even lower than under the Baseline), and domestic consumption per capita is projected to increase by 5% compared to the Baseline by 2015. Domestic use will be 5% higher compared to the Baseline. In contrast to pig meat, the poultry price increase under the accession scenario is higher than under the Baseline, and hence the domestic consumption of poultry is lower than in the Baseline by 1%.

As mentioned above, the impact of the introduction of the CAP on sheep production is positive in terms of the number of animals and sheep meat production. This is a result of the positive price change (23% compared to the Baseline) and the substantial increase in support to the sector. The increase in the number of sheep is estimated at 28% compared to the Baseline. This is also the case for lamb production. Generally, domestic consumption of lamb is low (mainly seasonal) and the price elasticity of lamb consumption is low. Accordingly, the price increase for lamb does not impact much on domestic consumption, and under the accession scenario it is estimated to decrease by 5%.

As a result of the restrictive impact of the milk quota, milk production under the accession scenario is 23% lower than under the Baseline. Lower milk production impacts mainly on the production of cheese, estimated to be 28% lower than under the Baseline. This reduction is not so much the result of a price change as of the reduced supply of milk. Butter production will be lower compared to the Baseline for the same reason, but the reduction is estimated at no more than 1%. There is not a great deal of change in milk and dairy products domestic consumption. However, under the Baseline, Bulgaria is projected to remain a net exporter of cheese, while under the accession scenario it would be a net importer of cheese.

Detailed results under the Enlargement scenario are shown in Table 24.9.

Agricultural income

When compared to the Baseline, Bulgarian gross agricultural income increases under the Enlargement scenario by 56%. This result is mainly due to the substantial increase in subsidy receipts (over four times higher) and to a lesser extent to the increase in output (by 13%).

Table 24.8 : Bulgaria: Enlargement Scenario (% Δ from Baseline)

	2007	2007	2007	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	0%	2%	5%	10%	10%	11%	12%	13%	13%	13%	13%	14%
Subsidies/SFP	0%	-2%	0%	199%	230%	258%	288%	320%	354%	384%	416%	449%
Feeding costs	0%	11%	14%	13%	11%	10%	10%	10%	10%	10%	9%	9%
Gross agric. income	0%	-1%	2%	31%	35%	38%	41%	45%	48%	51%	54%	57%

Source: Bulgarian AGMEMOD Model (2006)

Table 24.9 : Bulgaria: Enlargement scenario projections for main agricultural products

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains												
Production	0.0%	-10.6%	-12.6%	7.0%	3.8%	-5.6%	6.7%	7.4%	7.9%	9.1%	10.0%	10.9%
Domestic use	0.0%	3.1%	3.2%	2.3%	1.4%	1.2%	1.2%	1.1%	0.9%	0.8%	0.6%	0.4%
Soft wheat												
Production	0.0%	-6.8%	-9.8%	11.1%	7.9%	9.6%	11.1%	11.9%	12.6%	13.9%	15.0%	16.0%
Domestic use	0.0%	-0.7%	-0.2%	-0.1%	-1.1%	-1.3%	-1.3%	-1.2%	-1.4%	-1.5%	-1.6%	-1.6%
Producer price	0.0%	4.6%	8.6%	10.1%	10.0%	10.1%	10.3%	10.4%	10.5%	10.6%	10.7%	10.7%
Durum wheat												
Production												
Domestic use												
Producer price												
Barley												
Production	0.0%	-1.3%	-4.1%	16.8%	13.0%	14.6%	15.9%	16.5%	16.9%	18.1%	18.9%	19.8%
Domestic use	0.0%	4.4%	4.1%	0.3%	-0.9%	-1.0%	-1.1%	-1.4%	-1.8%	-2.1%	-2.4%	-2.8%
Producer price	0.0%	12.2%	15.6%	17.2%	16.5%	16.5%	16.4%	16.3%	16.3%	16.2%	16.1%	16.0%
Maize												
Production	0.0%	-21.0%	-21.5%	-4.2%	-7.5%	-6.2%	-5.1%	-4.6%	-4.2%	-3.3%	-2.6%	-1.9%
Domestic use	0.0%	8.5%	8.0%	6.7%	6.0%	5.8%	5.7%	5.6%	5.3%	5.1%	4.9%	4.6%
Producer price	0.0%	3.8%	5.3%	5.5%	4.8%	4.9%	5.0%	5.0%	5.0%	5.0%	5.1%	5.1%
Rye												
Production												
Domestic use												
Producer price												
Other grains												
Production												
Domestic use												
Producer price												
Total oilseeds												
Production	0.0%	-10.4%	9.1%	-1.7%	36.2%	35.8%	35.9%	38.3%	41.0%	40.8%	41.6%	42.3%
Domestic use	0.0%	-4.4%	-6.5%	-8.9%	-9.5%	-9.3%	-9.7%	-10.7%	-10.7%	-10.6%	-10.3%	-10.0%
Rapeseed												
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower												
Production	0.0%	-10.4%	9.1%	-1.7%	36.2%	35.8%	35.9%	38.3%	41.0%	40.8%	41.6%	42.3%
Domestic use	0.0%	-4.4%	-6.5%	-8.9%	-9.5%	-9.3%	-9.7%	-10.7%	-10.7%	-10.6%	-10.3%	-10.0%
Producer price	0.0%	0.6%	1.0%	1.4%	1.1%	0.8%	1.1%	1.4%	1.2%	1.2%	1.2%	1.2%
Soybeans												
Production												
Domestic use												
Producer price												
Beef and veal												
Production	0.0%	-1.4%	3.4%	8.5%	-5.3%	-11.7%	-11.6%	-11.3%	-11.8%	-12.6%	-13.2%	-13.8%
Domestic use	0.0%	0.8%	0.3%	-0.2%	-0.9%	-1.4%	-1.7%	-2.0%	-2.5%	-2.9%	-3.3%	-3.7%
Producer price	0.0%	3.3%	5.8%	8.4%	10.7%	12.7%	14.6%	16.7%	18.7%	20.5%	22.3%	24.1%
Pig meat												
Production	0.0%	5.7%	3.3%	0.6%	-0.9%	-1.7%	-2.2%	-2.7%	-3.2%	-3.5%	-3.8%	-4.0%
Domestic use	0.0%	1.5%	1.7%	2.3%	2.6%	2.9%	3.2%	3.6%	3.8%	4.1%	4.3%	4.6%
Producer price	0.0%	1.7%	1.9%	1.8%	1.3%	0.9%	0.8%	0.7%	0.5%	0.3%	0.1%	-0.1%
Poultry meat												
Production	0.0%	-0.8%	-1.1%	-1.2%	-1.3%	-1.2%	-1.2%	-1.3%	-1.3%	-1.2%	-1.2%	-1.2%
Domestic use	0.0%	-0.8%	-0.6%	-1.0%	-0.8%	-0.7%	-0.9%	-1.2%	-1.0%	-1.0%	-1.0%	-1.0%
Producer price	0.0%	5.2%	5.2%	6.2%	5.5%	5.1%	5.6%	6.3%	5.8%	5.8%	5.8%	5.7%
Sheep meat												
Production	0.0%	0.1%	0.3%	4.3%	7.9%	12.3%	15.8%	18.7%	21.4%	23.8%	26.2%	28.5%
Domestic use	0.0%	1.3%	1.9%	3.0%	2.9%	2.9%	3.6%	4.4%	4.4%	4.7%	4.9%	5.1%
Producer price	0.0%	15.5%	15.8%	14.5%	14.9%	15.4%	14.2%	13.4%	13.7%	13.5%	13.3%	13.2%
Fluid milk												
Production-quota	0.0%	6.4%	6.2%	-17.2%	-18.1%	-17.1%	-18.0%	-19.3%	-20.3%	-21.2%	-22.2%	-23.2%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	11.3%	17.0%	23.8%	22.8%	22.6%	22.9%	23.2%	23.0%	23.0%	22.9%	22.9%
Butter												
Production	0.0%	25.4%	22.8%	-51.5%	-44.9%	-39.2%	-41.4%	-44.3%	-46.2%	-47.7%	-49.2%	-50.7%
Domestic use	0.0%	-0.8%	-0.8%	-0.3%	-0.5%	-0.4%	-0.5%	-0.6%	-0.5%	-0.6%	-0.6%	-0.6%
Whole sale price	0.0%	3.3%	3.0%	3.7%	4.5%	4.2%	4.5%	5.0%	4.8%	4.9%	5.0%	5.0%
SMP												
Production	0.0%	116.7%	154.5%	-100.0%	-100.0%	-100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	3.2%	1.9%	11.0%	15.4%	0.3%	-3.6%	-3.8%	-3.7%	-4.2%	-5.1%	-5.8%	-6.8%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
WMP												
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cheese												
Production	0.0%	11.6%	10.4%	-23.3%	-20.7%	-18.6%	-20.2%	-22.2%	-23.7%	-25.0%	-26.4%	-27.9%
Domestic use	0.0%	-0.4%	-0.6%	-0.7%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%
Whole sale price	0.0%	1.4%	2.2%	2.3%	0.0%	0.0%	0.3%	0.3%	0.1%	0.0%	0.0%	-0.1%

Source: Bulgarian AGMEMOD Model (2006)

25 Romania

Cristian Kevorchian, Camelia Gavrilescu and Dinu Gavrilescu, Institute of Agricultural Economics, Bucharest, Romania

25.1 Baseline (Non-Enlargement)

Pre-accession agricultural policy in Romania has been highly variable and inconsistent, with frequent changes in the nature and volume of support measures applied, thus rendering the modelling task quite laborious. Many elements of Romanian transition and pre-accession agricultural policy have been different or did not work in the same way as the EU CAP. The policy pattern under the CAP proved difficult to implement in the country model, because the policy elements are not the same.

Policy assumptions for Baseline

The general pattern of support for agriculture in Romania during the pre-accession period may be described by the use of three main policy instruments: price support for wheat, milk and pork; subsidised credit for investments; and, since 1997, though bearing various names and forms of practical implementation, general support for agricultural land owners rather similar in principle to the direct payments systems used in the EU.

The price support for products has varied greatly during the pre-accession period, with some years of declining prices (1997-1998), and has been granted only for part of the output, not for all the production; thus the average unit price subsidy has been very low. The direct payments increased in the period 2001-2004, but still remained low when compared with EU payment levels. We have assumed that the support scheme for specific products that has been applied over the past five years will continue in a non-enlargement scenario. Specific market support has been granted for limited quantities of wheat and barley for brewing (accounting for some 15-20% of total barley production), as well as for meat (beef, pork, chicken) and milk. Such support from the national budget is assumed to continue until 2015.

Since in recent years Romanian agricultural policies have changed frequently and were very different in content, targeted products and value of support, and since policies over the past five years have been shaped to converge to the EU CAP, we have assumed that for modelling purposes, a form of simplification had to be used: all of the diverse types of policy instruments and various forms of implementation in Romanian agricultural policy have been approximated within the Romanian AGMEMOD model as price supports and direct payments. In order to estimate the impact of Romanian agricultural policy on supply, the modelling of the pre-accession policy has been structured in a "CAP-like mode", using the main elements of the PSE (direct support, indirect support, market price support), and appropriate multipliers. The agricultural policy used in the Baseline is assumed to be the unchanged pre-accession policy regime for the period 2004 to 2015, using as main policy variables price support and direct payments.

The amount of support for investment in commercial farms in Romania has been low (maximum 4% of the total support granted for agriculture), this has prevented Romanian farmers from making make significant investments, such as for purchasing land in the way necessary for farms in Romania to increase (average area per farm is 2.3 ha, divided into three plots), or to buy machinery to boost agricultural productivity. Since in the non-enlargement scenario the prevailing credit system for agriculture is assumed to continue, with associated difficulties in the provision of credit to small-scale producers (which are the largest number) arising in part due to high transaction costs and the lack of specific credit facilities, one can

expect some gains in productivity, but not spectacular ones that would give rise to significant increases in crop production yields.

In the Romanian animal husbandry sector, the support programme for improving the genetic pool for cows, and which helped farmers to buy higher quality cows and heifers, yielded some good results which would be expected to continue in the non-enlargement scenario, since the programme has been quite popular and has involved smaller financial efforts on the part of the farmers (as compared to the greater effort needed to invest in crop farms). Therefore, over the Baseline scenario projection period we expect to see more substantial productivity gains for the beef and milk sector as compared to the crop sector. Milk production is expected to increase as well, since there are no policy obstacles restricting output quantities like the milk quota applicable in the old EU Member States.

The reference prices used in the model are generally the EU key prices; the only exception being the sunflower module, where the key prices (for seeds, meals and oil) are world prices; the same key prices have been used in both the non-enlargement and the enlargement scenario. The world market price projections and the key prices projections are based on the AGMEMOD combined EU15 model.

For the country level assumptions, such as macroeconomic projections for population, GDP and inflation rate, we used country updates, and FAPRI projections as inputs in the simulation of the Romanian model in its standalone mode.

A summary of the specific assumptions on macroeconomic variables for Romania that underlie the model's Baseline projections up to 2015 is given in Table 25.1.

Table 25.1: Assumptions on macroeconomic variables for Romania

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Population	million	22.4	21.6	21.6	21.6	21.5	21.5	21.5	21.5	21.4	21.4	21.4	21.4
GDP	bil. Euro97	42	78	100	100	100	105	110	116	122	129	137	144
GDP per capita	Euro97/cap	1888	3621	4617	4630	4666	4892	5141	5414	5690	6017	6381	6748
Inflation	1997=1	1.00	0.93	0.81	0.86	0.83	0.80	0.88	0.91	0.94	0.87	0.92	0.92

Source: National Statistical Institute, National Bank of Romania, FAPRI

Grain and oilseeds sector

The Baseline projections indicate that Romanian grain prices will increase by an average of 2% over the projection period. Romanian maize prices are projected to increase by 3% while the projected increase in the price of barley and soft wheat is approximately 1% between 2005 and 2015. Total grain area harvested in Romania under the Baseline is projected to remain stable, due to unchanged government support for these products.

Despite static total area harvested over the projection period, total Romanian grain production is expected to grow by 10% over the Baseline projection period. Maize production will account for the majority of this, with production projected to increase by 15%; wheat and barley production is projected to increase by 4%. Meanwhile, wheat production under the Baseline is projected, by 2015, to reach a level of 6.5 million tonnes; which should more than equal domestic Romanian demand, given that for wheat, self-sufficiency for human consumption is achieved above the 4 million tonnes mark. However, since Romanian prices are projected to outstrip world prices, and because Romanian wheat is viewed as lower quality, Romania will not be able to export wheat on the international markets. As noted above, Romanian maize production is projected to grow to 13 million tonnes by 2015; improved yields per hectare being the principal driver of increased maize production.

Total Romanian domestic consumption of grains is, under the Baseline, projected to increase in tandem with increased production, with total use in 2015 projected to be over 12% higher than in 2005. The most notable increase in domestic use is expected to be for barley, which between 2005 and 2015 increases by 27%. This is due to increased use of barley for malting purposes. Considerable foreign direct investment has been made in the Romanian brewing industry, and it is expected to expand over the projection period. Romanian domestic beer production increased by 47% between 1999 and 2004, and beer consumption has also grown at the expense of wine consumption in Romania. Romanian maize consumption is projected under the Baseline to grow by 12%, with most of this due to increased feed use. In recent years, Romania has been a net exporter of barley and maize, and in the Baseline scenario this is projected to continue to be the case. Despite a slight increase in producer prices for both maize and barley, up by 7%, and 3% respectively, Romanian prices remain slightly below the European level, and thus in the non-enlargement scenario, exports of approximately a million tonnes for each of these grains is projected.

Sunflower seeds account for approximately 95% of total oilseeds production in Romania. In the Baseline scenario, sunflower seeds production is expected to expand significantly (by 40% between 2005 and 2015). This projected expansion is due both to area growth (at the at the expense of other industrial crops) and projected higher yields. Romania has always been among the top sunflower seed producers and exporters in Europe, its climate being very well suited to this crop; yet, due to technological (rotation) restrictions, the area expansion is restricted to 1.3 million hectares. Despite a projected increase of 20% in the producer price over the projection period, the Romanian sunflower seed price will remain below the world price over the projection period. Domestic consumption is projected to increase by 20% between 2005 and 2015, as exports of sunflower seed oil are projected to increase over the next ten years. This projected development increases the domestic demand for sunflower seeds for crushing.

Livestock sector

The general economic growth Romania experienced over the past six years is expected to continue over the medium term. This projected development will result in higher per capita incomes, and thus in increasing demand for meat (Romania's meat per capita consumption was less than half that of the EU in 2002).

The Baseline projections show that the Romanian cattle herd will increase slightly, supported by product-oriented policies aimed at boosting beef production and consumption. Producer prices are under the Baseline projected to increase by 14% between 2005 and 2015, this being due to improved feed ratios and the purchase of better quality animals within the national support programme for improved genetic potential, as well as extra expenditure for converting a proportion of the Romanian cattle herd from milk or mixed production breeds to meat producing breeds. Romanian beef prices are projected to remain well below EU prices, but with the meat that is produced by slaughtering the existing cattle providing low quality meat, exports to international markets are not projected. Under the Baseline, Romanian beef and veal production is projected to increase by 15% between 2005 and 2015, while domestic consumption is expected to grow at a faster rate, with domestic use in 2015 22% higher than in 2005. The developments in production and use of beef in Romania are thus projected to lead to a widening of the gap between production and domestic consumption, and to lead to increased imports of beef into Romania of approximately 10-15 000 tonnes per year.

Over the Baseline projection period, pork will remain the favoured type of meat consumed in Romania. The Baseline scenario shows that domestic production is projected to remain relatively stable, with an increase of 3%. The producer price for pork in Romania is projected to increase over the Baseline period by 6%. Nevertheless, as mentioned above, domestic demand will grow faster, widening the current gap between domestic supply and demand. For the past decade, the major pig husbandry industrial complexes in Romania have been very inefficient, incurred huge financial losses and subsequently went bankrupt and closed down; Romanian pork production has consequently been confined mostly to peasant households and has declined significantly. As a result, since 1997, Romania has been a net importer of pork. The non-enlargement scenario shows that Romania will increase its pig meat imports in the projection period to about 90 000 tonnes per year. Table 25.2 show the baseline results for the products in the Romanian model.

Milk is the only Romanian agri-food sector that since the early 90's has showed a positive trend in production: continuously increasing yields and a steady growth in production. In the non-enlargement scenario, the Romanian dairy cow herd continues to grow; while steady gains in milk productivity are projected due to improved feeding ratios. Over the period 2005 to 2015 this is projected to lead to growth in the production of milk of 9%.

The need to reduce milk cow herds is due to the Romanian milk quota that will be introduced after accession: the quota is supposed to be produced by half of the current dairy cow herd. Milk production in the non-enlargement scenario is not limited by a quota, and production is already 80% higher than the quota allocated for Romania under the CAP. Nevertheless, of the milk produced, only 40% is sold, the rest being consumed or processed on-farm. The producer price for milk will increase slightly (+9%), due to increased costs required by the start of compliance with quality and hygiene rules for raw milk production. It seems that the milk sector is the one needing the largest investments in technology and production facilities in order to comply with the EU-CAP requirements for these products.

So far, dairy product commodities are not included in the Romanian model. Increasing the commodity coverage will be one of the challenges of the AGMEMOD2020 sixth framework project.

Table 25.2: Baseline results concerning main commodities of Romania

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains													
Production	1,000 ton	19431	19579	19733	19892	20055	20223	20393	20566	20741	20918	21097	21337
Domestic use	1,000 ton	15808	15978	16148	16318	16488	16658	16829	16999	17169	17338	17509	17705
Soft wheat													
Production	1,000 ton	6249	6236	6230	6229	6232	6239	6249	6262	6277	6294	6313	6402
Domestic use	1,000 ton	4511	4537	4563	4589	4614	4640	4666	4692	4718	4744	4770	4822
Producer price	euro/ton	107	106	110	105	104	106	104	106	106	106	107	108
Durum wheat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Barley													
Production	1,000 ton	2550	2560	2571	2581	2592	2602	2613	2624	2634	2645	2655	2656
Domestic use	1,000 ton	1300	1336	1371	1406	1442	1477	1512	1548	1583	1617	1654	1689
Producer price	euro/ton	98	98	98	98	97	97	97	97	98	98	98	98
Maize													
Production	1,000 ton	10633	10782	10932	11082	11231	11381	11531	11680	11830	11980	12130	12279
Domestic use	1,000 ton	9997	10106	10215	10323	10432	10541	10650	10759	10868	10976	11085	11194
Producer price	euro/ton	106	105	105	105	104	104	104	104	105	105	105	105
Rye													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Other grains													
Production	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1000 tons	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Total oilseeds													
Production	1,000 ton	1063	1108	1153	1198	1242	1287	1332	1377	1422	1467	1512	1557
Domestic use	1,000 ton	1161	1132	1153	1174	1195	1217	1238	1259	1280	1301	1322	1343
Rapeseed													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Sunflower													
Production	1,000 ton	1063	1108	1153	1198	1242	1287	1332	1377	1422	1467	1512	1557
Domestic use	1,000 ton	1161	1132	1153	1174	1195	1217	1238	1259	1280	1301	1322	1343
Producer price	euro/ton	187	194	201	208	215	249	251	252	253	254	255	256
Soybeans													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/ton	0	0	0	0	0	0	0	0	0	0	0	0
Beef and veal													
Production	1,000 ton	173	200	198	202	209	208	212	215	217	221	222	225
Domestic use	1,000 ton	194	199	203	207	211	216	220	224	229	233	237	241
Producer price	euro/100 kg	188	191	193	196	199	201	204	206	209	211	214	216
Pig meat													
Production	1,000 ton	491	493	495	498	499	501	503	505	506	507	509	510
Domestic use	1,000 ton	524	533	541	548	554	560	566	571	576	581	585	590
Producer price	euro/100 kg	117	118	119	120	121	122	123	124	125	125	126	127
Poultry meat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/100 kg	0	0	0	0	0	0	0	0	0	0	0	0
Sheep meat													
Production	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Domestic use	1,000 ton	0	0	0	0	0	0	0	0	0	0	0	0
Producer price	euro/100 kg	0	0	0	0	0	0	0	0	0	0	0	0
Fluid milk													
Production-quota	1,000 ton	4940	4981	5022	5063	5104	5145	5187	5228	5269	5310	5351	5393
Domestic use	1,000 ton	5471	5460	5449	5438	5427	5416	5405	5394	5383	5372	5362	5351
Whole sale price	euro/100 kg	15	15	15	15	15	15	16	16	16	16	16	16

Source: Romanian AGMEMOD Model (2006)

Agricultural income

Although the AGMEMOD country models cover a restricted set of agricultural commodities and cover feedstuffs as the sole input variable, it is possible to approximate the development of gross agricultural sector income. This is based on the development of agricultural output value, subsidies (direct payments and price support) made to the Romanian producers of the commodities under consideration, and feed costs respectively. Table 25.3 gives the results for agricultural output, subsidies and gross agricultural income.

Table 25.3: Agricultural output, subsidies, feed cost and gross income, Baseline, Romania[1]

	Unit	2000	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2000=1	1.00	1.09	1.11	1.13	1.14	1.16	1.18	1.20	1.21	1.23	1.25	1.26
Subsidies/SFP	2000=1	1.00	1.95	1.95	1.96	1.96	1.97	1.97	1.98	1.99	2.00	2.00	2.00
Feeding costs	2000=1	1.00	0.96	0.95	0.96	0.98	0.99	1.01	1.01	1.01	1.01	1.01	1.02
Gross agric. income	2000=1	1.00	1.14	1.16	1.18	1.20	1.21	1.23	1.25	1.27	1.29	1.31	1.33

[1)] Output, subsidies, costs and income are related to the commodities analysed in the JRC-IPTS study.
Source: Romanian AGMEMOD Model (2006)

In the Baseline scenario Romanian agricultural output value is projected to increase by 18% in the review period, while Baseline gross agricultural income is projected to grow by 20% between 2005 and 2015. The assumption for the Baseline is that the policy applied in 2005 will continue over the projected period. The price support component of total subsidies grows with production, resulting in a 15% projected increase in the value of subsidies over the period 2005 to 2015. Nevertheless, since total agricultural output grows at a higher rate, the share of subsidies declines in relative terms from 4.5% to 4.1%.

25.2 Enlargement scenario

While in the old MS, application of SFP will be generalised as from 2007, and in the new MS application of SAPS (Single Area Payment Scheme) will benefit from three years of experience before they make the shift to SFP, in Romania, application of SAPS will only start in 2007 in tandem with accession to the EU.

Policy assumptions for the enlargement scenario

The macroeconomic indicators are the same as in the Baseline (non-enlargement) scenario, as shown in Table 25.1. The reference key market prices are the updated key prices from the combined EU model for wheat, barley, maize, beef and veal, pork, and the world market prices for sunflower seeds, sunflower meal and sunflower oil.

The agricultural policy assumptions are:

- application of SAPS starting in 2007, until 2015, with phasing-in rates from 2007-2016; coupling rates =0.5; multiplier rates =0.5;
- complementary national direct payments (CNDP) which will go along with the EU payments; coupling rates =0.5 for the national top-up rates until 2016, multiplier rates =0.5.

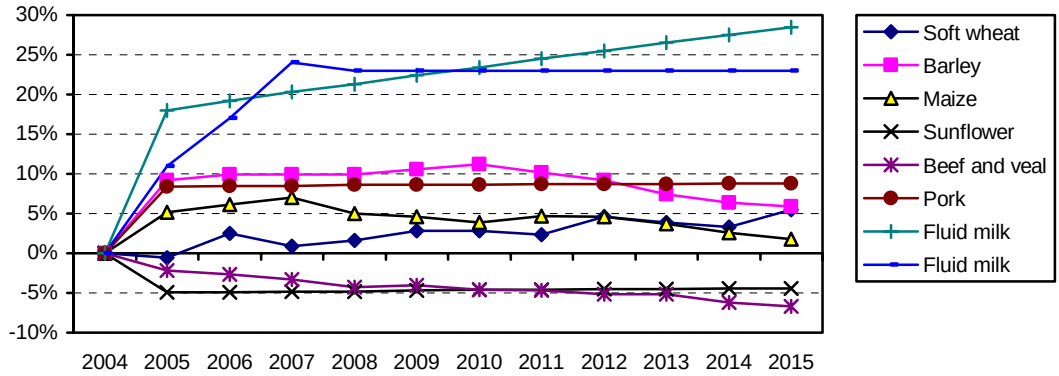
The phasing-in rates are as applied in the new MS: 25% of the EU payments for old MS in 2007, 30% in 2008, 35% in 2009, 40% in 2010, 50% in 2011, and a subsequent 10% increase each year, to reach 100% EU payments in 2016. The national complementary direct payments (NCDP) have been fixed at the maximum 30% top-up using the same base as SAPS, and will be applied per hectare for both the crop and livestock sectors. No commodity-specific payments are to be applied for the moment. The coupled rate for all analysed products is

assumed to be 0.5, both for SAPS and CNDP. The milk quota is assumed to be fixed at 3.07 million tonnes per year.

Main results

In the enlargement scenario, most of the Romanian agricultural prices increase. The most substantial projected price increases are for milk (+28%), pork (+9%) and wheat (+6%) (see Figure 25.1). On the other hand, the projected prices for sunflower and beef are projected to decline by 5% and 7% respectively. It is expected that the key price transmission would increase towards 2015, and that the prices for most Romanian products will converge towardsEU prices, albeit at a slower pace than in the non-enlargement scenario. However, this convergence process is not projected for beef, where prices will remain well below those projected for the wider EU,.

Figure 25.1: Romanian prices: Enlargement scenario (% Δ from Non-enlargement Baseline)



Source: Romanian AGMEMOD Model (2006).

One important gain that is projected to occur with implementation of the CAP in Romanian agriculture is a significant increase in the support level mostly for crops, beef and milk; for instance, direct payments in the first year of enlargement (when they amount to only 25% of the EU subsidies + the national top-up) are almost three times higher than the equivalent subsidies paid in 2004-2005. It is expected that these increased payments for agricultural products will not be reflected proportionally in producer prices, but will contribute within some years after accession to a significant improvement in technology and farm efficiency, which is known to be very low on the majority of the Romanian farms.

Grain and oilseeds sector

The positive price change that is projected under the accession scenario for all three grains as compared to the non-enlargement scenario would result in a 4% increase in Romanian total grains production and a 6% increase in consumption. The main projected gains in cereal production are projected for wheat (+16%), and for barley (+10%). Romanian maize production is projected to decline by 5% as compared to the Baseline scenario, due to the impact of negative relative price changes for maize. Nevertheless, maize production in the enlargement scenario is still 12% higher compared to 2005. The positive change in domestic consumption is generally linked to higher feed use (for wheat and maize), and offsets a projected lower level of domestic use of barley.

For the past decade, Romanian wheat prices have been higher than European ones, due to low yields (e.g. in 2001-2003, Romanian grain yields were only 30% of EU-15 yields) and poor

efficiency. Given that, it is unlikely that Romanian yields will match those in the EU even by 2015, and efficiency is projected to remain lower in Romania compared to the old MS. The growth in domestic consumption of grain (+25%) is due exclusively to increased feed use. In the projection period, the wheat price will be higher than in the Baseline; prices will grow more slowly in the first years after accession, and faster after 2011, reaching a point 6% higher than in the Baseline in 2015. Prices for barley and maize are below international market prices over the entire projection period. Both products, wheat and barley, will retain their competitive advantage on the European market, and Romania will maintain its net exporter position for these two grain types.

In the enlargement scenario, sunflower seed production will remain the most successful Romanian crop. Because its technology is somewhat more demanding than for wheat, barley and maize, sunflower is generally cultivated on larger farms (and not on small-size subsistence farms). These farms are generally in a better position to purchase better technology, use certified seeds, mechanical operations and pesticides. Sunflower seed area harvested will increase in 2015 as compared to 2005 under the accession scenario but, as mentioned in the Baseline scenario discussion, there is a technological limit beyond which the area under sunflower cannot expand (1.3 million hectares). It is projected that under the accession scenario a further increase in production (+23%), due largely to improving yields, will occur over the ten-year period 2005 to 2015. Projected sunflower seed prices, as noted above, are under the accession scenario projected to decrease slightly, and are thus projected to remain below international market prices. Domestic consumption of sunflower seeds in Romania under the accession scenario is expected to grow (+31%), along with increased demand for crushing; so further increases in sunflower oil exports are projected.

Beef and veal benefited from price subsidies starting in 2001, but these subsidies were, as noted earlier, at a very low rate compared to EU levels (in 2004, the average price subsidy was about € 9 per tonne). In the enlargement scenario, Romanian beef production is projected to expand significantly (+49%). There are two main reasons for this: one quantitative and one qualitative. The quantitative reason is that dairy cow herds will decrease significantly after accession: the current number of dairy cows is more than double the number accepted for the milk quota, and more and more of these animals are likely to be slaughtered over the projection period, leading to increased production of cull cow beef. The qualitative reason is that subsidies that will be paid as part of the CAP will be a strong incentive for increased investment in meat-producing breeds, to replace in time part of the existing dairy cow breeds. The result of this projected cattle breed change will be higher meat production of better quality, to comply with EU quality requirements, and thus Romania is projected to become an beef exporter. The domestic consumption of beef in Romania under the enlargement scenario is projected to grow (+15%). The excess domestic supply arising from the excess of growth in production over growth in consumption is projected to lead to a decrease in prices under the enlargement scenario (-6%), and higher per capita income will also push up the level of meat consumption.

Since the bankruptcy and closing down of the huge state-owned pig husbandry industrial-type complexes which started in 1997, pig husbandry shifted to small-size, inefficient farms, which produced at high prices, and Romania became a net pork importer. The sector is recovering, but with difficulty, and the herd number has started increasing again since 2001. This trend is expected to continue under the enlargement scenario, and subsequently pork production is projected to grow in the enlargement scenario by 19%. Romanian domestic consumption of pig meat is projected to expand, but at a slower rate than in the Baseline (+11%). The

increasing demand for pig meat is projected, via increased prices, to create incentives for an expansion of pork production. The need for investments in larger and more efficient production facilities, together with measures needed for environmental protection, are arguments for the slight price increase in the projection period. The national supply will remain below demand, and Romania will thus remain a net importer for pork.

As mentioned above, the introduction of the milk quota in Romania following accession to the EU will have a strong impact on the sector. First, dairy cow numbers will decrease substantially over the period 2007 to 2015, since only 47% of the current head number is considered for the milk quota. Obviously, not all the extra numbers are projected to be slaughtered immediately. Firstly, because the current milk yield is lower than the yield considered in calculating the quota, so at least in the first years following accession, a higher number of animals will be necessary to be able to meet the agreed Romanian milk quota. This is the case for small-size farms wishing to expand to commercial production, for which a special 3-year programme for semi-subsistence farms will be operational right after accession. In this programme, support of € 1500 per year will be provided for three years for small farms wishing to develop on the basis of a competitive business plan. Secondly, there are a very high number of subsistence farms which will continue to hold one or two cows and produce milk for on-farm consumption as fresh milk and processed dairy products. Since production is limited by the quota, the price increase will not influence it, but will most probably have a positive impact on quality. Substantial investment is necessary in the sector in order to comply with the quality, hygiene and veterinary requirements for raw milk.

The milk quota is rather restrictive for commercial Romanian milk production: the current level is almost double the quota. Therefore, milk production is expected to decrease significantly in the enlargement scenario: by an estimated 35% after accession (as compared to the Baseline); and the downward trend will continue until 2015, when it is projected to be by 45% lower than in the Baseline. Domestic use will decline along with production. The income growth seen in Romania since 2000 increased the demand for dairy products (yoghurt and cheese); the decline in the milk supply in the enlargement scenario will push up imports of dairy commodities since far less milk will be available for processing in Romania. As mentioned above, milk prices are showing the highest increase among all the other agricultural products (+28%).

Detailed results under the enlargement scenario are set out in Table 25.4.

Under the enlargement scenario, gross agricultural income in Romania is projected to increase by 21% for the products analysed. This result is positively influenced by the substantial increase in subsidy receipts, these are projected to increase by 4.6 times; on the other hand, the substantial decline in the volume of milk output (-45%) has a strong negative impact on the value of agricultural output value as compared to the Baseline scenario (Table 25.5). The share of subsidies in output value (to which the value of payments as subsidies are added) doubles in the projection period under the enlargement scenario (from 9 to 18%).

Table 25.4: Impact of enlargement scenario in Romania (compared with Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total grains									
Production	1.0%	1.4%	0.0%	2.1%	2.2%	2.5%	2.9%	3.3%	3.7%
Domestic use	4.4%	4.5%	4.6%	4.8%	4.8%	4.9%	5.1%	5.3%	5.5%
Soft wheat									
Production	8.0%	9.2%	10.5%	11.7%	11.7%	12.9%	14.0%	15.2%	16.4%
Domestic use	18.6%	19.5%	20.4%	21.3%	21.5%	22.5%	23.4%	24.3%	25.3%
Producer price	0.9%	1.6%	2.8%	2.8%	2.3%	4.6%	3.9%	3.3%	5.5%
Durum wheat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Barley									
Production	1.9%	2.8%	3.7%	4.7%	6.0%	6.6%	7.5%	8.5%	9.5%
Domestic use	-8.8%	-9.6%	-10.4%	-11.2%	-12.0%	-12.7%	-13.3%	-13.9%	-14.5%
Producer price	9.9%	9.9%	10.6%	11.2%	10.2%	9.2%	7.4%	6.4%	5.9%
Maize									
Production	-3.0%	-3.2%	-3.3%	-3.5%	-3.6%	-3.7%	-3.8%	-3.9%	-4.0%
Domestic use	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%
Producer price	7.0%	5.0%	4.6%	3.9%	4.7%	4.6%	3.7%	2.6%	1.8%
Rye									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other grains									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total oilseeds									
Production	20.3%	20.7%	21.2%	21.6%	22.0%	22.4%	22.8%	23.1%	23.4%
Domestic use	15.5%	17.7%	19.8%	21.9%	23.9%	25.8%	27.7%	29.5%	31.3%
Rapeseed									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sunflower									
Production	20.3%	20.7%	21.2%	21.6%	22.0%	22.4%	22.8%	23.1%	23.4%
Domestic use	15.5%	17.7%	19.8%	21.9%	23.9%	25.8%	27.7%	29.5%	31.3%
Producer price	-4.8%	-4.8%	-4.7%	-4.6%	-4.6%	-4.5%	-4.5%	-4.4%	-4.4%
Soybeans									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Beef and veal									
Production	37.4%	39.9%	41.0%	44.0%	45.7%	46.1%	46.4%	46.7%	49.5%
Domestic use	11.8%	12.3%	12.8%	13.2%	13.7%	14.1%	14.5%	14.9%	15.3%
Producer price	-3.3%	-4.3%	-4.0%	-4.6%	-4.7%	-5.2%	-5.2%	-6.2%	-6.7%
Pig meat									
Production	17.8%	17.9%	18.1%	18.2%	18.4%	18.5%	18.6%	18.7%	18.8%
Domestic use	12.5%	12.3%	12.2%	12.0%	11.8%	11.7%	11.5%	11.4%	11.3%
Producer price	8.5%	8.6%	8.6%	8.6%	8.7%	8.7%	8.7%	8.8%	8.8%
Poultry meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sheep meat									
Production	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Domestic use	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Producer price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fluid milk									
Production-quota	-35.2%	-36.5%	-37.8%	-39.1%	-40.4%	-41.6%	-42.8%	-44.0%	-45.2%
Domestic use	-43.7%	-43.6%	-43.4%	-43.3%	-43.1%	-43.0%	-42.8%	-42.7%	-42.5%
Whole sale price	20.3%	21.3%	22.4%	23.4%	24.5%	25.5%	26.5%	27.5%	28.5%

Source: Romanian AGMEMOD Model (2006)

Agricultural income

Table 25.5: Impact of Enlargement Scenario in Romania (compared to the Baseline)

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Agric. output value	2.3%	2.1%	2.5%	2.6%	2.8%	3.1%	2.8%	2.4%	2.7%
Subsidies/SFP	125.6%	161.7%	184.0%	208.9%	263.4%	311.5%	364.0%	411.1%	461.8%
Feeding costs	10.5%	11.3%	11.9%	12.1%	13.7%	15.5%	15.0%	14.8%	14.7%
Gross agric. income	6.7%	8.0%	9.3%	10.5%	12.8%	15.0%	16.9%	18.3%	20.7%

Source: Romanian AGMEMOD Model (2006)

Table 25.6: Romania: Agricultural output value, subsidies, feed costs and income (Baseline and Enlargement scenarios - 2004=1)

	Unit	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Baseline scenario													
Agricultural output value	2004=1	1.00	1.02	1.04	1.06	1.07	1.09	1.10	1.12	1.13	1.15	1.17	1.18
Subsidies/SFP	2004=1	1.00	1.18	1.18	1.18	1.18	1.19	1.19	1.19	1.20	1.21	1.21	1.21
Feeding costs	2004=1	1.00	1.02	1.01	1.02	1.04	1.05	1.07	1.07	1.07	1.07	1.07	1.08
Gross agricultural income	2004=1	1.00	1.03	1.05	1.07	1.08	1.10	1.11	1.13	1.15	1.17	1.19	1.20
Enlargement scenario													
Agricultural output value	2004=1	1.00	1.02	1.04	1.06	1.07	1.09	1.11	1.13	1.15	1.16	1.18	1.19
Subsidies/SFP	2004=1	1.00	1.13	1.13	1.90	2.20	2.40	2.61	3.08	3.52	3.97	4.39	4.83
Feeding costs	2004=1	1.00	1.02	1.03	1.05	1.08	1.10	1.12	1.14	1.15	1.15	1.15	1.15
Gross agricultural income	2004=1	1.00	1.03	1.05	1.11	1.14	1.17	1.20	1.24	1.29	1.33	1.37	1.41

Source: Romanian AGMEMOD Model (2006)

In the enlargement scenario, subsidy receipts increased mostly due to the direct payments component of CAP support, and secondly due to increased market price support for increasing production. Subsequently, the gross agricultural income is expected to be 41% higher than in 2004.

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Abstract

This report is based on a study carried out by the AGMEMOD Partnership under the management of the Agricultural Economics Research Institute (LEI, in the Netherlands), in cooperation with the Joint Research Centre – Institute for Prospective Technological Studies (JRC-IPTS) to generate projections for the main agricultural commodity markets for each year from 2005 until 2015.
The report outlines the results of the baseline projections of agricultural commodity markets, further CAP reform scenario impact analyses and exchange rate change sensitivity analyses for each EU-25 Member State (except Malta and Cyprus). For Bulgaria and Romania enlargement and non-enlargement scenarios are analysed.

Detailed documentation on the AGMEMOD modelling approach, along with the outcome of the study, is published in five reports in the JRC-IPTS Scientific and Technical Report Series under the heading "Impact analysis of Common Agricultural Policy reform on the main agricultural commodities".

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