

# **Economic Projections for the Dairy and Pig Sectors**

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## Summary

This study examines the effect of changes in agricultural policy and other important economic factors on the outlook for milk and pig production in Ireland in future years. The analysis is conducted at an aggregate commodity level for the dairy and pig sectors. Companion reports provides similar detail on other agriculture sectors (including beef, sheep and cereals) and for the outlook at farm level. The analysis summarised here took place in 2001 and 2002.

### Objectives

The potential effect of a change in international trade policy under the World Trade Organisation (WTO) agreement is examined. Specifically, the analysis assumed two different possibilities for the reduction and the elimination of export subsidies. Subsequently, the impact of a change in the EU's extensification regime is examined.

### Methodology

A series of interlinked economic models capable of projecting key price and output variables were built for the main Irish agricultural commodities, including the dairy and pig sectors, and these in turn were linked with models for the EU and the World. It was thus possible to estimate the implications for the Irish dairy sector of supply, demand and policy changes at a world and EU level.

### Key Findings

The Baseline analysis showed that under a continuation of current policy that by 2010, the Irish milk price is projected to decline to just over 25 euro per 100 kg.

It was found that relative to the Baseline outcome for 2010:

- a reduction in EU export subsidies in the dairy sector equivalent in scale to those introduced in the Uruguay Round Agreement would lead to a reduction in the Irish milk price of seven per cent by 2010
- an elimination of EU export subsidies in the dairy sector would lead to a reduction in the Irish milk price of 20 per cent by 2010

The Baseline analysis showed that, under a continuation of current policy, by 2010 the Irish pig sector value was projected to decrease by four per cent relative to its 2000 level.

It was found that relative to the Baseline outcome for 2010:

- a reduction in EU export subsidies in the agriculture sector equivalent in scale to those introduced in the Uruguay Round Agreement would lead to a reduction in Irish pig sector output value of less than two per cent
- an elimination of EU export subsidies in the agriculture sector would lead to a reduction in Irish pig sector output value of eight per cent

The implications of a reform of the extensification regime were not substantial. It was found that they fell for the most part on the beef and sheep sectors. The effect on milk and pig production was negligible.

## Introduction

This report covers dairy and pig sector analysis conducted by the FAPRI-Ireland Partnership, a research consortium based in the Rural Economy Research Centre, Teagasc. Set up in 1997, the purpose of the Partnership is to conduct analysis of the implications of policy changes for Irish agriculture over a ten-year time horizon. There are companion reports which cover the other main commodities, agricultural inputs, aggregate agricultural income and farm income.<sup>2</sup>

The report contains the results of the Baseline or no policy change outlook for the dairy and pig sectors and examines the potential implications for the Irish dairy and pig sector of:

- Possible international trade reform to the export subsidy regime including
  - a reduction in export subsidies
  - the complete elimination of export subsidies
- Reform of the extensification regime
  - lowering of the stocking density limits with corresponding increases in payments

### What is a Baseline ?

In this project, policy analysis is conducted by producing a Baseline - essentially a projection of the future - based on policies currently in existence or agreed to come into existence. This Baseline outcome is then contrasted with the projected outcome of a change in policy. In this way, it is possible to gauge the potential effect of the change in policy.

Over the last 15 years, colleagues at FAPRI (the Food and Agriculture Policy Research Institute) in the US have developed an extensive set of agriculture models for specific commodities. As part of its Annual Outlook on World Agriculture, FAPRI uses these models to provide projections for the Baseline scenario at a global level and for component regions, including the EU, for each year over the next decade. The results for Ireland obtained in this project were produced incorporating results from FAPRI's world models.

Given that over 70 per cent of dairy output and over 50 per cent of pigmeat output is exported from Ireland, conditions in EU and world markets will exert a considerable influence on the outlook for Irish dairy products and pigmeat. In turn at the EU level, the position of the dairy and pig sectors is conditioned by the Common Agricultural Policy (CAP) and other events at a world level. The European and world dimension, provided by the link between the work in this project and the work taking place at FAPRI in the US, is therefore imperative.

### A Note on Interpretation

Forecasting and policy analysis for commodity markets is a bit like taking aim at a moving target. The environment in which this analysis is conducted is constantly evolving. Changing macroeconomic and market supply and demand conditions can influence the effect of policy and the results of the analysis. Over time, the outlook for a commodity may change as new information is incorporated into the analysis. Projections for the outcome in future years may therefore differ in successive analyses. Accordingly, the interested reader should aim to familiarise him or herself with the most recent projections available from the Partnership.

See our website at <http://www.tnet.teagasc.ie/fapri>

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<sup>2</sup> See the companion reports on RMIS projects No. 4815, No. 4821 and No. 4823

# 1 The 2001 Dairy and Pig Sector Baseline and Scenarios

The first part of this report focuses on the analysis published in April 2001 as part of the FAPRI-Ireland Outlook 2001. As well as providing a Baseline outlook it concentrates on the possible impact of reforms of the export subsidy regime.

## 1.1 The Irish Dairy Sector 2001 Baseline Outlook

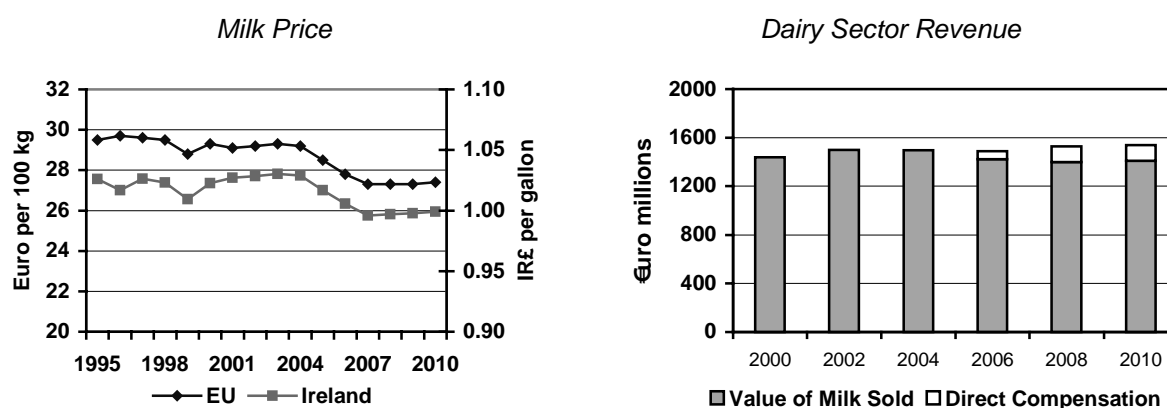
At a product level, the Irish dairy sector is different from the sector generally in the EU. Ireland is more heavily dependent on production of the intervention products, butter and SMP, than most other EU countries, where cheese production predominates.

Figure 1 shows projections for the Irish producer milk price and dairy sector revenue under the 2001 Baseline scenario. Under a continuation of Baseline policy, prices decline slightly from 2000 levels out to about 2004 and then a more appreciable decline takes place as the bulk of the Agenda 2000 reforms are implemented.

Under the terms of the Berlin Agreement, in 2001 and 2002 the Irish quota increases in line with the other EU specific quota increases, but these do not have a serious impact on Irish producer milk prices. Reductions in the Irish milk price occur from 2005/06 as the impact of increased quota and lower intervention prices across the EU feeds through to farm level milk prices. By 2010, the Irish milk price in the Baseline analysis is projected to decline to 26 euro per 100kg (or 99p per gallon vat inclusive).<sup>3</sup>

A direct compensation package also forms part of Agenda 2000. As indicated in Figure 1, the anticipated revenue accruing to the milk sector over the projection period on a calendar year basis should increase slightly in nominal terms, although this would still represent a substantial decline in real terms.

**Figure 1: Projected Irish Milk Price and Milk Sector Revenue<sup>4</sup> (Baseline 2001 projections)**



Source: FAPRI-Ireland Partnership Outlook 2001 (2001)  
 Note: Milk price shown is standardised 3.7% butterfat (vat inclusive)

There are other implications for the sector in the coming years in terms of milk yields, cow numbers, dairy product production, etc. Following a number of years of stagnation in the 1990's, a renewed increase in milk output per cow is anticipated of close to 1.4 per cent per annum, with a consequential decline in dairy cow numbers. By 2010, dairy cow numbers (June enumeration) are projected to be down 160,000 head on 2000 levels. The addition of a 2.9 per cent quota increase under the Agenda 2000 Berlin reforms will temper the decline in cow numbers.

<sup>3</sup> It is also worth noting that if milk fat content increases with expectations, the extent of decline in the actual fat milk price will be smaller. Of course equally, the volume of milk that can be delivered at higher fat levels without attracting super levy would also decline.

<sup>4</sup> Milk Sector Revenue = Value of Total Milk Output + Total Milk Direct Payments

Over the projection period there is a slight shift in production out of butter and into cheese because the cheese price outlook is more favourable than that for butter. Unless there is a major structural shift in favour of cheese production this change will be on a modest scale.

Other factors, most particularly on the beef side, will also play a role in determining dairy farm income prospects in the next decade. The Berlin reforms will lead to a reduction in EU beef support prices, the introduction of additional slaughter premia and changes to extensification regulations, with consequential implications for cull cow and calf prices.

### 1.1.1 Dairy Sector Baseline 2001 Conclusions

In Ireland, the milk price is projected to fall to less than 26 cents per litre, but the increase in milk quota and the introduction of direct payments to producers, offset the resultant decline in sector value.

Note that these projections were conducted under a specific set of euro exchange rate assumptions and that a different path for the euro against the US dollar could affect this outcome. The projections have been carried out on the assumption that the WTO commitments in place in 2001 are those that prevail throughout the projection period, i.e. no assumptions are made about the outcome of the WTO Millennium Round. This analysis also assumes no further increase in EU membership beyond the existing 15 members.

## 1.2 The Irish Pig Sector Baseline 2001 Outlook

The year 2000 saw a long awaited recovery in prices in the pigmeat sector. At 3.25 million head in 2000, the CSO estimate of pig output was down 7 per cent on the 1999 level. Slaughterings were down over 9 per cent on 1999. CSO estimates suggest that the number of breeding animals declined by about 1 per cent on 1999 levels.

The expansion in production of the mid 90's was induced by favourable prices which prevailed due to BSE based concerns regarding beef consumption coupled with an outbreak of FMD in Taiwan. In 2001 pan-European concern about BSE and an outbreak of foot-and-mouth disease in the UK, suggest that prices in the pig sector in the EU are again set to improve.

An additional factor to be taken into consideration in any assessment of future prospects in the EU is the value of the euro relative to the US dollar. While adjustments in the value of export refunds can filter out some of this volatility, the path of the euro will nevertheless be significant in assessing future prospects for the pig sector.

Under these circumstances, over the period considered here, the EU pig sector is projected to experience a period of improved prices in the short term to be followed by a gradual decline in prices as the effects of the BSE crisis and the UK FMD crisis recede.

Table 1 shows the main pig sector variables for Ireland. In 2000 a sizable recovery in pig prices took place. Reduced beef demand as a result of the BSE crisis and the UK FMD crisis will have some positive knock-on effects for the pigmeat market. Over the medium term these effects recede and the gradual improvement in the value of the euro moderates prices. By 2010 prices are projected to have declined to about 112 cent (88p) per kg dead weight.

**Table 1: Main Irish Pig Variables 2000 with Baseline Projections for 2010**

	2000	2010	%change
	cent/kg (IRp/kg)		
Irish Pig Price*	130 (102)	112 (88)	-14
	000 Head		
Volume of output	3,253	3,563	9
	€ Million (IR£ Million)		
Value of output	271.9 (214.1)	261.6 (206)	-4

Source: FAPRI-Ireland Partnership Outlook 2001 (2001).

Note: \* Price of finished pigs at licensed curers

The Baseline pig output volume is expected to remain below the 1998 level over the years of the projection. The expansion in output is counteracted by a decline in prices and hence there is little change in the value of output for the pig sector, over the longer term. However, a weaker euro, or a

more generous attitude from the Commission in relation to export refunds, would generate a more optimistic outlook.

### 1.2.1 Pig Sector Baseline 2001 Conclusions

The pig sector will experience short-term benefits from the difficulties generated by the BSE and FMD crises. Over the medium terms prices are projected to weaken and the sector is unlikely to experience significant growth. Environmental legislation and animal welfare concerns will remain a concern for the sector. Given the volatility of the euro, the approach taken by the European Commission to export refunds will exert a strong influence on the pig sectors future economic prospects.

## 1.3 Policy Scenario 2001: Export Subsidy Reduction and Elimination

This section of the report focuses on analysis published in April 2001 to determine the potential impact on the Irish dairy and pig sector of possible reforms to international trade arrangements under the WTO.

The evaluation of the effect of export subsidy reform is made by comparing the future outlook for the Irish dairy and pig sectors under the 'Baseline Scenario' with the outlook which incorporates two different export subsidy reform assumptions. The Baseline specifically includes all known current policies including Agenda 2000. However the Baseline does not incorporate policy changes that would not have been agreed at the time the analysis was conducted.

### Box 1: Export Subsidy Scenarios

- **Reduction of Export Subsidisation at the same rate as under the URAA.**

Beginning in 2004, a six-year commitment to progressively reduce the volume of subsidised exports by the same amount as under the URAA, using the same 1986-1990 base period chosen for the URAA.

By the end of the Millennium Round agreement's implementation period this would amount to a 42 per cent reduction in the quantity restrictions relative to the URAA base period. It is this volume reduction, rather than the reduction in value of export subsidies, which is likely to have most effect on export markets

- **Export Subsidy Elimination.**

The total abolition of export subsidies phased in over a six-year period, starting in 2004.

**Note:**

In the analysis, these reforms are implemented across the various commodities. In both scenarios, no compensation is assumed for the farm level price reductions that might arise.

The key assumptions used in analysing the possible export subsidy reform are detailed in Box 1. They are based on assumed changes in policy which the FAPRI-Ireland Steering group asked to be evaluated.

In addition to the specific assumptions relating to export subsidies it is necessary to make some related assumptions for other policies if such a reform was to look credible.

An elimination of export subsidies under current policy, would probably lead to an intervention stock build up in some sectors. To prevent this outcome, it is assumed that intervention prices are reduced in each of the scenarios.

### Related assumptions for Dairy policy:

In the reduction scenario, the butter and SMP intervention prices are assumed to be 10 per cent below the Baseline level. In the elimination scenario, the butter intervention price is assumed to be 20 per cent below the Baseline level (i.e. 32 per cent below the 2002 level) and the SMP intervention price is 10 per cent below the Baseline level (i.e. 23 per cent below the 2002 level).

**Related assumption for Other Commodities:**

For the beef sector, this analysis assumes that intervention prices are set at a level to ensure that it does not operate. To achieve this outcome, intervention prices are set at 10 per cent below the Baseline level in the reduction scenario and 20 per cent below the Baseline level in the elimination scenario. (For more details, see the related report on the beef and sheep sectors Project RMIS No: 4815)

Wheat, barley and maize intervention prices are set at 5 per cent below the Baseline level in the export subsidy reduction scenario and 10 per cent below the Baseline level in the export subsidy elimination scenario. (For more details, see the related report on the cereals sectors RMIS No: 4821)

For sheep, pigs and poultry the assumptions made are that prices are allowed to fall so that the market clears.

On the basis of the assumptions of the Baseline and of the export subsidy scenario, the future outlook for the Irish agriculture sector was projected. Projections of future values were provided by the model for a variety of indicators. For the dairy sector these would include farm level prices, milk output per cow, dairy cow numbers, dairy product production and dairy product consumption. For the pig sector they would include pigmeat prices, carcass weights, sow numbers and pigmeat production and consumption.

## **1.4 Policy Scenarios 2001: Export Subsidy Reduction Scenario Results**

The dairy sector, both within the EU and beyond, remains one of the most highly supported of all agricultural sectors. Within this framework of protection, export subsidies have an influence on world dairy product trade.

As the world's largest dairy exporter, the EU's use of export subsidies has a depressing effect on internationally traded dairy product prices. Although volumes are subject to some year on year variation, EU exports of butter, SMP, cheese and WMP accounted for 20 per cent, 24 per cent, 32 per cent and 40 per cent respectively of world trade in 1999. Almost all EU butter, SMP and WMP exports as well as a substantial proportion of cheese exports are achieved with subsidies.

Reductions in subsidised export limits were agreed for agricultural products in the URAA but these had limited impact due to the manner in which they were implemented and because the cut were being made relative to a high starting point.

### ***Reduction of Export Refunds: Impact on EU Dairy Sector***

As set out earlier in Box 1, the first scenario involves a reduction in export refunds analogous to the reductions imposed under the URAA. The effects of these reductions at an EU level are not very dramatic. It is notable that there are significant differentials in the extent of the effects across the dairy product range. Milk powders are worst affected by the export refund reduction scenario, while the consequences for cheese and butter are less severe. Some products produced within the EU which would have previously been exported to third countries, are now absorbed within the EU, and the increased volume of product on EU markets forces internal EU prices down. Lower prices induce increased EU domestic consumption but there are also increases in stockholding over Baseline levels.

Third country exports of all four dairy commodities fall relative to the Baseline level. By 2010, exports of cheese fall by 15 per cent, exports of WMP fall by 21 per cent and exports of SMP fall by 27 per cent relative to the corresponding Baseline levels. Over the same period exports of butter fall by 4 per cent relative to the Baseline although the trend in butter exports remains very slightly upward as is the case in the Baseline.

Over the same period the corresponding EU internal price reductions relative to the Baseline are 3 per cent for butter, 5 per cent for cheese, 10 per cent for WMP and 11 per cent for SMP.

The decline in EU third country exports caused by the reduction in export subsidy limits, leads to increases in the FOB world prices for powders of the order of 8 to 9 per cent relative to the Baseline by the end of the projection period. The increase in FOB world cheese prices is much more modest,

at just 2 per cent relative to the Baseline 2010 price, reflecting the fact that third country exports of cheese, being less dependent on export refunds, are not subject to significant decline.

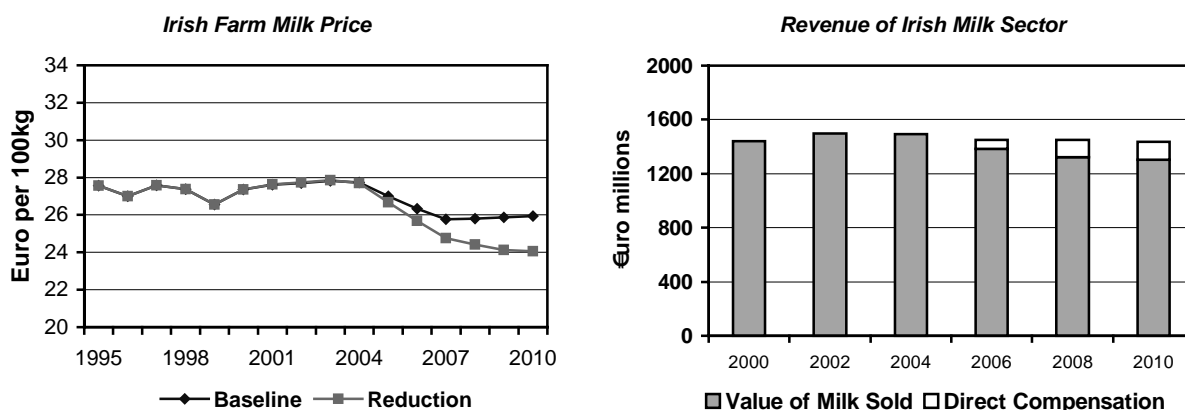
Third country butter exports fall relative to the Baseline level. FOB world butter prices fall in the scenario relative to the Baseline because shifts in milk allocation around the world result in more butter production in other countries (higher SMP prices make SMP/butter production more profitable, resulting in "too much" butter in order to meet world SMP demand). This has a slight depressing effect on FOB world prices of the order of 3 per cent relative to Baseline levels by 2010.

### **Reduction of Export Refunds: Impact on Irish Dairy Sector**

A further reduction of export subsidies, similar to that implemented under the URAA, has a moderate effect on the Irish dairy sector. Total milk output remains largely unchanged over the projection period. There is a marginally lower rate of increase in milk yields due to the slightly lower milk price. This results in very slightly more dairy cows in this scenario than in the Baseline (the overall trend in cow numbers being very much downward).

Relative to the Baseline position in 2010, there is a slight shift in product mix in favour of cheese and away from butter and SMP. Irish SMP exports decline 8 per cent, exports of butter decline 2 per cent, while exports of cheese increase very slightly relative to the Baseline, reflecting the slight change in product mix. Overall, the Irish milk price declines by 7 per cent relative to the Baseline to € 24 per 100kg (or 92p per gallon) by 2010. When compensation accruing from the Agenda 2000 reforms is added to the value of the sector, the overall revenue from milk production in 2010 is still below the 2000 level. The projected Irish milk price and sector revenue are illustrated in Figure 2.

**Figure 2: Irish Milk Price and Sector Revenue under Export Subsidy Reduction Scenario**



Source: FAPRI-Ireland Partnership Model (2001)

### **Reduction of Export Refunds: Impact on EU and Irish Pig Sector**

The impact of the reduction scenario on the EU and Irish pig sector would be minimal. EU third country export of pigmeat are small relative to the overall EU pig market and the reduction in EU exports that would take place under a reduction scenario would have only a very small effect on EU and Irish pig prices. Since the effect of the export subsidy reduction scenario on the EU beef sector is also small (see RMIS report No.4815) there are minimal cross commodity consequences for the pig sector. Overall the reduction in export subsidies would lead to just a 2 per cent reduction in the value of Irish pig sector output by 2010 relative to the Baseline position that year.

## **1.5 Policy Scenarios 2001: Export Subsidy Elimination Scenario Results**

We have seen that the implications of a reduction in export subsidies does not have large implications for either the EU or Irish dairy and pig sectors. We will now look at the more extreme case of a complete elimination of export subsidies. Under export subsidy elimination, EU commodity exports are forced to compete without subsidy with product from other world exporters. In the absence of export refunds, the return from third country EU exports declines substantially.



### ***Export Subsidy Elimination: Impact on EU Dairy Sector***

By contrast with the export subsidy reduction scenario, the elimination of export refunds has much more significant implications for the EU dairy sector when compared with the effects of a more limited export subsidy reduction.

Third country exports of all four dairy commodities fall significantly relative to the Baseline level. By 2010 EU exports of butter, cheese, SMP and WMP are down 82 per cent, 58 per cent, 60 per cent and 42 per cent respectively relative to Baseline 2010 levels.

As a more heterogeneous product, cheese is less susceptible to price competition than are the other commodities and while subsidised exports of cheese decline there is still scope for commercial exports.

Relative to the Baseline product mix, there is a small decline in overall EU manufacturing milk volume due to increased liquid milk consumption. There is a modest switch in production away from butter and powders in favour of cheese. Milk powder exports in the elimination scenario are occurring at world prices, as world prices rise enough to make that possible. The minimal butter exports are deemed to be a gift such as food aid, since EU butter prices remain above world levels.

Given that intervention prices are also assumed to drop, substantial volumes of product produced within the EU, which would have previously been exported to third countries, must now be absorbed within the EU, and the price declines necessary to achieve this outcome are substantial. The consequential decline in EU internal dairy product prices is not proportionate across products. WMP and butter in particular experience the greatest decline in price. Commercial exports of butter are made very difficult because of the fact that EU butter prices are further above world levels than are prices for WMP and SMP. Relative to the Baseline, butter prices are down 23 per cent and WMP prices are down 24 per cent by 2010. By 2010, SMP and cheese price declines are less severe at 18 per cent and 15 per cent respectively relative to the Baseline position.

The effects of export subsidy elimination are not proportionate across EU member states. For example the EU average milk price, is down 17 per cent relative to the Baseline price in 2010. However, milk prices in Italy, a relatively insulated dairy market, are down just 10 per cent relative to 2010 Baseline levels.

Under the elimination scenario, the decline in EU dairy exports brings about a reduction in available world supplies of dairy products, which cannot be filled in the medium term by other producers. Hence, there is a reduction in the level of supply to international dairy product markets, which causes international dairy product prices to rise. The greatest price increases are for powders with more modest increases for cheese and butter.

The decline in EU third country exports caused by the reduction in export subsidy limits, lead to increases in the FOB world prices for powders in excess of 20 per cent relative to the Baseline by the end of the projection period. The increase in FOB world cheese prices is much more modest with just single digit increases in price relative to the Baseline in 2010.

### ***Export Subsidy Elimination: Impact on Irish Dairy Sector***

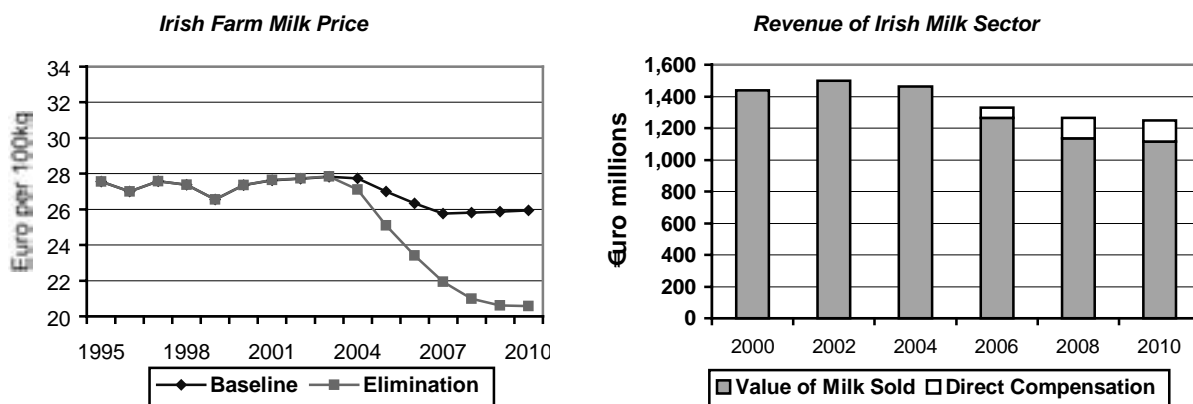
With a substantial third country dairy export trade, the effect of export subsidy elimination on the Irish dairy sector would be significant. Relative to the Baseline, the reduction in butter and SMP prices on the EU market are over 20 per cent, while the decline in cheese prices is much less. The change in relative prices of the main dairy commodities induces some shift in product mix in favour of cheese and away from butter and powders.

As in the rest of the EU, domestic consumption and stock levels increase due to the reduction in product prices. However, the increase in stock holding is tempered by the assumed reduction in intervention prices, which is necessary to prevent the emergence of an unmanageable level of stocks. By 2010, the butter intervention price is assumed to be 20 per cent below the Baseline level (i.e. 32 per cent below the 2000 level) and the SMP intervention price is 10 per cent below the Baseline level (i.e. 23 per cent below the 2000 level).

The combined effect is a 20 per cent decline in Irish milk prices relative to the Baseline 2010 position. This leaves the Irish milk price at just over €20 per 100 kg or (80p per gallon) in 2010. Even when one includes the direct payments being introduced under the Agenda 2000 Berlin Agreement, the

trend for revenues in the milk sector is downward. Under the subsidy elimination scenario, by 2010 the revenue of the sector, would decline to just over € 1,200 million, a decline of over 13 per cent relative to the year 2000 position.

**Figure 3: Irish Milk Price and Milk Revenue under Export Subsidy Elimination**



Source: FAPRI-Ireland Partnership Model (2001)

**Elimination of Export Refunds: Impact on EU and Irish Pig Sector**

The impact of the export subsidy elimination scenario on the EU and Irish pig sector is more substantial than the impact felt under the export subsidy reduction scenario. Overall the reduction in export subsidies would lead to an eight per cent reduction in the value of Irish pig sector output by 2010 relative to the Baseline position that year. In part this is due to cross commodity consequences coming from the fall in price of other meats that would result from this reform.

**1.6 Policy Scenarios 2001: Conclusions**

Looking at the overall impact of the two scenarios for the EU dairy sector, it is difficult to generalise about the implications of the reduction scenario compared with the implications of the elimination scenario. A crude summary would be to say that the internal EU price effects in the reduction scenario are about one third of those in the elimination scenario. While export subsidy eliminations has severe implications for all EU dairy products, by contrast the implications are quite modest for cheese and butter under the reduction scenario.

The effects of export subsidy reform on the pig sector are more modest, reflecting the lesser dependency of the EU pig market on export subsidies relative to the milk or beef sectors.

Based on this analysis, it seems that a further reduction in export refunds analogous to those implemented in the URAA, would not have a major impact on the projected outlook for agriculture in Ireland. Clearly, the dairy sector is the most exposed to the effects of an export refund reduction. While other sectors are affected, the effects are relatively minor.

On the other hand, a full elimination of export refunds has more considerable consequences for the future path of several sectors of Irish agriculture. The beef and dairy sectors are the greatest beneficiaries of the export refund regime and it is not surprising that these sectors would bear the brunt of the effects of the removal of these supports. It is also evident from this analysis that Ireland's greater reliance on export refunds translates to steeper price declines for Irish output relative to the output of other EU member states, were these supports to be removed.

A summary of the effect of the export subsidy elimination scenario on the agriculture sector is contained in Appendix Table A1 of this report.

## 2 The 2002 Dairy and Pig Sector Baseline and Scenarios

The second part of this report focuses on the analysis published in April 2002 as part of the FAPRI-Ireland Outlook 2002. As well as providing a Baseline outlook it examines the implications of a change in the EU's extensification regime.

### 2.1 The Irish Dairy Sector 2002 Baseline Outlook

Increases in farm milk price were recorded throughout the EU in 2001. In Ireland the milk price was up over four per cent on the 2000 level. The year 2001 was the second year of the Agenda 2000 Agreement, which will run until 2008. In 2000 and 2001, Ireland has been granted a 2.9 per cent *specific* quota increase. In Ireland, milk deliveries in 2001 were up by three per cent on the 2000 level. There was a further increase in the butterfat content of the milk delivered at 3.73 per cent; 15 points over the national butterfat reference level.

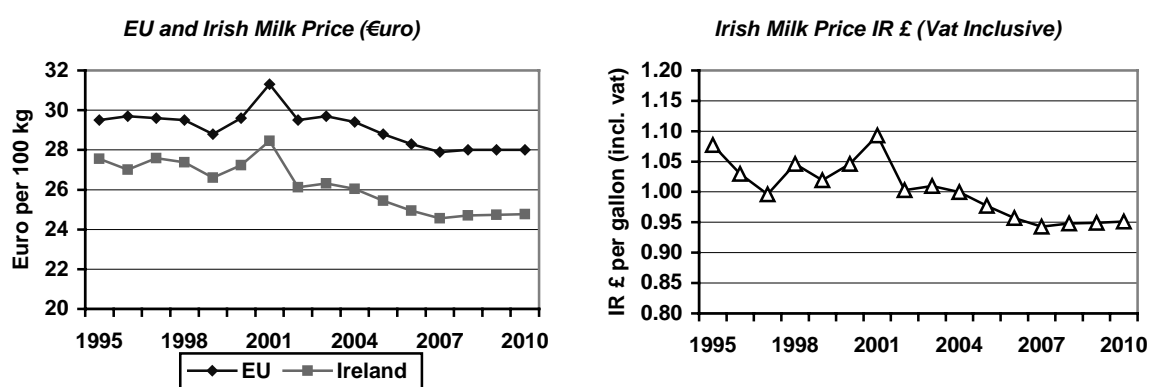
As mentioned in section 1, the Irish dairy sector is different from the sector generally in the EU. Ireland is more heavily dependent on production of the intervention products, butter and SMP, than most other EU countries, where cheese production predominates. In determining the Irish milk price in this analysis, allowance is made for the specifics of the Irish product mix.

In the 2002 Baseline, while the projected prices for all commodities follow a downward trend, it is projected that butter and SMP will experience the largest percentage price declines. The extent of the decline in cheese prices is more modest.

In general, the percentage decline in the Irish milk price would be greater than the EU average. The projected reduction in EU product prices is particularly unfavourable towards the Irish product mix with declines of 14 per cent and 11 per cent projected for butter and SMP respectively between 2000 and 2010. The Irish milk price is projected to decline by about 9 per cent over the same period.

Figure 2-1 shows projections for the Irish producer milk price under the 2002 Baseline scenario. Under a continuation of Baseline policy, prices decline slightly from current levels out to about 2004 and then a more appreciable decline takes place as the bulk of the Agenda 2000 reforms are implemented.

**Figure 2-1: Irish and EU Producer Milk Price (3.7% fat) under Baseline Assumptions**



Source: FAPRI-Ireland Partnership Outlook 2002 (2002).

Note: Milk price shown is standardised 3.7% butterfat (vat inclusive)

Reductions in the Irish milk price occur from 2005/06 as the impact of increased quota and lower intervention prices across the EU feeds through to farm level milk prices. By 2010, the Irish milk price in the Baseline analysis is projected to decline to 25 euro per 100kg (or 95p per gallon vat inclusive).

#### 2.1.1 Dairy Sector Baseline 2002 Conclusions

Relative to the 2001 Baseline outlook the milk price outlook to 2010 is a little weaker. This is due to projections of weaker world prices in the medium term than projected in the 2001 Baseline in combination with a stronger outlook for the euro versus the US dollar. Together these two effects tend to lower the path of dairy product prices and milk prices.

Baseline projections show that by 2010 EU and Irish milk prices are set to decline by 6 per cent and 9 per cent respectively, on year 2000 levels. In Ireland, the increase in milk quota and the introduction of direct payments to producers offset the resultant decline in sector value.

Note that these projections were conducted under a specific euro exchange rate assumption (euro to appreciate to US \$ 1.02 by 2005) and that a different path for the euro against the dollar could affect this outcome. The projections have been carried out on the assumption that the WTO commitments in place in 2001 are those that prevail throughout the projection period, i.e. no assumptions are made about the outcome of the WTO Millennium Round. This analysis also assumes no further increase in EU membership beyond the existing 15 members.

All prices shown here are in nominal terms, so no allowance is made for inflation. It is projected that the cumulative inflation over the period 2000 to 2010 will be 36 per cent.

## 2.2 The Irish Pig Sector Baseline 2002 Outlook

The year 2001 saw further improvement in the pig sector. Prices in 1998 and 1999 were historically low at 114 cent (90p) per kg dead weight and 102 cent (80p) per kg dead weight respectively and the estimated 2001 price of 148 cents per kg deadweight compares quite favourably.

BSE concerns among consumers made for strong pigmeat demand over the course of the year. The increase in supplies was small in relative terms and this resulted in high pig prices. The effects of FMD in the UK led to export opportunities that would otherwise not have existed. The euro continued to remain weak relative to the US dollar in 2001 and this benefited the sector by providing higher revenue from third country exports than would otherwise have been the case.

Table 2-1 shows the main pig sector variables for Ireland. In 2001 a further increase in pig prices took place. This was mainly due to reduced beef demand as a result of the BSE crisis and the UK FMD crisis. In 2002 prices will be lower than in 2001 as these effects recede. The gradual improvement in the value of the euro versus the US dollar will moderate prices. By 2010 prices are projected to have declined to about 126 cent per kg dcw.

**Table 2-1: Main Irish Pig Variables 2000 With Baseline Projections for 2010**

	2000		2010	%change
Irish Pig Price*	129.5	€uro / kg	126.1	-2.6
Volume of output	3,243	000 Head	3,530	8.8
Value of output	272.0	€uro Million	297.0	9.3

Source: FAPRI-Ireland Partnership Model (2002).

Note: \* Price of finished pigs at licensed curers

Over the projection period, there will be a moderate expansion in pig output relative to the 2001 level. Pig carcass weights are also projected to increase. In spite of this growth, the Baseline pig output volume is expected to remain below the record 1998 level over the years of the projection. By 2010, in the Baseline analysis, the projected output value of the pig sector at € 297 million is an improvement on the 2000 level in nominal terms.

### 2.2.1 Pig Sector Baseline 2002 Conclusions

The pig sector has experienced short-term benefits from the difficulties generated by the BSE and FMD crises. In 2002 prices are projected to weaken and the sector is likely to experience modest growth over the course of the projection period. Environmental legislation and animal welfare issues will remain concerns for the sector. Given the volatility of the euro, the approach taken by the European Commission to export refunds will exert a strong influence on the pig sectors future economic prospects.

### **2.3 Policy Scenario 2002: Changes to the Extensification Regime**

In the 2002 analysis, the scenario examined is one in which the policy change is designed to reduce numbers of beef animals (and as a consequence beef supply), while not adversely affecting income from beef farming. In the scenario the extensification limits agreed as part of the Agenda 2000 CAP reform are lowered, while farmers are compensated for this reduction on the basis of the loss of receipts from direct payments that were granted as “compensation” for previous CAP price reductions.

In Ireland the two extensification limits, the so-called “high” and “low rates”, are both lowered by 0.2 L.U. Thus, under the scenario the new limits for receipt of extensification payments are a stocking density between 1.2 and 1.6 L.U. per hectare, and a stocking density of less than 1.2 L.U. per hectare.

### **2.4 Policy Scenario 2002: Conclusions**

Since the policy scenario examined in 2002 concerned changes to the mechanism under which EU extensification payments might be made, the effects were concentrated on the beef and sheep sectors while the effect on Irish milk and pig production was negligible. The only measurable effect was a 0.5 per cent increase in the value of pig output by 2010 relative to the Baseline figure in that year. This was due to cross commodity consequences of the rise in beef and lamb prices, brought about by lower volumes of beef and lamb production relative to the Baseline. The scenario had no effect on the value of milk production.

More details of the effect of the extensification scenario on agriculture as a whole is contained in Appendix Table A2 and A3 at the end of this report.<sup>5</sup>

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<sup>5</sup> See also Hanrahan (2002)

**Table A 1: Percentage Change from Baseline (Export Subsidy Elimination Scenario)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Livestock</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.3%</b>	<b>-1.6%</b>	<b>-6.8%</b>	<b>-11.2%</b>	<b>-14.8%</b>	<b>-15.6%</b>	<b>-14.6%</b>
of which: cattle	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	-1.8%	-9.5%	-16.4%	-22.0%	-23.3%	-21.7%
pigs	0.0%	0.0%	0.0%	0.0%	0.0%	-0.4%	-2.2%	-5.0%	-6.0%	-7.5%	-8.1%	-7.7%
sheep and lambs	0.0%	0.0%	0.0%	0.0%	0.0%	-0.6%	-0.6%	-1.9%	-3.2%	-3.2%	-3.9%	-3.9%
<b>Livestock Products</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-2.3%</b>	<b>-7.1%</b>	<b>-10.9%</b>	<b>-14.2%</b>	<b>-17.5%</b>	<b>-18.7%</b>	<b>-19.0%</b>
of which: milk	0.0%	0.0%	0.0%	0.0%	0.0%	-2.5%	-7.2%	-11.2%	-14.4%	-17.8%	-19.3%	-19.5%
<b>Crops</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>-0.3%</b>	<b>-0.4%</b>	<b>-0.4%</b>	<b>-0.5%</b>	<b>-0.2%</b>	<b>0.1%</b>
of which: cereals	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-3.0%	-5.2%	-6.7%	-9.6%	-9.6%	-9.5%
root crops	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.9%	1.8%	4.4%	7.1%	9.7%	12.4%
forage plants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	0.0%	-0.3%	-0.3%	-0.6%
<b>Goods output at producer prices</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.9%</b>	<b>-3.1%</b>	<b>-6.7%</b>	<b>-9.7%</b>	<b>-12.3%</b>	<b>-13.1%</b>	<b>-12.6%</b>
Agricultural services	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.4%	-3.9%	-6.4%	-9.4%	-11.4%	-12.4%
Subsidies less taxes on products	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.4%	0.6%	0.9%	1.0%	0.9%
<b>Agricultural output at basic prices</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.7%</b>	<b>-2.4%</b>	<b>-5.2%</b>	<b>-7.5%</b>	<b>-9.5%</b>	<b>-10.1%</b>	<b>-9.9%</b>
<b>Intermediate consumption</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.2%</b>	<b>-0.7%</b>	<b>-1.5%</b>	<b>-2.5%</b>	<b>-3.6%</b>	<b>-4.2%</b>	<b>-4.5%</b>
of which: feeding stuffs	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	-1.6%	-3.1%	-4.9%	-6.5%	-7.0%	-7.3%
fertilizers	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.8%	-1.6%	-2.8%	-4.0%	-4.4%	-4.8%
energy	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	-0.9%	-1.5%	-2.1%	-2.7%
forage plants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.3%	-0.3%	-0.6%	-0.3%
agricultural services	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.4%	-3.9%	-6.4%	-9.4%	-11.4%	-12.4%
<b>Gross value added at basic prices</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-1.3%</b>	<b>-4.2%</b>	<b>-9.0%</b>	<b>-12.7%</b>	<b>-15.8%</b>	<b>-16.4%</b>	<b>-15.5%</b>
Fixed capital consumption	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Net value added at basic prices</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-1.6%</b>	<b>-5.2%</b>	<b>-11.3%</b>	<b>-15.9%</b>	<b>-19.7%</b>	<b>-20.5%</b>	<b>-19.4%</b>
Subsidies less taxes on 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%
<b>Factor income</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-1.4%</b>	<b>-4.4%</b>	<b>-9.5%</b>	<b>-13.3%</b>	<b>-16.5%</b>	<b>-17.1%</b>	<b>-16.2%</b>
Compensation of employees	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Operating surplus</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-1.5%</b>	<b>-4.9%</b>	<b>-10.6%</b>	<b>-15.0%</b>	<b>-18.7%</b>	<b>-19.5%</b>	<b>-18.5%</b>

Source: FAPRI-Ireland GOLD Model.  
Historical data, CSO.

**Table A 2: Output Input and Income in Agriculture (MTR Extensification Scenario)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2010 v 2000	
	Euro millions												change	%
<b>Livestock</b>	<b>2,075.7</b>	<b>2,153.2</b>	<b>2,169.8</b>	<b>2,187.6</b>	<b>2,137.9</b>	<b>2,160.6</b>	<b>2,171.1</b>	<b>2,145.3</b>	<b>2,113.8</b>	<b>2,099.7</b>	<b>2,101.4</b>	<b>2,114.0</b>	<b>-1.8%</b>	<b>2,075.7</b>
of which: cattle	1,340.0	1,372.1	1,252.9	1,328.9	1,301.6	1,323.3	1,337.8	1,318.3	1,290.5	1,268.2	1,261.0	1,264.6	-7.8%	1,340.0
pigs	231.3	271.9	324.7	314.1	297.0	302.5	301.8	296.7	291.3	293.3	295.4	298.5	9.8%	231.3
sheep and lambs	200.2	205.2	283.7	227.8	219.7	211.4	203.3	197.6	194.6	195.5	196.9	197.1	-4.0%	200.2
<b>Livestock Products</b>	<b>1,438.8</b>	<b>1,481.9</b>	<b>1,594.7</b>	<b>1,443.6</b>	<b>1,451.2</b>	<b>1,435.2</b>	<b>1,404.2</b>	<b>1,378.4</b>	<b>1,360.4</b>	<b>1,372.2</b>	<b>1,376.4</b>	<b>1,380.9</b>	<b>-6.8%</b>	<b>1,438.8</b>
of which: milk	1,410.5	1,444.7	1,559.4	1,412.9	1,419.8	1,404.6	1,373.0	1,346.1	1,326.9	1,337.2	1,340.0	1,343.4	-7.0%	1,410.5
<b>Crops</b>	<b>1,024.9</b>	<b>1,057.6</b>	<b>1,111.4</b>	<b>1,036.8</b>	<b>1,042.1</b>	<b>1,043.6</b>	<b>1,046.5</b>	<b>1,052.1</b>	<b>1,059.3</b>	<b>1,067.0</b>	<b>1,074.0</b>	<b>1,081.0</b>	<b>2.2%</b>	<b>1,024.9</b>
of which: cereals	164.1	185.1	193.6	172.1	172.2	167.7	165.1	165.5	166.3	167.5	167.9	168.3	-9.1%	164.1
root crops	172.8	143.4	169.4	150.5	148.9	148.2	147.6	147.4	147.6	147.6	147.5	147.2	2.7%	172.8
forage plants	438.5	463.2	473.8	451.1	450.5	450.0	449.6	449.3	448.9	448.6	448.4	448.2	-3.3%	438.5
<b>Goods output at producer prices</b>	<b>4,539.4</b>	<b>4,692.8</b>	<b>4,875.9</b>	<b>4,667.9</b>	<b>4,631.2</b>	<b>4,639.4</b>	<b>4,621.9</b>	<b>4,575.7</b>	<b>4,533.4</b>	<b>4,538.8</b>	<b>4,551.8</b>	<b>4,576.0</b>	<b>-2.5%</b>	<b>4,539.4</b>
Agricultural services	272.9	275.2	291.4	281.0	279.8	275.1	274.2	273.1	271.0	269.4	268.9	269.8	-2.0%	272.9
Subsidies less taxes on products	715.1	843.6	697.5	858.6	881.9	876.7	891.8	929.1	967.5	986.2	984.3	982.2	16.4%	715.1
<b>Agricultural output at basic prices</b>	<b>5,527.4</b>	<b>5,811.6</b>	<b>5,864.8</b>	<b>5,807.5</b>	<b>5,792.9</b>	<b>5,791.2</b>	<b>5,787.9</b>	<b>5,777.9</b>	<b>5,772.0</b>	<b>5,794.4</b>	<b>5,805.0</b>	<b>5,827.9</b>	<b>0.3%</b>	<b>5,527.4</b>
<b>Intermediate consumption</b>	<b>2,980.7</b>	<b>3,109.4</b>	<b>3,235.5</b>	<b>3,130.2</b>	<b>3,148.2</b>	<b>3,122.3</b>	<b>3,116.6</b>	<b>3,121.7</b>	<b>3,138.4</b>	<b>3,152.8</b>	<b>3,168.0</b>	<b>3,184.2</b>	<b>2.4%</b>	<b>2,980.7</b>
of which: feeding stuffs	859.5	829.5	876.3	849.6	864.2	846.1	825.7	811.4	800.0	790.8	780.8	770.1	-7.2%	859.5
fertilizers	338.3	336.7	350.4	335.4	324.3	321.1	322.0	325.2	329.6	335.8	341.8	349.3	3.7%	338.3
energy	341.4	449.9	469.6	399.4	402.8	405.2	407.4	412.5	419.8	427.0	435.3	444.9	-1.1%	341.4
forage plants	434.3	458.9	469.6	446.6	446.0	445.5	445.1	444.8	444.5	444.2	443.9	443.7	-3.3%	434.3
agricultural services	272.9	275.2	291.4	281.0	279.8	275.1	274.2	273.1	271.0	269.4	268.9	269.8	-2.0%	272.9
<b>Gross value added at basic prices</b>	<b>2,546.7</b>	<b>2,702.2</b>	<b>2,629.3</b>	<b>2,677.4</b>	<b>2,644.6</b>	<b>2,668.9</b>	<b>2,671.3</b>	<b>2,656.2</b>	<b>2,633.6</b>	<b>2,641.5</b>	<b>2,637.0</b>	<b>2,643.6</b>	<b>-2.2%</b>	<b>2,546.7</b>
Fixed capital consumption	543.7	556.7	568.3	588.3	583.4	579.7	577.5	576.1	575.4	575.4	575.4	575.4	3.4%	543.7
<b>Net value added basic prices</b>	<b>2,003.0</b>	<b>2,145.5</b>	<b>2,061.0</b>	<b>2,089.0</b>	<b>2,061.3</b>	<b>2,089.2</b>	<b>2,093.8</b>	<b>2,080.2</b>	<b>2,058.2</b>	<b>2,066.1</b>	<b>2,061.6</b>	<b>2,068.2</b>	<b>-3.6%</b>	<b>2,003.0</b>
Subsidies less taxes on production	407.6	424.0	645.1	694.3	755.2	757.8	760.1	762.5	765.0	767.5	770.0	772.5	82.2%	407.6
<b>Factor income</b>	<b>2,410.6</b>	<b>2,569.5</b>	<b>2,706.1</b>	<b>2,783.3</b>	<b>2,816.4</b>	<b>2,846.9</b>	<b>2,854.0</b>	<b>2,842.6</b>	<b>2,823.2</b>	<b>2,833.6</b>	<b>2,831.6</b>	<b>2,840.7</b>	<b>10.6%</b>	<b>2,410.6</b>
Compensation of employees	256.3	253.9	255.1	274.3	258.2	257.6	276.8	288.9	307.1	326.6	342.6	355.4	40.0%	256.3
<b>Operating surplus</b>	<b>2,154.2</b>	<b>2,315.6</b>	<b>2,451.0</b>	<b>2,509.0</b>	<b>2,558.2</b>	<b>2,589.3</b>	<b>2,577.2</b>	<b>2,553.8</b>	<b>2,516.1</b>	<b>2,507.0</b>	<b>2,489.0</b>	<b>2,485.3</b>	<b>7.3%</b>	<b>2,154.2</b>

Source: FAPRI-Ireland GOLD Model.  
Historical data, CSO.

**Table A 3: Percentage Change from Baseline (MTR Extensification Scenario)**

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Livestock</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-2.0%</b>	<b>-2.0%</b>	<b>-0.7%</b>	<b>0.1%</b>	<b>0.7%</b>	<b>1.1%</b>	<b>1.4%</b>	<b>1.3%</b>
of which: cattle	0.0%	0.0%	0.0%	0.0%	-2.8%	-2.7%	-1.0%	0.5%	1.5%	2.1%	2.6%	2.5%
pigs	0.0%	0.0%	0.0%	0.0%	-0.7%	0.2%	0.5%	0.5%	0.5%	0.5%	0.6%	0.5%
sheep and lambs	0.0%	0.0%	0.0%	0.0%	-1.6%	-3.5%	-2.1%	-2.8%	-3.1%	-2.9%	-2.6%	-2.5%
<b>Livestock Products</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
of which: milk	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Crops</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>
of which: cereals	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%
root crops	0.0%	0.0%	0.0%	0.0%	0.2%	0.4%	0.4%	0.4%	0.3%	0.2%	0.1%	-0.1%
forage plants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Goods output at producer prices</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.9%</b>	<b>-0.9%</b>	<b>-0.3%</b>	<b>0.1%</b>	<b>0.3%</b>	<b>0.5%</b>	<b>0.6%</b>	<b>0.6%</b>
Agricultural services	0.0%	0.0%	0.0%	0.0%	-0.3%	-0.6%	-0.7%	-0.4%	0.0%	0.3%	0.5%	0.6%
Subsidies less taxes on products	0.0%	0.0%	0.0%	0.0%	0.2%	-0.4%	-0.5%	-0.7%	-0.8%	-0.8%	-0.7%	-0.7%
<b>Agricultural output at basic prices</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.7%</b>	<b>-0.8%</b>	<b>-0.4%</b>	<b>-0.1%</b>	<b>0.1%</b>	<b>0.3%</b>	<b>0.4%</b>	<b>0.4%</b>
<b>Intermediate consumption</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>-0.5%</b>	<b>-0.9%</b>	<b>-1.0%</b>	<b>-1.0%</b>	<b>-0.8%</b>	<b>-0.7%</b>	<b>-0.7%</b>
of which: feeding stuffs	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.7%	-1.1%	-1.2%	-1.2%	-1.2%	-1.1%	-1.0%
fertilizers	0.0%	0.0%	0.0%	0.3%	-0.5%	-0.9%	-1.1%	-1.1%	-0.9%	-0.8%	-0.7%	-0.6%
Energy	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.9%	-1.2%	-1.2%	-1.1%	-0.9%	-0.8%
forage plants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
agricultural services	0.0%	0.0%	0.0%	0.0%	-0.3%	-0.6%	-0.7%	-0.4%	0.0%	0.3%	0.5%	0.6%
<b>Gross value added at basic prices</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-1.5%</b>	<b>-1.2%</b>	<b>0.2%</b>	<b>1.0%</b>	<b>1.5%</b>	<b>1.6%</b>	<b>1.8%</b>	<b>1.7%</b>
Fixed capital consumption	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Net value added at basic prices</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>-0.1%</b>	<b>-1.9%</b>	<b>-1.5%</b>	<b>0.3%</b>	<b>1.3%</b>	<b>1.9%</b>	<b>2.1%</b>	<b>2.3%</b>	<b>2.2%</b>
Subsidies less taxes on production	0.0%	0.0%	0.0%	0.0%	7.4%	7.4%	7.4%	7.3%	7.3%	7.3%	7.2%	7.2%
<b>Factor income</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.5%</b>	<b>0.7%</b>	<b>2.1%</b>	<b>2.9%</b>	<b>3.3%</b>	<b>3.5%</b>	<b>3.6%</b>	<b>3.5%</b>
Compensation of employees	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>Operating surplus</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.5%</b>	<b>0.8%</b>	<b>2.3%</b>	<b>3.2%</b>	<b>3.7%</b>	<b>3.9%</b>	<b>4.1%</b>	<b>4.0%</b>

Source: FAPRI-Ireland GOLD Model.  
Historical data, CSO.



## Background Notes to the Output, Input and Income Table

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<b>Introduction</b>	The historical estimates and projections are based on a new methodology arising from the revision of the System of National Accounts in 1995.
<b>National farm</b>	The concept of the “National farm” has been dropped. With this change, certain transactions between farms and between different enterprises within the same farm are now valued as both output and intermediate consumption.
<b>Basic prices</b>	Output is now valued added at basic prices. The basic price corresponds to the producer (ex-farm) price plus any subsidies directly linked to a product minus any taxes on products. VAT is excluded. Subsidies and taxes linked to production are not included in output.
<b>Forage plants</b>	The production of forage plants is now valued as a part of output. Silage and hay are the main items in this category. These items are also treated as intermediate consumption with minor exceptions such as sales of straw to racing stables.
<b>Agricultural services</b>	Activities performed by agricultural contractors directly related to the production of agricultural products (e.g. harvesting) are an integral part of agriculture. The value of such work is included as output and also as intermediate consumption.
<b>Fixed capital consumption</b>	This relates to foreseeable wear and tear and obsolescence of fixed capital goods. It is calculated on the basis of the probable economic life of the asset. It is not calculated for breeding livestock or non-produced assets such as land.
<b>Compensation of employees</b>	This includes remuneration in cash and in kind. It does not include the remuneration of work undertaken by the farmer or by non-salaried family farm members.
<b>Operating surplus</b>	This indicator is an approximation for the income indicator used under the old agricultural accounts methodology. It is calculated before deductions for interest payments on borrowed capital and before deductions for land annuities and for rent paid by farmers to landowners for the use of their land.
<b>Land rental</b>	This mainly corresponds to rents paid by farmers to the landowners. Land annuity payments as well as rentals for under and over one year are included.
<b>Interest paid</b>	This concerns interest payable on a capital loan granted to finance agricultural activity.
<b>Entrepreneurial income</b>	This is before payment by farmers of taxes on income.

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*Source: Adapted from the CSO Output, Input and Income in Agriculture Statistical Release*

## **Related Reading:**

### **The Baseline Outlook for the Agricultural Sector in Ireland**

Binfield J., T. Donnellan K.Hanrahan, K. McQuinn and P.Westhoff (2001). Proceedings Outlook 2001: Medium Term Analysis for the Agri-Food Sector. Dublin.

### **The Impact of WTO Export Subsidy Reductions on Agricultural Output, Prices and Farm Income in Ireland**

J. Binfield, T.Donnellan, K.Hanrahan, Kieran McQuinn and Patrick Westhoff (2001). Proceedings Outlook 2001: Medium Term Analysis for the Agri-Food Sector. Dublin.

### **The Baseline Outlook for the Agriculture Sector in the EU and Ireland**

Binfield J., T. Donnellan K.Hanrahan, K. McQuinn and P.Westhoff (2002). Proceedings Outlook 2002: Medium Term Analysis for the Agri-Food Sector. Dublin.

### **Analysis of the Impact of Changes to the Extensification Regime**

Binfield J., T. Donnellan K.Hanrahan, T.Hennessy, K. McQuinn and P.Westhoff (2002). Proceedings Outlook 2002: Medium Term Analysis for the Agri-Food Sector. Dublin.

### **Long term projections for the beef and sheep sectors under alternative policy sceanrios**

Hanrahan, K. (2003). End of Project Report (RMIS 4815), Teagasc, Dublin.

### **Projections of Agricultural Land Use and the Consequent Environmental Implications**

J. Behan and K. McQuinn (2003). End of Project Report (RMIS No. 4822), Teagasc, February

### **Economic Analysis of Policy Changes in the Crops Sector and Projections for the Agricultural Sector's Incomes and Costs to 2010**

J. Behan and K. McQuinn, (2003) End of Project Report (RMIS No. 4821, RMIS No. 4823), Teagasc, February.

### **Economic Analysis of Policy Changes in the Dairy Sector**

T. Donnellan and W.Fingleton, (2001) End of Project Report (RMIS 4431) Teagasc