Outlook 2013
Economic Prospects for Agriculture

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General Overview

- Looking at the sector in aggregate, the substantial gains in farm income experienced in 2011 were not sustained in 2012. Price reductions for some of the key commodities such as dairy and grains, coupled with inclement summer weather and an increase in feed use, led to a reduction in margins in dairy and tillage systems.

- Higher beef prices in 2012 outweighed the increase in feed costs providing for an improvement in the financial performance of cattle farms. Pig farmers had yet another difficult year in 2012. Even though pig prices increased, feed prices increased also.

- In 2012, heavy rainfall resulted in increased concentrate feed usage on grassland enterprises, although the magnitude of this increase varied significantly by region with farms in the south and south east being more adversely affected than farms elsewhere. The heavy summer rainfall also led to seriously depressed cereal yields in 2012.

- Average family farm income for the sector as a whole in 2012 is estimated at approximately €21,500, a 12 percent decline on the 2011 level.

- The outlook for 2013 is conditioned by the assumption that there is no repeat of the unusual summer weather that hit some regions of Ireland in 2012. On average, feed use should fall substantially in 2013, although it will remain at elevated levels in the first quarter due to the shortage of fodder. The outlook is for little change in fertiliser and energy prices.

- The annual average farm milk price is expected to be higher in 2013. Pig meat prices are also set to rise in 2013. Beef and sheep prices are expected to remain steady, while barley prices are expected to fall in 2013 from current high levels.

- Overall, average farm income is forecast to increase by 7 percent in 2013.

Dairy

- Milk prices are estimated to have fallen by on average 9 percent from 2011 to 2012. While Irish milk production was 1 percent over quota in 2011/12, production is estimated to have decreased by over 2 percent in the 2012 calendar year, due to poor mid season production conditions.

- Feed, fertiliser and fuel prices all increased in 2012, but the most notable impact on costs for dairy systems was a substantial increase in concentrate feed usage. While the impact of the wet summer on purchased feed usage varied

considerably by region in Ireland, it is estimated that the volume of concentrate feed increased by 20 percent on average for dairy farms in Ireland. Preliminary data from the Teagasc National Farm Survey supports anecdotal evidence that the increase in feed use on some dairy farms in 2012 was far higher than the average increase.

- Lower farm milk prices coupled with rising input expenditure led to an estimated 40 percent decline in net margin per litre of milk produced in 2012 relative to the previous year.

- The average specialist dairy farm in the Teagasc National Farm Survey tends to also operate a significant beef enterprise on the farm accounting for about 18 percent of gross output. The average dairy farm also received a substantial subsidy payment worth in the order of €22,500 in 2011. When the estimated changes in inputs, output and subsidies are considered for this average dairy farm, family farm income in 2012 is estimated to have fallen by 27 percent, from an average of €68,600 in 2011 to approximately €50,000 in 2012.

- As we enter 2013 supply and demand on international dairy markets are in a better balance than at the outset of 2012. This suggests that the slump in milk prices in 2012 will not reoccur in 2013. Overall, farm milk prices are forecast to average 5 percent higher in 2013 than in 2012.

- It is anticipated that the main change in input expenditure on dairy farms in 2013 will be a reduction in feed use to more normal levels once spring arrives. Little change in energy expenditure is expected. Fertiliser expenditure on dairy farms may rise in 2013, reflecting increased usage, since application rates seem to have been below normal in 2012.

- Overall, dairy margins are forecast to increase by 31 percent in 2013 relative to 2012. When the mix of enterprises on the average dairy farm is considered, average family farm income for 2013 is forecast to increase by 20 percent.

Cattle

- 2012 saw substantial increases in the price of cattle relative to 2011. This contributed to an improvement in margins on Irish cattle farms in 2012, despite some increases in direct costs of production.

- Gross margins per hectare for suckler beef and cattle finishing systems are estimated to have increased by 21 and 19 percent respectively in 2012 compared with 2011.

- Taking account of the mix of enterprise on the average suckling and cattle other farms in the Teagasc National Farm Survey, and allowing for their considerable reliance on subsidies, the average family farm income on cattle farms is estimated to have increased in 2012. Family farm income on cattle rearing farms is estimated to have increased by 13 percent in 2012 while the average farm income for the cattle other system is estimated to have increased by 10 percent.

- The outlook for 2013 is for relatively stable cattle prices with a reduction in expenditure on concentrate feed due to a decline in usage to more normal levels. Similarly, pasture and forage expenditure is forecast to increase due to a return to more normal fertiliser application rates.

- Recent changes in national policy, as announced in Budget 2013, will reduce the effective subsidy per hectare for suckler cow farms by up to 50 percent in 2013.

- Overall, gross margins per hectare for cattle rearing and cattle finishing farms are forecast to decrease by 3 percent and increase by 2 percent respectively in 2013. The difference in the outlook for the two systems is driven by the reduction in the coupled subsidy on cattle rearing farms and the greater use of concentrate feeds on finishing farms.

- Overall, average family farm income for cattle rearing and cattle finishing farms are forecast to decrease by 4 percent and remain unchanged.

Sheep

- Marking a partial reversal of recent trends, lamb prices declined by an estimated 5 percent in 2012 relative to 2011. This was due to weaker demand on the European market.

- Rising input costs led to an 9 percent increase in direct costs and a 2 percent increase in overhead costs in 2012. Gross margin per hectare decreased by 12 percent, while net margin declined by almost 60 percent in 2012.

- The average family farm income for sheep farms is estimated to have declined by 10 percent in 2012. Increases in the profit from cattle enterprises along with a significant reliance on subsidies, stymied some of the losses from the sheep enterprise.

- The outlook for 2013 is for relatively stable lamb prices. A reduction in expenditure on concentrate feed is forecast due to both lower prices and reduced usage, however this will be offset by higher pasture and forage costs. The changes announced in Budget 2013 reduced the effective rate of subsidy to sheep production. Overall, little change in input costs is forecast for 2013.

- The Sheep Grassland payment is estimated to reduce the subsidy payment per hectare by 22 percent. Gross margin per hectare of sheep production is forecast to decline by 1 percent in 2013

- Average family farm income for sheep farms is forecast to decline by 2 percent in 2013.

Cereals

- Adverse growing conditions in key cereal production regions across the world led to a contraction in production and significant increases in grain prices in 2012. Barley and wheat prices are both estimated to have increased in the order of 20 percent.

- However, these price increases were insufficient to offset rising input prices and the very poor yields recorded in Ireland in 2012. Yields in 2012 are estimated to be down 21 percent for spring barley and 30 percent for winter wheat relative to 2011.

- Gross margin per hectare of winter wheat is estimated to have decreased by almost 40 percent in 2012. Spring barley is estimated to have fared somewhat better, with gross margins down 26 percent.

- Average income on tillage farms is estimated to have declined by 19 percent in 2012.

- Given that world grain stocks remain at extremely low levels, the outlook for cereal prices in 2013 is hugely dependent on how growing conditions impact on the size of the 2013 harvest. In the early months of 2013 international cereal prices are expected to continue to increase. However for the year as whole, futures markets expect lower prices in 2013 relative to 2012 for coarse grains, while wheat prices are expected to be similar to 2012.

- Assuming a return to more normal Irish cereal yields in 2013, gross margins for winter wheat are forecast to increase substantially, in the order of 50 percent, from the very low levels estimated for 2012. Conversely, spring barley margins are forecast to remain more or less unchanged with yield and price moving in opposite directions.

- Average family farm income for tillage farms is forecast to increase by 4 percent in 2013.

Pigs

- The Irish composite pig feed price continued to rise in 2012 increasing by €27 (8 percent) from the previous high plateaux in 2011. This increase was largely driven by the worst drought conditions in the United States since the 1950's and a significantly lower than expected soyabean harvest in South America. This has resulted in the current composite pig feed price being the highest in over twenty years.

- The Irish pig price increased by 9 percent in 2012 on the strength of higher third country exports from the EU. Irish pigmeat exports increased by 6 percent and the EU27 exports increased by 1.1 percent (January to September 2012).

- The Margin-Over–Feed in 2012 averaged 43 cent, which although higher than the 2011 margin of 39 cent, is still significantly below the level required to reach a profitable margin. Many pig units continued to experience severe difficulties meeting full financial repayments in 2012.

- The outlook for 2013 is for the composite feed cost to remain high. A record South American soyabean harvest and significantly higher yields in the northern hemisphere are required to create an environment for lower feed prices in the last quarter of 2013. The pig price is expected to rise further due to the continuing strong export market to Russia and Asia and a tightening of the supply of slaughter pigs in Europe and the United States.

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Review of Dairy Farming in 2012 and Outlook for 2013

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1. Introduction

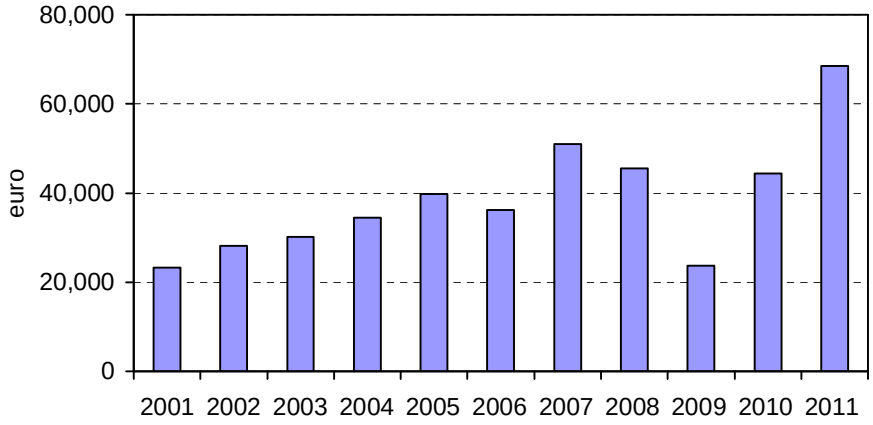
Dairy farm incomes reached unprecedented levels in 2011 averaging at just under €70,000 per farm, representing a 36 percent increase on the previous year. However, 2012 has been less favourable and has brought a combination of extremely inclement production conditions in the principal dairy regions of Ireland. This has contributed to rising input costs in 2012. The surplus of dairy products on international markets in the early months of 2012 led to falling milk prices. However, in the second half of 2012 dairy product prices recovered. Looking forward to 2013 the supply demand balance for dairy products is better than at the beginning of 2012 and this should give rise to fairly stable dairy product prices in the EU. Assuming that the mid year price slump of 2012 is not repeated in 2013, Irish farm milk prices are on course to be about 5 percent higher than the annual average for 2012.

This paper looks back on dairy farm performance in 2011, reviews the outcome for 2012 and looks ahead to the prospects for 2013. Data from the Teagasc National Farm Survey (Teagasc NFS) are used in our review of 2011. The milk price and key input cost estimates for 2012 are used to produce an overall estimate of dairy farm income for 2012. Finally, in the concluding sections of the paper, the forecast for milk price, production costs and dairy farm margins in 2013 is presented.

2. Review of the Economic Performance of Dairy Farms in 2011

To examine the economic performance of dairy farms in 2011, we first look at how dairy farm income has changed over the last few years. Figure 1 presents the Family Farm Income (FFI) on *Specialist Dairy* farms over the years 2001 to 2011. Dairy farm incomes reached an unprecedented high in 2011, averaging almost €70,000, a 36 percent increase from the previous year. The income increase was entirely market driven with market gross output up 19 percent on dairy farms as the annual milk price increased by 15 percent.

Figure 1: Average Income on Irish Specialist Dairy Farms 2001 to 2011



Source: Teagasc National Farm Survey (various years).

To further explore the economic performance of dairy farms in 2011, we next look at how margins have changed over the last few years. Table 1 presents the average gross output, gross margin and net margin per litre of milk produced in 2010 and 2011.[1]

The gross output measure includes the value of milk and calf sales minus replacement costs. The value of milk sales typically accounts for more than 95 percent of the gross output of dairy enterprises. As can be seen, gross output per litre was up 15 percent in 2011 relative to 2010. Total direct costs were up by almost 5 percent in 2011 compared to 2010 and as a result the average gross margin increased by 21 percent on a cent per litre basis relative to 2010. In 2011, total fixed costs decreased by 6 percent relative to 2010. This was mostly due to reductions in depreciation charges as the replacement cost of buildings declined. The average net margin was 12.5 cent per litre in 2011, representing a 61 per cent increase on the 2010 level.

Table 1: Average Gross and Net Margin of Milk Produced (cent /litre)

	2010	***2011***	***% Change***
Total Gross Output	**30.9**	**35.4**	**+15**
Concentrate Costs	4.2	4.5	+7
Pasture and Forage Costs	4.1	4.2	+1
Other Direct Costs	3.6	3.7	+4
Total Direct Costs	**12**	**12.4**	**+4**
Gross Margin	**18.8**	**23**	**+21**
Energy and Fuel	2.4	2.4	+1
Labour	0.4	0.5	+30
Other Fixed Costs	8.4	7.6	-10
Total Fixed Costs	**11.2**	**10.5**	**-6**
Net Margin	**7.8**	**12.5**	**+61**

Source: Teagasc National Farm Survey Data.

Table 2 presents gross output, total costs and net margin per hectare of forage area allocated to the dairy enterprise. Net margin per hectare increased slightly more between 2010 and 2011 than the net margin when expressed on a per litre basis, this is due to the slight increase in the quantity of milk produced per hectare.

Table 2: Average Gross and Net Margin per hectare*

		2010	***2011***	***% Change***
Milk Produced	litres/ha	9,544	9,687	+1
Total Gross Output	€/ha	2,951	3,431	+16
Total Costs	€/ha	2,208	2,217	+1
Net Margin	€/ha	743	1,214	+63

** - Hectare of forage area allocated to the dairy enterprise.*
Source: Teagasc National Farm Survey Data.

[1] Farms producing mainly liquid milk are excluded from the sample as are herds of 10 cows or less.

The cost and margin data in Table 3 allow us to examine the variability in economic performance across dairy farms. Farms are classified on the basis of gross margin per hectare: the best performing one-third of farms (Top), the middle one-third (Middle) and the least well performing one-third (Bottom). On a per litre basis, production costs for the Bottom group are 27% higher than for the Top group and the net margins are almost double for the Top compared to the Bottom.

Table 3: Costs and profit (cent per litre) for Top, Middle and Bottom one-third of farms in 2011

	Top	Middle	Bottom
Concentrate Feeds	3.9	4.2	5.4
Pasture & Forage	3.6	4.1	4.9
Other Direct Costs	3.5	4.1	3.9
Energy & Fuel	2.1	2.4	2.7
Labour	0.8	0.4	0.3
Other Fixed Costs	6.3	8.1	8.4
Total Costs	20.2	23.1	25.7
Net Margin	**16.2**	**12.5**	**8.9**

Source: Teagasc National Farm Survey Data .

Table 4 presents the variation in output and profit per hectare for the Top, Middle and Bottom groups. Gross margin per hectare is almost two and a half times higher for the Top group than the bottom. These greater rates of profitability are driven by productivity (higher output per hectare) and efficiency (lower use of concentrate feed and other direct costs per hectare).

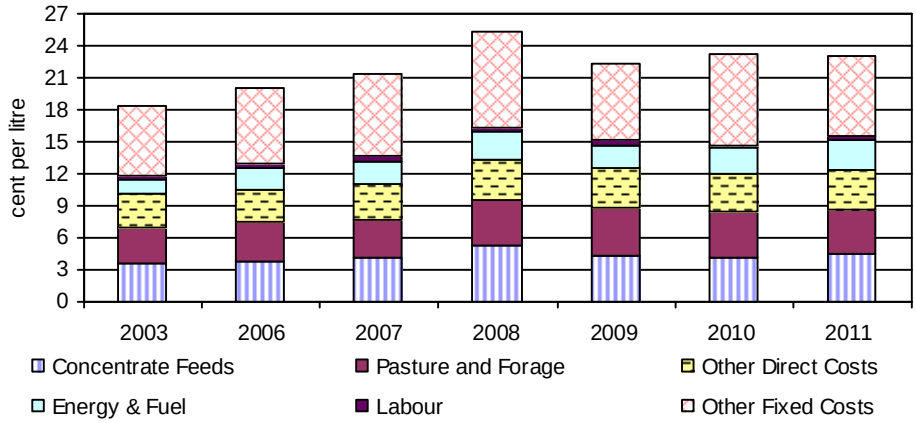
Table 4: Output and profit per hectare for Top, Middle and Bottom one third of farms in 2011

	Top	Middle	Bottom
Stocking rate (Cows/Hectare)	2.22	1.84	1.52
Milk Sold per hectare (litres)	12,747	9,564	6,749
Concentrates fed per cow (kg)	876	861	925
Concentrates fed per litre of milk produced (kg)	0.15	0.17	0.21
Gross output per hectare (€)	4,620	3,370	2,325
Total Costs per hectare (€)	508	418	379
Gross Margin per hectare (€)	**3,208**	**2,189**	**1,348**

Source: Teagasc National Farm Survey Data.

As shown in Figure 2 following a decrease in 2009, the total costs of dairy production rose in 2010 but did not quite reach the record level observed in 2008, see Figure 2. Costs have stabilised from 2010 to 2011, remaining very close to the 23 cent per litre mark. While direct costs of production rose between 2010 and 2011, the decrease in overhead costs was sufficient to offset this increase.

Figure 2: Total Milk Production Costs (cent per litre) in Ireland:2003 to 2011



Source: Teagasc National Farm Survey Data

3. Review of 2012 Estimated Performance

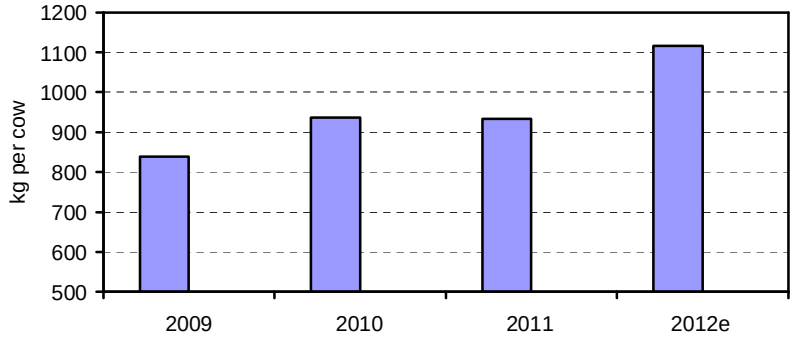
This section of the paper presents a review of dairying in 2012. Teagasc NFS results for 2012 will not be available until mid 2013, therefore, it is necessary to estimate the price and volume of inputs and outputs in 2012, in order to asses the outcome for margins. The following section of the paper first discusses costs in 2012, looking at both input prices and input usage volumes. Finally in this section, the development of dairy product markets in 2012 and the impact on Irish milk prices is discussed.

3.1 Estimated Input Usage and Price 2012

3.1.1 Feedstuff – usage and price 2012

Purchased feed (concentrates) is an important element of dairy production costs in Ireland, typically accounting for about 20 percent of total input expenditure, although this varies by farm and by year. Adverse weather conditions have had a substantial impact on the feed requirement on dairy farms in 2012. Heavier than normal summer rainfall in many regions of Ireland made grazing conditions, fertiliser applications and silage making difficult and created a requirement for additional feed use in many regions. Figure 3 shows the average volume of compound feed use per cow, including an estimate for 2012. This is derived from Department of Agriculture, Food and Marine (DAFM) figures on feed sales and from Central Statistics Office (CSO) data on animal numbers. While feed purchases in the first half of 2012 were relatively normal, third quarter purchases in 2012 were 50 percent ahead of the corresponding period in 2011. Feed sales for the fourth quarter of 2012 are not yet available, but it is likely that, for the year as a whole, dairy feed sales will have been about 20 percent above the 2011 level. However, this is an average figure and feed use on some farms, notably those which would normally be less reliant on feed, is likely to have increased by a greater percentage.

Figure 3: Compound Feed Purchases per Dairy Cow in Ireland: National Average for 2009 to 2012



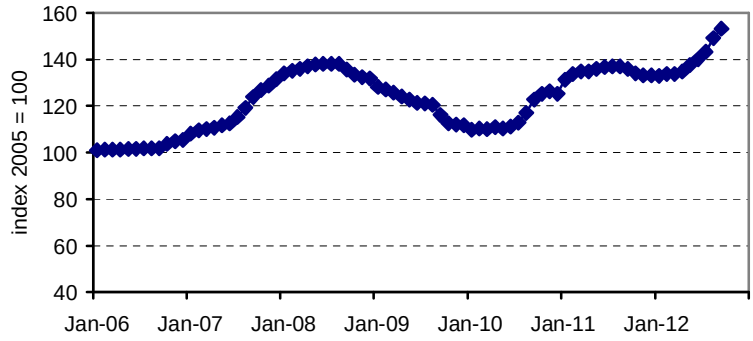
Source: Authors' estimates derived from DAFM and CSO data
Note: e = estimate

Monthly Irish milk production in the first half of 2012 was relatively normal, but has faltered in the second half, reflecting the elevated cost of milk production and falling milk prices compared with 2011.

Expectations of increased grain availability in 2012 were thwarted by the emergence of drought conditions in the US Corn Belt and in southern and eastern Europe, while excess rainfall suppressed yields in parts of northern Europe. Internationally, cereal prices rose as 2012 progressed reflecting growing concern about availability and these price increases were transmitted to the Irish feed market in the final quarter of 2012.

Figure 4 shows an index of monthly Irish cattle feed prices from 2006 to 2012. The annual average feed price for 2012 is estimated to have risen to over €300 per tonne, corresponding to a 4 percent price increase on the average 2011 level. This increase in feed prices in 2012, combined with the 20 percent increase in dairy feed volume, suggest that total expenditure on dairy feed in 2011 increased by almost 25 percent on the 2011 level.

Figure 4: Monthly Price Index of Cattle Meal in Ireland 2006 to 2012



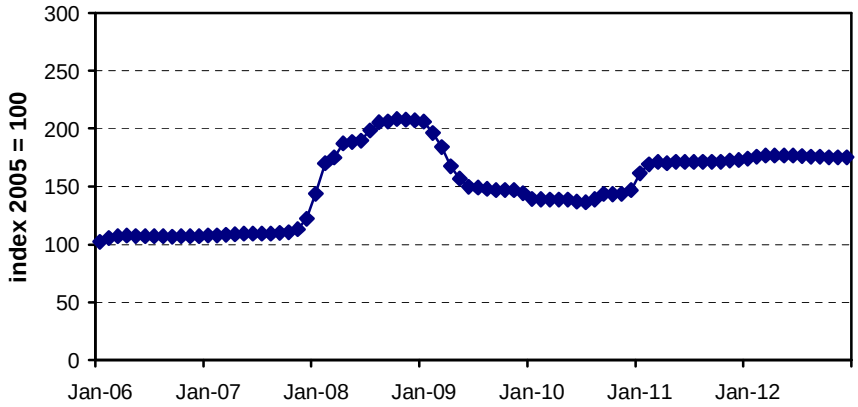
Source: Central Statistics Office (Various Years)

3.1.2 Fertiliser – usage and price 2012

Pasture and forage costs typically comprise about 20 percent of total production costs on dairy farms. Fertiliser purchases comprise about half of this figure, with contractor costs accounting for most of the remainder.

Overall fertiliser prices in 2012 rose slightly and remain at an elevated level reflecting the higher energy prices that have prevailed in recent years. Figure 5 charts the monthly index of farm level fertiliser prices from 2006 through to 2012 in Ireland.

Figure 5: Monthly Price Index of Fertiliser in Ireland for 2006 to 2012



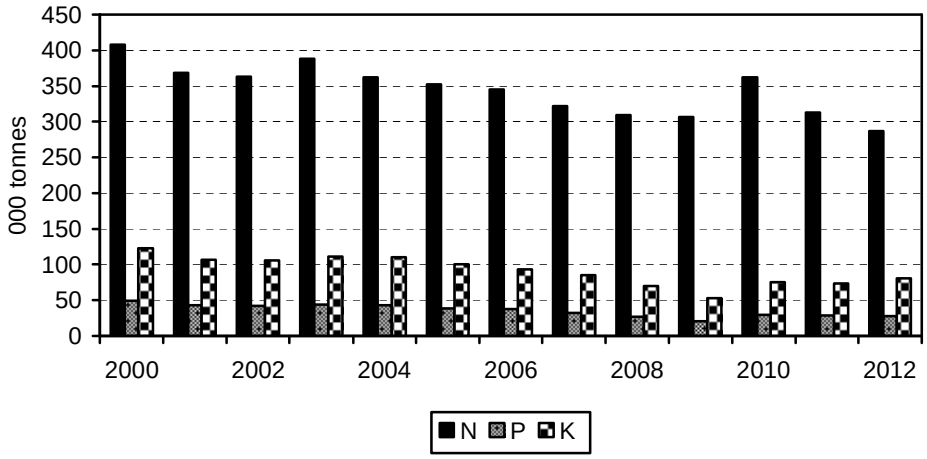
Source: Central Statistics Office (Various Years)

Overall, dairy farmers will have experienced slightly higher fertiliser prices in 2012 than in 2011. It is estimated that the fertiliser prices paid by dairy farmers in the first half of 2012 were up 5 percent relative to the corresponding period in 2011. More notable however, is the activity on the volume side. DAFM figures on nitrogen sales support anecdotal evidence of reduced nitrogen usage in 2012, largely due to weather conditions which hindered fertiliser spreading and silage production. Fertiliser sales in the 2012 fertiliser year (October 2011/September 2012) indicate a decrease in volume on the preceding year for N and P of 8 percent and 5 percent respectively. By contrast K sales rose 11 percent. These fertiliser sales data are reported in Figure 6.

The decrease in N usage in Ireland in 2012 is considered to have been largely concentrated on dairy farms and it is estimated that on average fertiliser use on these farms decreased by about 15 percent in volume terms in 2012 relative to 2011. However, there is likely to have been considerable farm specific variation, reflecting local weather conditions. A more precise figure will be obtained from the Teagasc NFS results for 2012.

Overall, taking account of the increase in fertiliser price and decrease in volume, this suggests that there has been a decrease of about 12 percent in fertiliser expenditure on dairy farms in 2012 compared with the 2011 figure.

Figure 6: Irish Fertiliser Sales by Compounders 2000 to 2012



Source: DAFM (various years).

3.1.3 Contractor Costs usage and price 2012

Fertiliser costs comprise about 50 percent of total pasture and forage costs, with the remaining half made up of contractor costs. While no official figures are available, there is anecdotal evidence to suggest that contracting costs for silage making increased by about 10 percent in 2012 relative to 2011. This price increase reflects the progressive increase in fuel prices (a key constituent of contracting costs) which has emerged since 2009.

3.1.4 Pasture and Forage – usage and price 2012

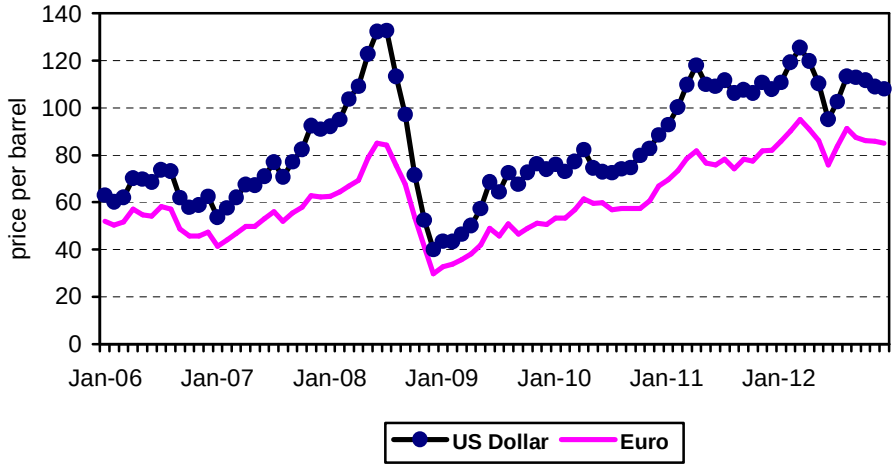
In addition to fertiliser and contracting costs, the total pasture and forage costs on a farm also include a value for the closing stock of winter forage. Where the closing stock of winter forage on the farm declines significantly year on year, as is the case in 2012 versus 2011, this is reflected as an increase in forage costs for the farm. Anecdotal evidence suggests that farmers have significantly depleted their winter forage stocks in the autumn of 2012, which is likely to increase purchased feed requirements in 2013. With fertiliser expenditure down 12 percent relative to 2011, contracting costs increasing by 10 percent and a substantial depletion of winter forage stocks, we estimate total pasture and forage costs to have increased by 13 percent in 2012 relative to 2011.

3.1.5 Energy and Fuel – usage and price 2012

Energy and fuel are less important inputs in dairy production, comprising just 8 percent of total costs on dairy farms. Electricity typically comprises about 30 percent of the total expenditure on energy and fuel on dairy farms, with motor fuel accounting for the remaining 70 percent.

Motor Fuel: Crude oil prices are presented in Figure 7. Brent crude oil price rose sharply early in 2012, reflecting concerns about supply availability from the Middle East and peaked at over $125 per barrel (pb) in March of 2012. Brent crude prices had declined to less than $95 pb by the June of 2012 and settled at close to $110 pb in the later months of the year. Overall, the average price for Brent crude in 2012 was unchanged on the 2011 level at $108 pb.

Figure 7: Monthly Average Brent Crude oil prices in Euro and US dollar from 2006 to 2012



Source: St Louis Fed.

However, the euro weakened in value versus the US dollar over the course of 2012 by about 10 percent relative to the average level in 2011. The weaker euro means that crude oil prices actually increased in euro terms in 2012. The average crude oil price for 2012 was just under €87 pb, an increase in euro terms of about 10 percent on the 2011 value of €77 pb. Overall, fuel costs in Ireland therefore continued to increase in 2012, with diesel prices approximately 10 percent higher in 2012 relative to the 2011 level.

Electricity: Electricity costs change infrequently in Ireland due to price regulation. Price increases occurred in 2012 reflecting the rise in the basket of energy costs associated with Irish electricity production. On an annual average basis, prices rose by about 9 percent in 2012 relative to 2011.

Energy and Fuel: Demand by farmers for fuel and electricity tends to be relatively inelastic with respect to price. Therefore, it is assumed that usage in 2012 will be on a par with the 2011 level. The overall expenditure on both electricity and fuel is estimated to have increased by 10 percent in 2012 relative to 2011.

3.1.6 All Other Direct and Fixed Costs– usage and price 2012

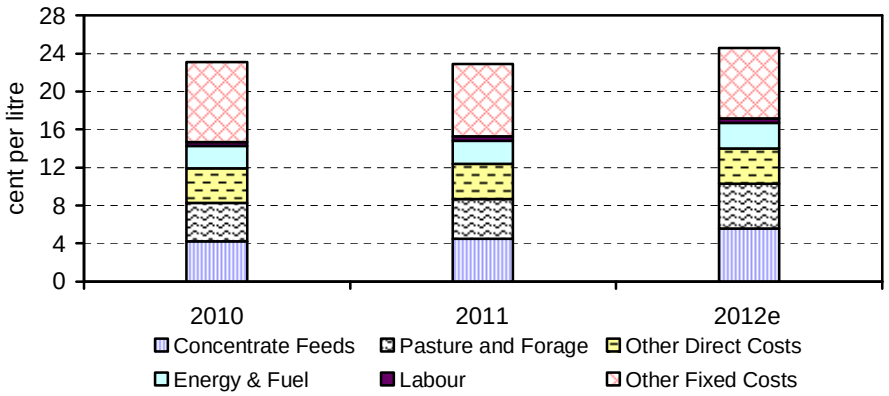
A slight increase in agricultural wages in Ireland is estimated to have occurred in 2012. Again, it is assumed that the quantity of labour used on farms is likely to have changed little year on year. With an unchanged volume of labour used, labour costs are estimated to be up 1 percent in 2012 on the 2011 level.

Reflecting the limited price inflation in the general economy, it is estimated that the price of other input items were up 1 percent in 2011. It is assumed that usage of these input items will be unchanged and, as a result, the increase in prices is reflected in a corresponding increase in expenditure on these items. Fixed costs in 2012 are estimated to have decreased by about 2 percent.

3.1.7 Estimate of Total Input expenditure for 2012

Figure 8 charts the average total cost of production for the years 2010 to 2011 and the estimates for 2012. It is estimated that the total cost of production in Ireland in 2012 was just 24.7 cent per litre compared to an average of just under 23 cent per litre in the previous year. This is equivalent to an 8 percent increase in 2012 relative to 2011.

Figure 8: Total Costs of Milk Production in Ireland in 2010 and 2011 and estimates for 2012

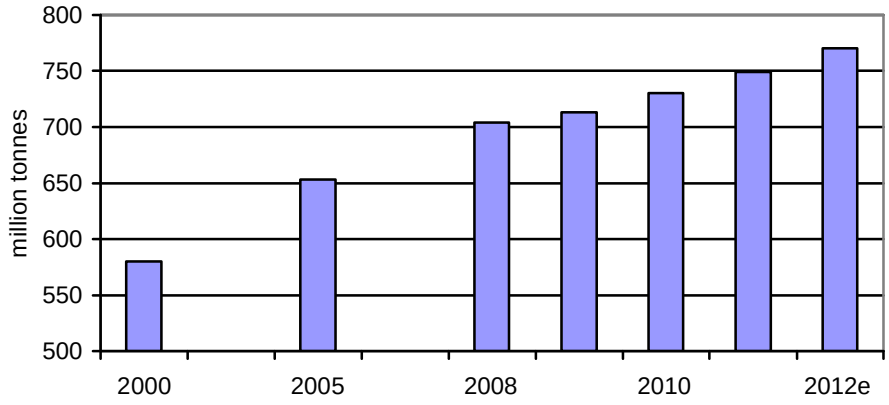


Source: Teagasc National Farm Survey Data and Authors' Estimates.
Note: e = estimate.

3.2 Estimated Output Values 2012

Global milk production figures are shown in Figure 9. Production is estimated to have increased to 770 million tonnes (mt) in 2012, compared with 748 mt in 2011.

Figure 9: Global Milk Production selected years from 2000 to 2012



Source: IDF and Authors' estimates.
Note: e = estimate.

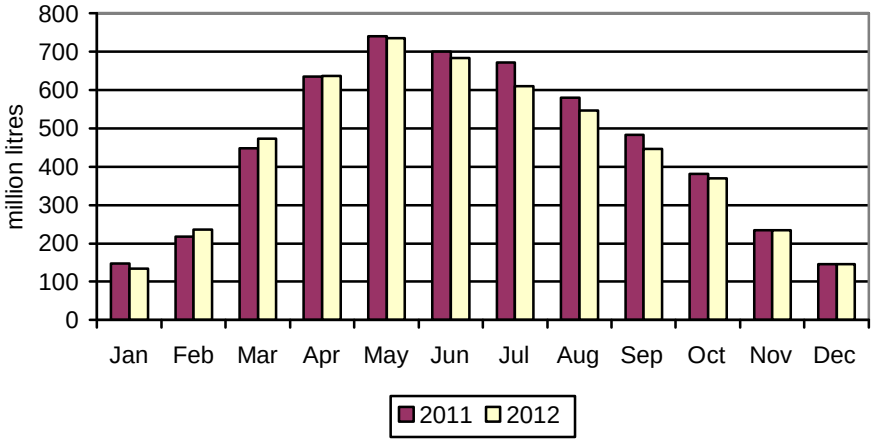
At the end of 2011 surpluses in dairy products had begun to emerge globally, this followed some strong production performance in many regions in 2012. Growth in 2012 production is estimated to have been higher than in 2011 at about 3%. Notably production growth has been strong in export regions such as New Zealand where production for the calendar year is likely to have increased by 10 percent. Other southern hemisphere countries such as Australia and Argentina look like they will record growth in milk production of about 3.5 percent and 4.5 percent respectively in

2012. In the northern hemisphere US milk production in 2012 is on course for a 2 percent increase over the 2011 figure, while EU milk production is estimated to be just over 1 percent higher than in 2011. Significant milk product importers such as Brazil, Mexico, Japan and Russia have also managed to increase milk production by between 2 and 4 percent in 2012. Collectively these changes in production created an excess supply of dairy products in world trade which led to a reduction in dairy product prices through the first half of 2012.

On an annual average basis, international dairy product prices, as a result of growth in global milk production, were lower in 2012 relative to 2011. The decline in price was most notable for butter given that prices had been at a particularly high level in 2011.

As illustrated in Figure 10 monthly Irish milk deliveries in 2012 were characterised by a contraction below the normal production trend in the second half of the year. From June 2012 onwards deliveries were below expectations, reflecting the poor grazing conditions resulting from rainfall levels that were will above normal in key milk production areas. Overall, milk production in the 2012 calendar year is estimated to be down by about 2 percent on the 2011 level. June Irish dairy cow numbers increased in 2012 to 1.140 million, compared with 1.117 million in 2011, an increase of 2 percent.

Figure 10: Monthly Irish Milk Deliveries 2011 and 2012

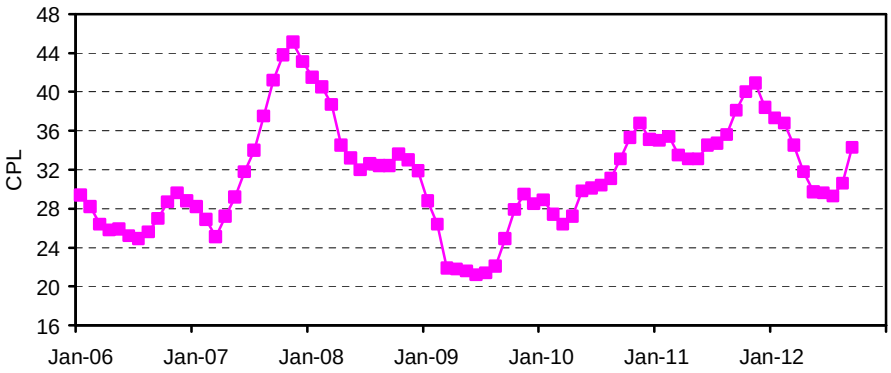


Source: CSO and DAFM.
Figures for November and December 2012 are authors' estimates.

Figure 11 presents monthly Irish milk prices recorded by the CSO from January 2006 through to October 2012. In Ireland the 2012 manufacturing milk price is estimated to have decreased relative to the 2011 level. Dairy product prices fell in the first half of the year reflecting the decline in EU dairy product prices induced by high levels of product availability. As a result, the monthly Irish farm milk price dipped below 30 cent per litre in the summer of 2012. Prices have improved slightly in the latter months of 2012.

The average milk price for 2012 is estimated to be about 32 cent per litre VAT inclusive. This is a decrease of just over 3 cent per litre, or approximately 9 percent, on the 2011 level.

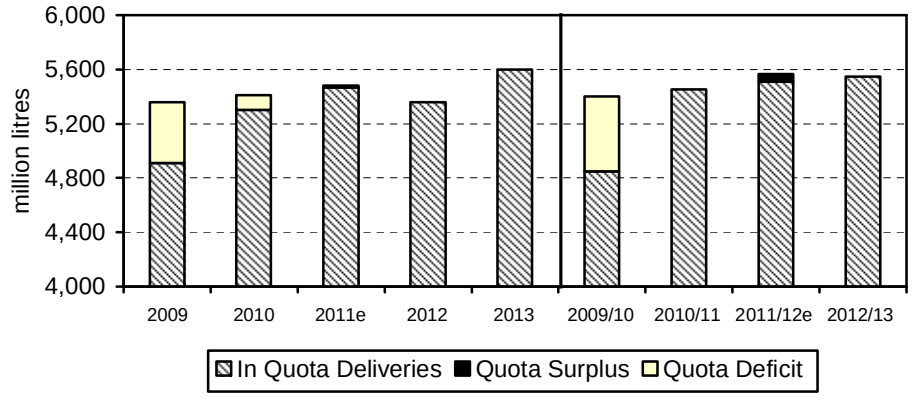
Figure 11: Irish Farm Gate Milk Prices (vat incl) 2006 - 2012



Source: CSO.
Note: Actual fat (VAT inclusive).

The negative impact of the lower 2012 milk price on Irish milk deliveries can be observed in Figure 12. On a calendar year basis Irish milk deliveries in 2012 will be about 2 percent below the 2011 level. Milk deliveries in the 2011/12 milk quota year were in excess of quota by just over 1 percent and a super levy of approximately €17 million was incurred. With monthly milk deliveries running below normal as 2012 comes to a close and with a general shortage of fodder on farms, production may need to rally in the spring of 2013 if the milk quota is to be filled.

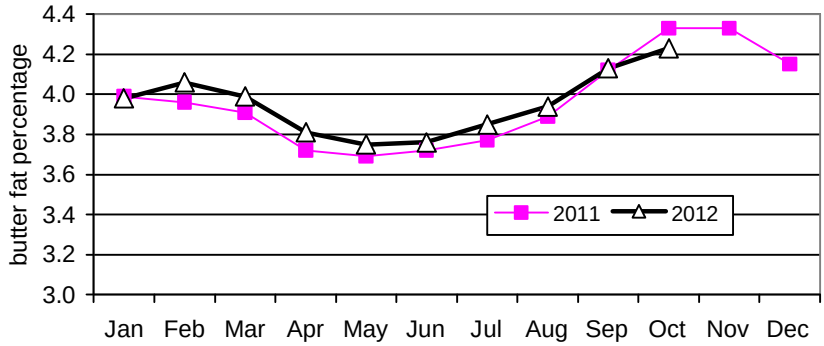
Figure 12: Irish Milk Deliveries (fat adjusted) and Quota Surplus/Deficit (calendar and quota year basis)



Source: Adapted from CSO data and Authors' calculations.
Note: Figures exclude imported milk for processing.
e = estimate.

Monthly butterfat levels in 2012 have generally been ahead of the corresponding levels in 2011 as illustrated in Figure 13. The average fat content of Irish milk deliveries in 2012 is likely to progress further towards 4 percent.

Figure 13: Butterfat in Irish Milk Deliveries 2011-2012

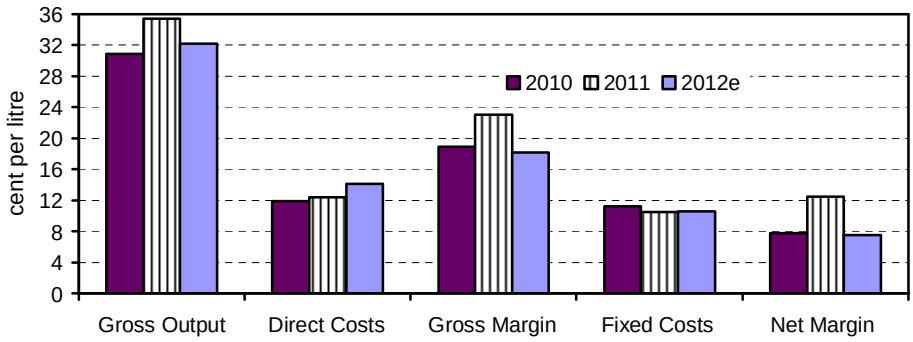


Source: CSO.

3.3 Review of Dairy Enterprise Net Margins in 2012

The review of milk prices showed that the average milk price for 2012 was down 9 percent on the 2011 level, while the review of input costs concluded that total production costs on a per litre basis are estimated to have increased by 8 percent in 2012 relative to 2011. Figure 14 presents the estimated average gross output, production costs and net margin per litre for 2012 in comparison to 2010 and 2011.

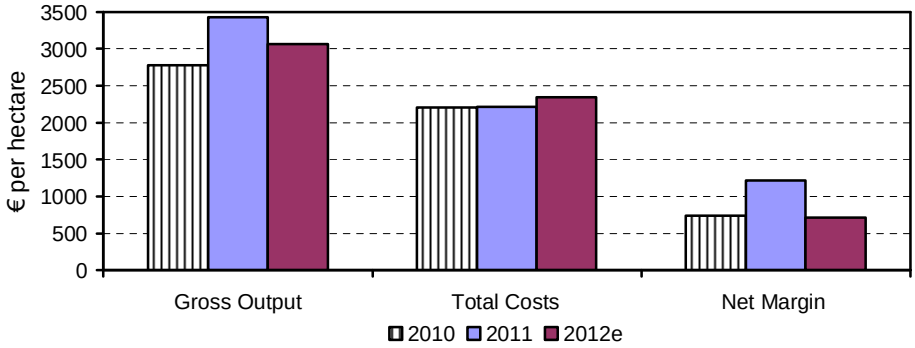
Figure 14: Gross Output, Costs and Margins per litre for milk production in Ireland in 2010, 2011 and estimates for 2012



Source: Teagasc National Farm Survey Data and Authors' Estimates.
Note: e = estimate.

Gross output per litre is estimated to have decreased in 2012 to 32.2 cpl. Input costs also increased giving rise to a reduction in net margin. Net margin per litre in 2012 is estimated to be 7.5 cent per litre, 40 percent down on the 2011 level and slightly behind the 2010 level. Estimated average net margin per hectare is shown in Figure 15.

Figure 15: Gross Output, Costs and Margins per hectare for Milk Production in Ireland in 2010, 2011 and estimate for 2012



Source: Teagasc National Farm Survey Data and Authors'.
Note: e = estimate.

Net margin per hectare decreased by 41 percent from 2011 to 2012, averaging at €716 per hectare.

4.1. The Outlook for Input Expenditure in 2013

4.1.1 Feedstuffs – usage and price 2013

The 2012 Irish harvest prices for feed wheat and barley increased relative to the 2011 figure. This reflected poorer than anticipated harvests in the US and Europe and the persistence of low grain stock levels internationally. Cereal prices in 2012 were up about 20 percent on the 2011 level.

Feed requirements for grassland enterprises are expected to be above normal in the first quarter of 2013, reflecting the shortage of quality fodder arising out of the poor weather conditions in 2012. Farmers purchasing feed in the first half of 2013 can expect to continue to pay high prices. However, it is anticipated that feed prices will fall as 2013 progresses. Based on expected planting rates and assuming average weather conditions, it is anticipated that grain harvest prices will be lower in 2013 than in 2012. In Ireland the forecast is for a stabilisation or a slight decline in cereal prices depending on the crop type when compared to the 2012 level. Taking account of 2012 harvest prices and projected harvest prices in 2013, a rise in feed prices in 2013 of about 7 percent relative to the 2012 average is forecast.

In line with the expansion of the milk quota in 2013/14, it is anticipated that milk production will increase by 1 percent in 2013 relative to 2012. Dairy product and milk prices are expected to increase due to expectations of a tighter dairy market globally. In Ireland high feed prices may constrain growth in cow numbers in 2013 and the increase in cow numbers that took place in 2012 will restrict yields since the milk quota remains in place until 2015. Overall, it is expected that the volume of concentrate use on dairy farms in 2013 will be lower than in 2012 by about 15 percent, but this is contingent on normal weather conditions prevailing.

Overall, an increase in feed prices of 7 percent in 2013 coupled with a 15 percent reduction in feed volume would leave feed expenditure in 2013 9 percent down on the 2012 level.

4.1.2 Fertiliser & Contracting Costs– usage and price 2013

Continuing high energy prices and expectations of high planting rates internationally in 2013 provide a basis for continuing high fertiliser prices through 2013.

In 2013 further upward pressure is expected on some fertiliser compounds and an average increase in prices of about 4 percent is forecast relative to 2012. Given the weather related contraction in fertiliser use on Irish dairy farms in 2012, it is reasonable to expect that fertiliser usage will recover, increasing by about 5 percent in 2013, assuming normal weather conditions prevail. With prices up 4 and usage levels increasing, this would leave total expenditure on fertiliser up 10 percent in 2013.

Given that fuel prices are expected to decline only marginally in 2013, no change in agricultural contracting costs is forecast. Pasture and forage costs are estimated to have increased significantly in 2012 as farmers depleted their stock of winter forage and forage inventories were devalued. Assuming normal weather patterns, this is expected to be reversed in 2013 and consequently pasture and forage costs are expected to decline slightly. Overall, expenditure on pasture and forage costs is forecast to decline by 5 percent in 2013 when compared to the 2012 level.

4.1.3 Energy and Fuel – usage and price 2013

Increases in Brent crude oil and European natural gas prices took place in 2012. An analysis of futures prices indicates that the balance of market opinion sees Brent crude oil prices being maintained at over US $100 into 2013.

As of December 2012, the average Brent crude oil futures price for 2013 is about $108 pb. This equates to about €85 pb at a euro exchange rates of $1.28 , which would represent a decrease of about 2 percent on the 2012 level. However, exchange rate movements remain an area of uncertainly and a potential source of energy price inflation should the euro depreciate against the US dollar. Electricity prices increased late in 2012 and if energy prices remain relatively static in 2013, it is possible that electricity prices will remain unchanged on the 2012 level. This would leave overall farm expenditure on energy and fuel down about 2 percent in 2013 relative to the 2012 level.

4.1.4 Other Direct and Fixed Costs – usage and price 2013

Given the continuing weakness of the Irish labour market, the increase in labour costs and general inflation in 2013 are forecast to be no more than 1 percent. No change in fixed costs is anticipated in 2013.

4.2. The Outlook for Dairy Markets in 2013

As of December 2012, international dairy prices are relatively stable. It is likely that this situation will persist over the first half of 2013. Expectations are that growth in production in 2013 will be limited by the persistence of relatively high feed costs. The tighter availability of dairy products than in 2012 should give stability to dairy product prices and prevent the mid year slump observed in 2012 being repeated in 2013.

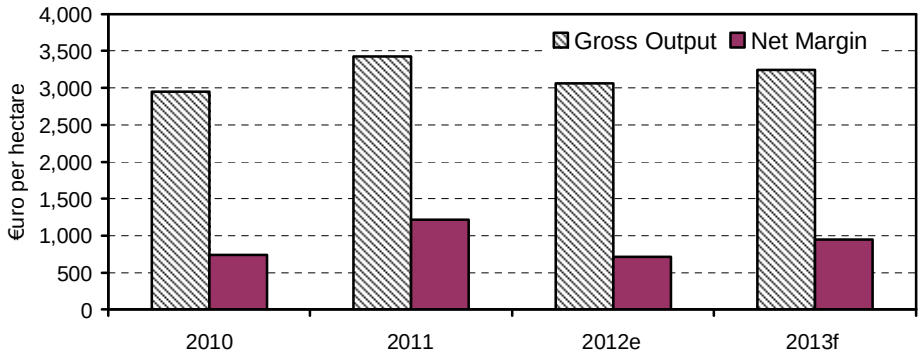
In the EU, milk production could rise in response to higher milk prices and the further increase in the EU milk quota due next year. UK milk production should be bolstered by the supply arrangements agreed in 2012, which should offer UK milk producers better prices than could otherwise be achieved. Production in the US and New Zealand is unlikely to grow by the same extent as in 2012.

Taking these factors into consideration, Irish farm milk prices are expected to, on average, be higher in 2013 than in 2012. However, the timing of the increase in international dairy prices will influence the extent to which Irish milk prices improve in 2013, especially given the seasonality of production in Ireland. On balance it looks like an improvement in milk prices will not occur until after the peak of the Irish milk production season has passed, this will limit the benefit to milk producers. Overall, it is estimated that annual average farm milk price in 2013 could increase by 5 percent relative to 2012.

4.3. The Outlook for Dairy Enterprise Net Margins in 2013

Input expenditure is expected to decrease in 2013, by approximately 3 percent, and together with a 5 percent increase in milk prices, net margins in 2013 are forecast to increase by approximately 31 percent, see Figure 16. Average net margin per hectare is estimated at €716 for 2012, but is forecast to increase to €950 in 2013. This represents a 33 percent increase on the 2012 level but still lags 22 percent behind the 2011 figure.

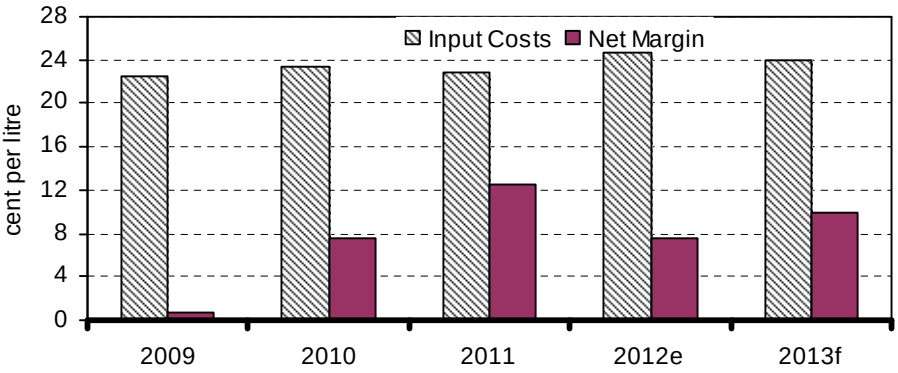
Figure 16: Gross Output and Net Margin for Milk Production per Hectare for 2010 to 2012 with Forecast for 2013



Source: Teagasc National Farm Survey Data and Authors' Estimates.
Note: e = estimate f= forecast.

Figure 17 presents a margin forecast on a per litre basis. As with the per hectare forecasts discussed above, margins per litre are also forecast to increase significantly in 2013 but not to reach the levels recorded in 2011.

Figure 17: Production costs and Net Margin per Litre of Milk Production in Ireland 2009 to 2012 with Forecast for 2013



Source: National Farm Survey Data (Various Years) and Authors' Estimates
Note: e = estimate f = forecast

5. Concluding Comments

Following a record year in 2011, dairy margins fell in 2012, due to a combination of lower milk prices and higher costs of production, largely attributable to poor summer weather in regions where Irish milk production is concentrated. Milk prices recovered towards the end of 2012 and forecast supply and demand conditions suggest that dairy market prices will remain relatively stable in 2013, providing for an annual average increase in milk prices of about 5 percent compared with 2012. A slight decline in overall production costs per hectare in 2013 relative to 2012 is also forecast.

Based on these forecast output price and input cost movements, dairy margins are likely to increase in 2013 compared with 2012. At this point a superlevy situation at the end of the 2012/13 quota year seems unlikely.

References

Central Statistic Office (2012) Statbank [accessed at www.cso.ie]

Hennessy T, Kinsella A, Moran B, and Quinlan G (2012) National Farm Survey 2011. Teagasc, Rural Economy Research Centre Athenry Ireland. Available to download at http://www.teagasc.ie/publications

Hennessy T, Moran B, Kinsella A, and Quinlan G (2011) National Farm Survey 2010. Teagasc, Rural Economy Research Centre Athenry Ireland. Available to download at http://www.teagasc.ie/publications

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Review of Cattle Farming in 2012 and Outlook for 2013

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1. Introduction

This paper presents a review of the economic performance of cattle production in 2011 based on data provided by the Teagasc National Farm Survey (Teagasc NFS) (Hennessy et al. 2012). Estimated returns from cattle production in 2012 and the forecast outlook for 2013 are also presented.

Cattle prices in 2012 for all animal age categories have been substantially higher than in 2011. This is estimated to have led to an increase in the value of cattle production on Irish farms in 2012. The impact of higher output prices on margins is estimated to have been sufficient on average to offset the higher costs of production incurred on beef farms in 2012. In 2012 many parts of the country had unusually high levels of rainfall. This poor weather reduced both time at grass and the production and quality of silage. This is estimated to have led to substantial increases in the volume of purchased feed used and in overall expenditure on feed in 2012. The magnitude of increased expenditure on feed is likely to vary regionally. In this paper all results refer to averages and will, by construction, be unable to represent the diversity of experience on the ground in 2012.

Since average gross margins are estimated to have increased in 2012 relative to 2011, the prevalence and magnitude of negative market-based net margins on Irish cattle production systems is estimated to have declined in 2012. The outlook for Irish and EU cattle markets in 2013 remains positive, with prices expected to remain at or close to current historically high levels.

The supply of finished cattle in Ireland and the UK is expected to increase in 2013. However, the on-going contraction in the EU cow herd is expected to lead to a lower overall indigenous EU beef supply in 2013. This factor, combined with limited additional international supply capacity in 2013, points to a relatively stable cattle price outlook for 2013. However, the short term outlook for EU beef demand continues to remain particularly uncertain. According to the CEPR (CEPR 2012) the euro-area recession began in Q4 2011. This weakening of the EU economy is however not sufficient, in our judgment, to lead to lower cattle prices in 2013. However, a significant worsening of the European marcoeconomy continues to be an important risk factor for EU beef markets and cattle prospects for Irish cattle farmers.

Unless stated otherwise, all figures referred to in this paper are in nominal terms and all enterprise income and profit estimates exclude the value of decoupled income support payments. In 2013 we have assumed that the suckler cow welfare scheme as amended by Budget 2013 applies.

2. Review of the Economic Performance of Beef Farms in 2011

The trends in average family farm income (FFI) for the two types of cattle farms identified in the Teagasc NFS over the period 2002 to 2011 are shown in Figure 1. In 2011 the average FFI on cattle rearing and other cattle farms increased substantially compared with 2010 levels. The 2011 FFI on cattle rearing farms increased by 48

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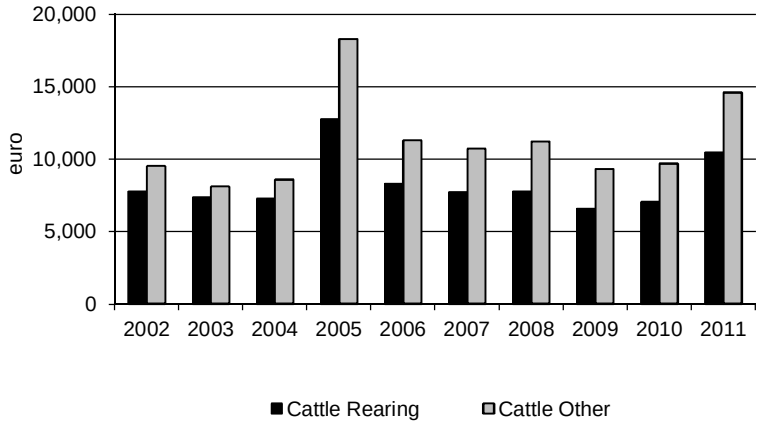
percent when compared with the 2010 level, while the increase in FFI on Other Cattle farms was almost 60 percent. Despite these dramatic improvements in average 2011 FFI on both farm types FFI still remain low at only €10,453 and €14,473 respectively.

Figure 1 also illustrates a further widening of the gap between the average FFI earned on farms in the cattle rearing system and the average income earned on the cattle other system. In 2001 average FFI on cattle rearing farm was €500 lower than average income cattle other farms. By 2011 the difference in average FFI earned on these two cattle farm types had grown to over €4,000. As noted in Breen and Hanrahan (2010) this divergence is a consequence of the decoupling of direct payments and the negative impact of this decision on the prices of weanlings and store animals sold by cattle rearing enterprises.

As noted by Breen and Hanrahan (2012), cattle enterprises are the predominant enterprises on Irish farms and approximately 89 percent of farms in the NFS have a cattle enterprise. Within this population of farms and their cattle enterprises, there is a wide variety of different sub-enterprises operated. In previous *Situation and Outlook* publications, results have been presented for four such sub-enterprises (see Breen and Hanrahan, 2012). In general while the levels of output received, costs incurred and income earned per hectare varied between different cattle enterprises, the levels of output, costs and margin moved together. Thus in this years analysis we focus on a simpler two way categorisation of Irish cattle enterprises: *Single Suckling* and *Cattle Finishing* enterprises.

Figure 1: Family Farm Income on Cattle Rearing and Cattle Other Farm Systems: 2002 to 2011



Source:

Teagasc National Farm Survey (2012).

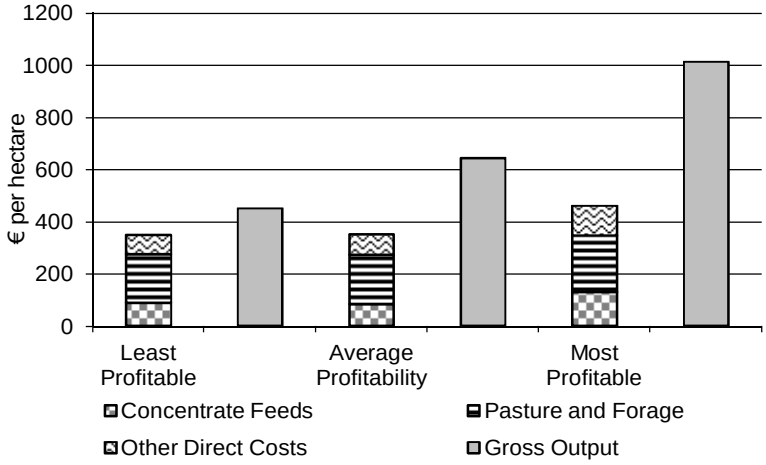
Single Suckling enterprises in the analysis that follows are enterprises with more than 10 cows, while Cattle Finishing enterprises analysed were those with more than 10 livestock units and where more than 70 percent of the animals sold off of the farm were sold for slaughter. In total these two enterprises were present on more than 47,000 farms nationally.

2.1 Irish Beef enterprise Performance in 2011

This section discusses the cost structure of Single Suckling and Cattle Finishing enterprises. Farms with these two enterprises have been ranked on the basis of gross margin earned per hectare and each farm enterprise group has been broken into three equally sized groups which we have termed farms with *least, average* and *most* profitability.

Single Suckling: In 2011 the average direct cost of production per hectare for Single Suckling enterprises ranged from €350 per hectare on those farms with the lowest average gross margin to €463 per hectare on the most profitable farms (see Figure 2 below). The cost of concentrate feed along with the cost of pasture and winter forage typically accounts for 80 percent of the direct costs of production on Single Suckling farms. The average expenditure on concentrate feed varied from €89 per hectare on the low profitability farms to €131 per hectare on the high profitability farms. There was considerably more variability in the average gross output between the least profitable and most profitable farms. The most profitable third of Single Suckling farms earned an average gross output of €1,013 per hectare compared with an average gross output of €451 per hectare on the least profitable one third of Single Suckling enterprises. This variability in average gross output is in large part due to the higher average stocking on the more profitable farms. These farms had an average stocking rate of 1.57 livestock units (LU) per hectare compared with only 1.03 LU per hectare for those farms with the lowest profitability.

Figure 2: Variation in Total Production Costs and Gross Output on Single Suckling enterprises in 2011



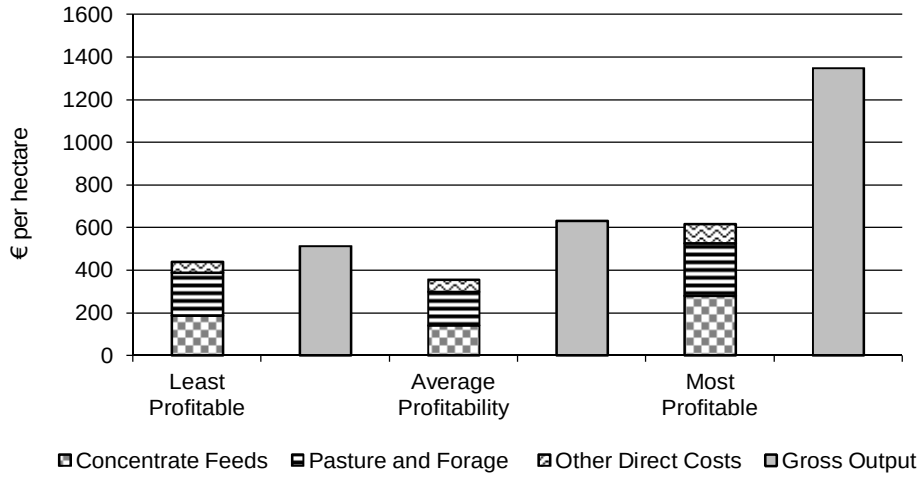
Source: Teagasc National Farm Survey (2012).

The most profitable farms have average gross output per hectare that is 124 percent higher than the average output per hectare on the least profitable one third of Single Suckling enterprises while average direct costs per hectare are only 32 percent higher.

Cattle Finishing: The second cattle enterprise category analysed are Cattle Finishing enterprises defined as those where over 70 percent of cattle sold off of the farm were sold for slaughter and where the enterprise had at least 10 LU. The enterprises analysed were again ranked on the basis of gross margin per ha and assigned to three equally sized groups which we have termed farms with *least, average* and *most* profitability.

Average direct costs of production were lowest on those Cattle Finishing enterprises with average profitability and highest on the most profitable farms (see Figure 3). Total expenditure on concentrate feed is substantially higher on Cattle Finishing enterprises than on Single Suckling enterprises. The most profitable one third of Cattle Finishing enterprises had a gross output of €1,344 per hectare compared with €510 per hectare on the least profitable Cattle Finishing enterprises.

Figure 3: Variation in Total Production Costs and Gross Output on Cattle Finishing Enterprises in 2011



Source: Teagasc National Farm Survey (2012).

As in the Single Suckling enterprises the large degree of heterogeneity in gross output per hectare across the Cattle Finishing enterprises analysed reflects the differing levels of production intensity on these farm enterprises. The average stocking rate on the least profitable Cattle Finishing enterprises was just over 1 LU per hectare, while the average stocking rate on the most profitable one third of Cattle Finishing enterprises was 1.75 LU per ha. The capacity of different farms to stock at higher stocking rates is in part determined by the soil type farmed and the climate in the farm's location. In general more profitable Cattle Finishing enterprises were on farms with better soil. Over 80 percent of the most profitable Cattle Finishing enterprises farmed very good soils while only 46 percent of the least profitable farms farmed very good soils.

The results presented in Figures 2 and 3 highlight the differences in costs per hectare on what we have termed *least*, *average* and *most* profitable Single Suckling and Cattle Finishing enterprises. However, it is important to recall that there is even greater variation in gross output across different farm enterprises. While higher levels of gross output per hectare are associated with high levels of direct costs of production, and with farming on better than average soils, the difference in productivity between the top on third and bottom one third of Cattle Finishing enterprises is striking.

The data presented in Table 1 show that average gross output per hectare on the most profitable Cattle Finishing enterprises in 2011 was over 160 percent higher than the average gross output per hectare on the least profitable third of Cattle Finishing enterprises, while the difference in direct costs per hectare was 40 percent. The much higher level of output per hectare is reflected in significantly higher gross

margins per hectare and very different net margin earnings in the different groups of cattle enterprises.

Overhead costs per hectare on the average Cattle Finishing and Single Sucking enterprises were €442 and €388 per hectare respectively The higher level of overhead expenditure on Cattle Finishing farms reflects both the higher average intensity of production on these farms when compared with Single Suckling enterprises as well as their higher average stock of non-livestock capital (buildings and machinery) per hectare.

Table 1: Estimated 2011 Financial Performance per hectare

	Least Profitable	Average Profitability	Most Profitable
		Single Suckling	
Gross Output ha^{-1} 2011	451	644	1,013
Direct Costs ha^{-1} 2011	348	351	461
Gross Margin ha^{-1} 2011	103	293	552
Overhead Costs ha^{-1} 2011	317	383	463
Net Margin ha^{-1} 2011	-214	-91	89
		Cattle Finishing	
Gross Output ha^{-1} 2011	511	630	1,346
Direct Costs ha^{-1} 2011	439	353	615
Gross Margin ha^{-1} 2011	72	277	731
Overhead Costs ha^{-1} 2011	343	417	565
Net Margin ha^{-1} 2011	-271	-141	166

Source: Teagasc National Farm Survey (2012).

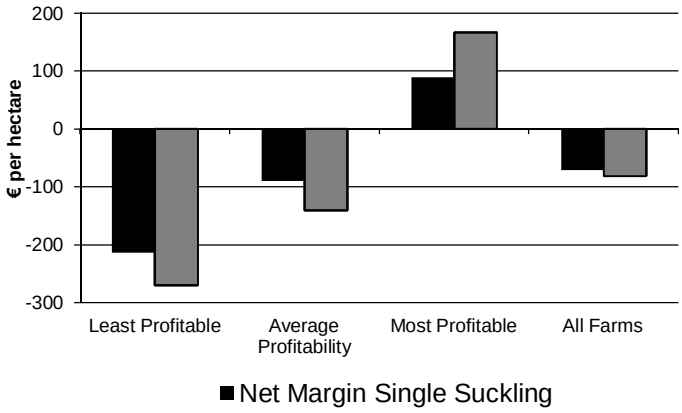
Table 2: Average Cattle Enterprise Output, Costs and Margins

	Single Suckling	Cattle Finishing
Gross Output ha^{-1}	703	829
Direct Costs ha^{-1}	387	469
Overhead Costs	388	442
Gross Margin ha^{-1}	316	360
Net Margin ha^{-1}	-72	-82

Source: Teagasc National Farm Survey (2012).

The increase in output value in 2011 reduced the average negative net margins earned on the average cattle enterprise. However average margins earned continued to be negative. Figure 4 shows the net margins earned on the two cattle enterprises analysed and shows that only the most profitable one third of Cattle Finishing and Single Suckling enterprises earned positive net margins in 2011.

Figure 4: Cattle Enterprise Net Margins per hectare in 2011



Source: Teagasc National Farm Survey (2012)

3. Estimated Performance of Irish Cattle Farms in 2012

This section of the paper presents a review of the estimated economic performance of Irish cattle enterprises in 2012. A discussion of the estimated changes in input usage and input costs in 2012 is first presented and this is followed by a discussion of estimated changes in output value. The estimates of margins earned by Single Suckling and Cattle Finishing enterprises in 2012 are then presented. Estimates for 2012 and forecasts for margins presented in Section 4 are based on an assumption of unchanged intensity of production per hectare. The impact of an increase in the intensity of production on individual enterprises would vary from enterprise to enterprise. In some cases it could increase profitability in others it could give rise to lower margins.

3.1 Estimated Input Usage and Price 2012

3.1.1 Feedstuffs

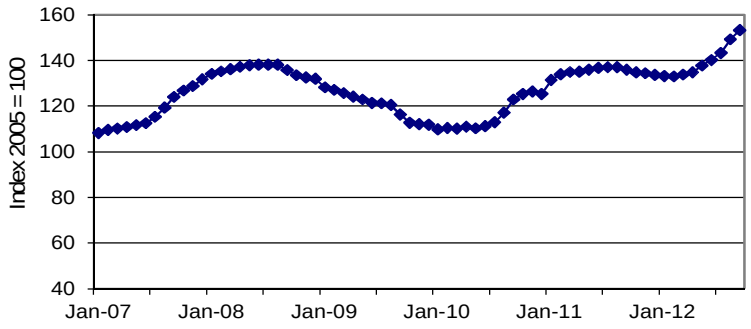
Purchased feed (concentrates) is an important element of direct beef production costs in Ireland. Typically this cost item accounts for approximately 30 percent of total direct costs on Single Suckling enterprises and 40 percent of direct costs on Cattle Finishing enterprises. Adverse weather conditions have had a substantial impact on the feed requirement in 2012. Heavier than normal summer rainfall in many regions of Ireland made grazing conditions and fertiliser applications difficult and created a requirement for additional feed use in many regions. While feed purchases in the first half of 2012 were relatively normal, third quarter purchases in 2012 were significantly ahead of the corresponding period in 2011. If this trend of heavier feed use has been repeated in the fourth quarter of 2012, beef feed purchases will have been over 15 percent above the 2011 level.

Figure 5 presents the monthly price index for cattle feed stuffs for the years 2007 to 2012. Cattle feed prices were relatively stable through the first two quarters of 2012 and then increased through the summer and into the fourth quarter of 2012. Despite very large increases in the prices of feed grains and oilseeds on foot of poor harvest forecast and outturns internationally the magnitude of the increase in Irish feed prices has been relatively modest. Average cattle feed prices in 2012 are estimated to have

increased by 4 percent over the price level in 2011. The increase in feed prices has however been significantly augmented in terms of its impact on costs of production by the necessity on many cattle farms to dramatically increase the volume of feed purchased.

Increased volumes of feed purchased has been due to the reduced time at grass and reduced silage production in 2012. As noted in the introduction to this paper the farm to farm variation in the magnitude of increase in volumes of feed purchased is considerable with a strong regional pattern evident. Generally speaking farms in the south and east of the country have had to increase their purchases of feed by more than farms in other parts of the country.

Figure 5: Monthly Price Index of Cattle Meal in Ireland 2007 to 2012



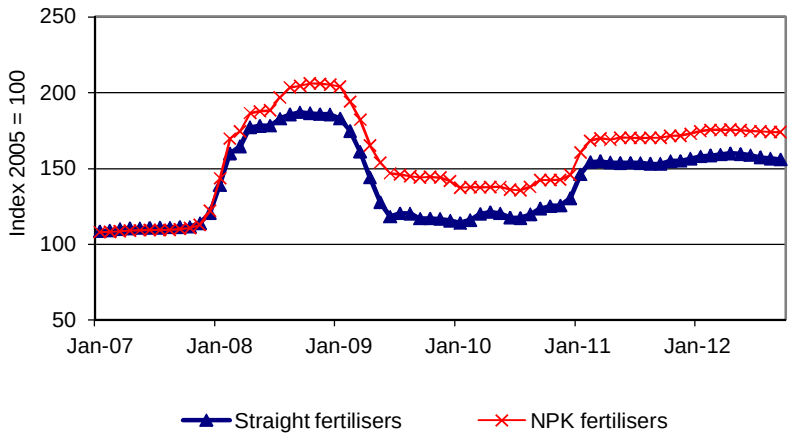
Source: CSO (2012a).

The average volume of feed purchased by cattle farms is estimated to have increased by 15 percent relative to the volumes purchased in 2011. When combined with feed prices estimated to have increased by 4 percent relative to 2011 this means that expenditure on concentrates is estimated to have increased by close to 20 percent in 2012.

3.1.2 Fertiliser – usage and price 2012

Figure 6 presents the data on fertiliser prices over the past five years. Fertiliser prices in 2012 have remained relatively stable, with compound fertilisers increasing by approximately 3 percent. The new higher level of fertiliser prices that we have witnessed over the past 18 months appears to be here to stay. Due to the very bad summer we estimate that there has been some reduction in the volume of fertiliser used on Irish cattle farms. Overall, fertiliser expenditure on Irish cattle farms is estimated to have decreased by 3 percent in 2012. When combined with contractor charges that have increased due to increases in fuel prices this leads to an estimated 4 percent increase in pasture and forage costs in 2012.

Figure 6: Monthly Price Index of Fertiliser in Ireland from 2006 to 2012



Source: CSO (2012a).

3.1.3 Energy and Fuel – usage and price 2012

In 2012 the average price for crude oil in 2012 was just under €87 per barrel (pb) ($108), an increase in euro terms of about 10 percent on the 2011 value of €77 pb ($108). As a result of the increase in oil prices when expressed in euro, (due to the decline in the euro versus the US dollar in 2012) fuel costs in Ireland have continued to increase, with diesel prices approximately 10 percent higher in 2012 relative to the 2011 level.

With the increase in 2012 diesel prices it is anticipated that contracting charges will also have increased by approximately 10 percent. Given that most of the contractor work on cattle farms involves making silage and applying farmyard manure and artificial fertiliser, the inclement weather in 2012 may have reduced the level of expenditure on contracting on some farms, but at this time this remains difficult to quantify. Again as with the expenditure on purchased feeds the level of change in expenditure on contractors due to poor weather in 2012 will vary from one farm to another.

Electricity costs change infrequently relatively in Ireland due to price regulation. In 2012 there were increases in electricity prices in April and May. On an annual average basis prices in 2012 have risen relative to those in 2011 by almost 10 percent. This is due to the increases electricity prices in autumn 2011. Given that no change in volume consumed is assumed to have occurred in 2012, expenditure on electricity on cattle farms is estimated to have increased by 10 percent in 2012 relative to 2011.

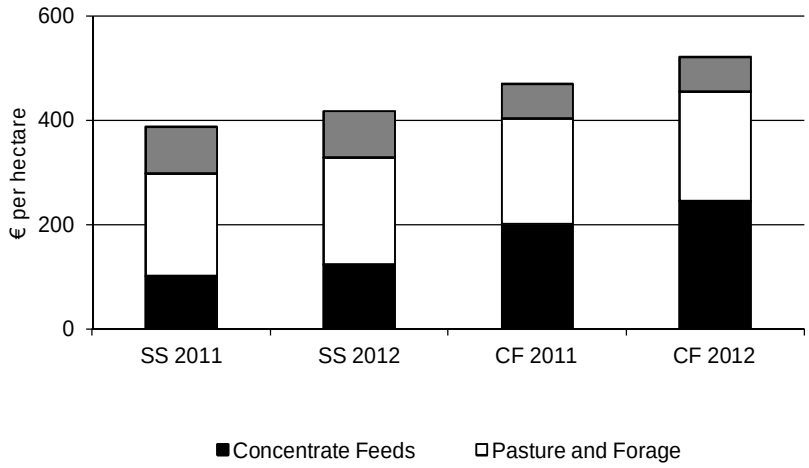
3.1.4 All Other Direct and Fixed Costs– usage and price 2012

Agricultural wages in Ireland are estimated to have increased by 1 percent between 2011 and 2012, while the quantity of labour used on farms is assumed to have remained unchanged. Therefore, we estimate that the expenditure on hired labour used by Irish cattle farms has increased by 1 percent in 2012. The cost of other overhead (fixed) costs is estimated to have remained largely unchanged in 2012. Given the nature of overhead costs, there is little capacity for changes in volume used, and therefore no change in expenditure on other fixed costs is assumed in 2012 compared to 2011.

3.1.5 Estimate of Direct Cost Expenditure for 2012

Figure 7 compares the average direct costs of production for the Single Suckling and Cattle Finishing enterprises in 2011 with the estimated direct costs for 2012. Average direct costs are estimated to have increased, with total direct costs on Single Suckling enterprises estimated to have increased by 8 percent and total direct costs on Cattle Finishing enterprises estimated to have increased by 11 percent in 2012. The main drivers of this increase in direct costs of production in 2012 are the higher prices for concentrate feed and fertiliser in 2012, and large increase in the volume of feed purchased, particularly on Cattle Finishing enterprises.

Figure 7: 2011 Direct Costs and Estimated 2012 Direct Costs for Single Suckling (SS) and Cattle Finishing (CF) Enterprise

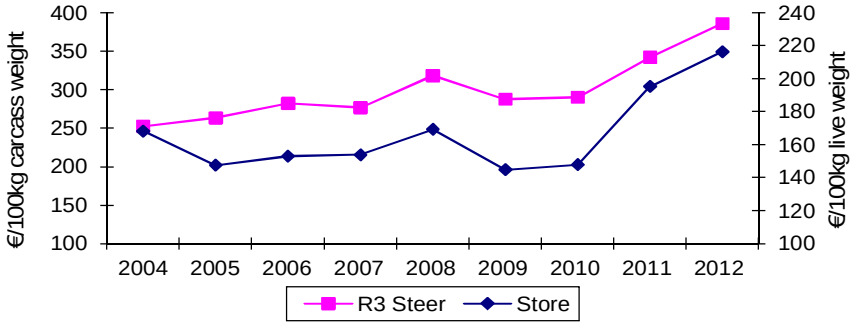


Source: Teagasc National Farm Survey and Authors' Estimates 2012.

3.2 Estimated Output Values 2012

Average gross output on both Single Suckling and Cattle Finishing enterprises is estimated to have increased in 2012. In 2012 Irish cattle prices increased significantly relative to 2011, Figure 8 presents average steer and store prices for the period 2004 to 2012.

Figure 8: Irish Cattle Prices 2003 to 2012

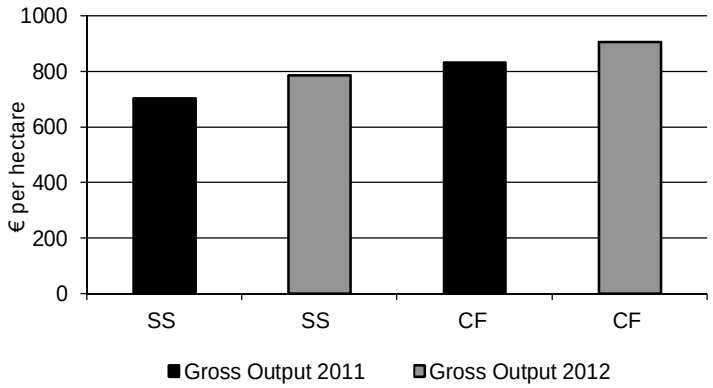


Source: DG Agri.

Finished cattle prices (R3 steer) increased by almost 12 percent to an average of €385 per 100kg, while the average price of store animals has increased by almost 11 percent in 2012.

The relative movements of prices paid for cattle purchased in and cattle sold by a farmer can have large impacts on the value of gross output earned particularly on Cattle Finishing enterprises that purchase most of the cattle that they feed to slaughter. Upward movements in finished cattle prices may not always translate into equivalent increases in output if the prices for cattle purchased in have been very high.

Figure 9: 2011 Gross Output and Estimated 2012 Gross Output for Single Suckling and Cattle Finishing Enterprises



Source: National Farm Survey 2011 and Authors' Estimates 2012.

Gross output per hectare on Single Suckling farms in 2012 is estimated to have increased by 12 percent to €785 per hectare. The most profitable one third of Single Suckling enterprises, due to higher stocking rates and other factors, achieve significantly higher output per hectare (€1,130 per hectare) as compared to the average (€719 per hectare) and least profitable (€504 per hectare) enterprise groups.

Gross output per hectare is on average higher on Cattle Finishing enterprises than on Single Suckling enterprises. This largely reflects the higher stocking density per hectare on these farms. In 2012 the average level of gross output per hectare for Cattle Finishing enterprise is estimated to be €904 and increase of 9 percent on the level in 2011. Again as with the Single Suckling enterprise there is a large degree of variation in the value of gross output per hectare between the least profitable, average profitability and most profitable groups of Cattle Finishing enterprises. The most profitable Cattle Finishing enterprises had an average level of gross output per hectare (€1,467 per hectare) that was almost 3 times as large as the average value of output per hectare on the least profitable group of Cattle Finishing enterprises (€557 per hectare).

3.2 Beef System Net Margins Estimates for 2012

As shown in Figure 7, the estimated expenditure on fertiliser and on concentrate feed increased in 2012. The year on year increase in expenditure per hectare on concentrates is particularly large reflecting the large increase in the estimated volume of feed used and the increase in feed prices observed in 2012. These increased direct costs erode some of the positive impact of higher output prices on margins earned from cattle production in 2012.

The gross margins earned on the Single Suckling and the Cattle Finishing enterprises increased in 2012. In the case of the Single Suckling enterprises average gross margins per hectare are estimated to have increased by 16 percent in 2012. By contrast, the increase in average gross margins earned on Cattle Finishing enterprises in 2012 is estimated at 6 percent. The lower percentage increase in margins on Cattle Finishing enterprises reflects the higher share of concentrate feeds in their direct costs. Single Suckling and Cattle Finishing farms in 2012 are, on average, estimated to have earned a negative net margin. The magnitude of this economic loss in 2012 was however smaller than in 2011, with the average loss on Single Suckling enterprises contracting by over 60 percent, while the loss made on Cattle Finishing enterprises is estimated to have contracted by 20 percent.

Table 3 breaks the Single Suckling and Cattle Finishing farm population into 3 equal parts on the basis of profitability (measured using gross margin per hectare) and presents estimates of gross output, direct costs, gross margin and net margin for 2012. For the least profitable third of Single Suckling farms the average negative net margin is estimated to have improved from -€214 per hectare in 2011 to -€189 per hectare in 2012. Margins on the least profitable Cattle Finishing enterprises were unchanged at -€271 per hectare. In 2012 the average net margin on the most profitable one third of Single Suckling enterprises is estimated to have grown to €167 per hectare (an increase of €78 per hectare). The average net margin earned on the highest profit Cattle Finishing farms also increased strongly form €166 per hectare in 2011 to €217 per hectare in 2012.

Table 3: Estimated 2012 Cattle Enterprise Financial Performance

	Least Profitable	Average Profitability	Most Profitable
		Single Suckling	
Gross Output ha^{-1} 2012	504	719	1130
Direct Costs ha^{-1} 2012	371	373	493
Gross Margin ha^{-1} 2012	133	346	637
Overhead Costs ha^{-1} 2012	322	389	470
Net Margin ha^{-1} 2012	-189	-44	167
Net Margin ha^{-1} 2011	-214	-91	89
		Cattle Finishing	
Gross Output ha^{-1} 2012	556	686	1465
Direct Costs ha^{-1} 2012	480	385	677
Gross Margin ha^{-1} 2012	77	302	791
Overhead Costs ha^{-1} 2012	348	424	573
Net Margin ha^{-1} 2012	-271	-123	217
Net Margin ha^{-1} 2011	-271	-141	166

Source: Teagasc National Farm Survey 2011 and Authors' Estimates 2012.

4. Outlook for 2013

In this section we forecast the expenditure for various input items, the beef price that is expected to prevail in 2013 and the likely income of beef farmers in 2013.

4.1. The Outlook for Input Expenditure

4.1.1 Feedstuffs

Farmers purchasing animal feed in 2013 can expect to pay higher prices than they paid in the corresponding period in 2012. The average cattle feed price 2013 is forecast to be 7 percent higher than in 2012. The poor silage harvest in 2012 will have some carry over effects into 2013 feed purchases by Irish cattle farmers. Farmers who were unable to harvest normal volumes of silage or who had their cattle off of grass for longer than normal during the second half of 2012 will continue to have higher than normal concentrate costs in early 2013 as they use increased volumes of concentrate feed to offset a reduced stock of grass silage. With cattle feed prices up 7 percent for 2013 and a decrease in feed use of 10 percent compared with 2012, an overall decline in feed expenditure of 4 percent is forecast for 2013.

4.1.2 Fertiliser

Continuing high energy prices and expectations of high planting rates internationally in 2013 provide a basis for continuing high fertiliser prices through 2013.

In 2013 Urea and CAN prices are expected to increase relative to 2012 levels due to general inflationary pressures and changes in supply conditions in exporting countries such as Egypt. Given the weather related contraction in fertiliser use on Irish dairy farms in 2012, it is reasonable to expect that fertiliser usage will recover, increasing by 5 percent in 2013, assuming normal weather conditions.

With prices forecast to increase by around 4 percent and usage levels increasing, this is expected to leave total expenditure on fertiliser up 5 percent in 2013. Given that fuel prices are expected to decline only marginally in 2013, no change in agricultural contracting costs is forecast. Overall, this would mean that total expenditure on pasture and forage would be up 9 percent in 2013 compared to the 2012 level.

4.1.3 Energy and Fuel

Increases in crude oil and natural gas prices took place in 2012. An analysis of futures prices indicates that the balance of market opinion sees Brent crude oil prices being maintained at over US $100 in 2013. As of December 2012, the average Brent crude oil futures price for 2013 is about $108 pb. This equates to about €85 pb at an exchange rates of $1.28 to the euro. This futures contract price, if reflected in spot prices through 2013, would represent a decrease of about 2 percent on the 2012 level. However, exchange rate movements between the euro and the US dollar remain an area of uncertainly and a potential source of energy price inflation. Electricity prices increased late in 2012 and if energy prices remain relatively static in 2013, it is possible that electricity prices will remain unchanged on the 2012 level. This would leave overall farm expenditure on energy and fuel down about 2 percent in 2013 relative to the 2012 level.

4.1.4 Other Direct and Fixed Costs

Increases in the cost of labour and in general inflation are likely to be low given the continued weakness of the Irish economy. An increase in labour costs of 1 percent

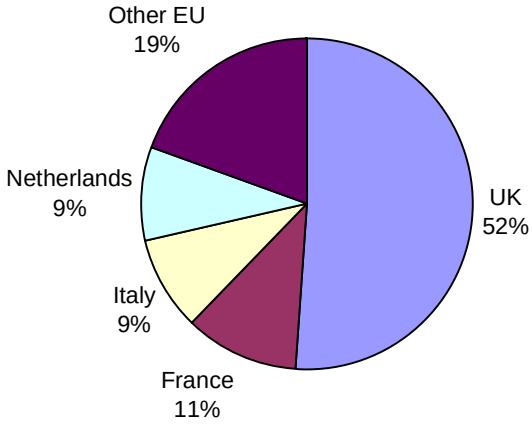
with no volume change is assumed. We forecast that other direct costs incurred in cattle production will increase by 1 percent during 2013. Other overhead (fixed) costs will remain unchanged relative to their 2012 level in 2013.

4.2. The Outlook for Cattle and Beef Markets 2013

Given the increasingly uncertain and weak macroeconomic outlook for the EU, price increases of a magnitude similar to those observed in 2012 are not forecast for 2013. While beef supply in the EU continues to contract (EC 2012), a significant increase in the volume of beef production in Ireland is forecast for 2013. The continued buoyancy in international beef markets and the ongoing restrictions on imports of beef from Brazil means that imports are unlikely to undermine current EU cattle price levels. Overall, EU cattle prices are forecast to be largely unchanged from those received in 2012 with continued demand weakness as a result of the euro area recession being balanced by ongoing contraction in EU supply.

Ireland exports over 80 percent of its beef production and is the fifth largest exporter of beef in the world (CSO 2012b, USDA 2012). The export dependence of the Irish beef industry means that external market developments largely determine Irish cattle prices. Though supply developments in Ireland can cause some deviation from export market prices, conditions in markets to which Irish beef and cattle are exported largely determine Irish cattle prices. Figure 10 provides an estimate of 2012 Irish beef exports, as is clear the UK remains the largest market for Irish beef.

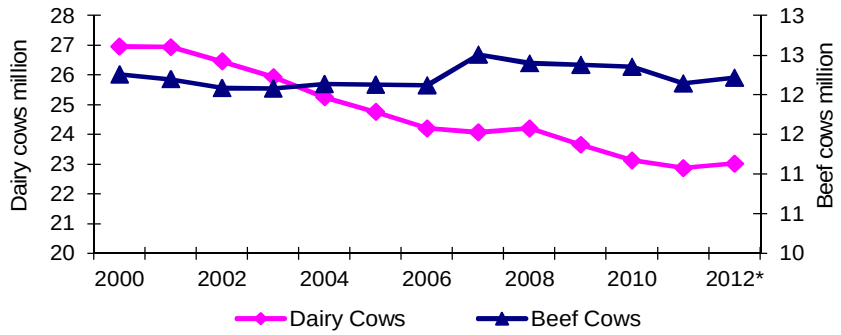
Figure 10: Estimate of Irish Beef Export Markets by Volume in 2012



Source: Eurostat COMEXT, January to August (2012).

In Figure 11, the recent trends in dairy and other cow stocks in the EU are graphed. Over two-thirds of EU beef production is based on the offspring of dairy cows. Over the last 10 years the contraction in the dairy cow herds has exceeded that in the other (beef) cow herd, leading to a modest increase in the share of the EU cow herd that is non-dairy. Improved returns to cattle production have led to increases in suckler cow numbers in Ireland and the UK. However, in the context of the overall EU beef market balance the continued contraction in dairy cow numbers in most other EU member states is forecast to offset forecast growth in cow numbers in countries like Ireland and the UK. Our forecast is that total inventories of cows will stabilise in 2013 but the knock on consequence for beef production will only be felt from 2014 onwards.

Figure 11: EU Cow Numbers (December) 2000 - 2012



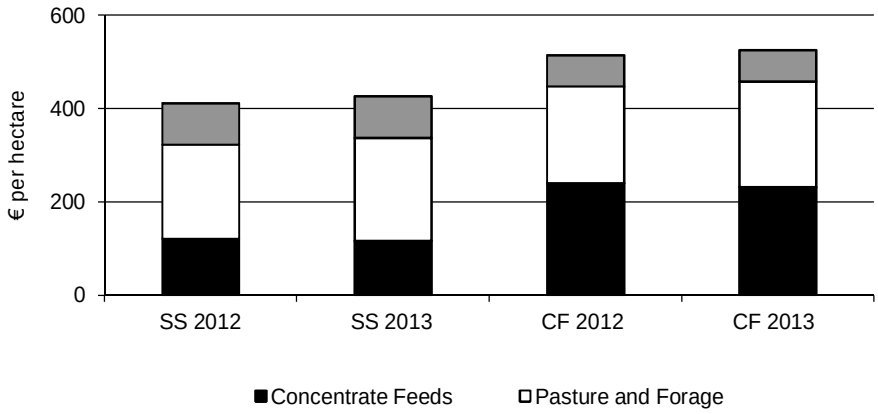
Source: Eurostat and Authors' forecast for 2012.

In the short term, indigenous supplies of beef on the EU market are forecast to continue to contract. The world market in 2013 is expected to be characterised by strong and stable prices. Given the increasingly uncertain and weak macroeconomic outlook for the EU, price increases of a magnitude similar to those observed in 2012 are not forecast for 2013. Overall, EU cattle prices are forecast to be largely unchanged from those received in 2012 with continued demand weakness as a result of the euro area and UK recession being balanced by ongoing contraction in EU supply.

4.3.1 The Outlook for Beef System Net Margin in 2013

Figure 12 compares the estimated and forecast average direct costs per hectare in 2012 and 2013 for the Single Suckling and Cattle Finishing enterprises. With expenditure on feed forecast to be lower in 2013 and pasture and forage expenditure forecast to be higher, margins earned in 2013 are forecast to be largely unchanged on Cattle Finishing enterprises in 2013 but to disimprove relative to 2012 on Single Suckling enterprises.

Figure 12: Estimated Direct Costs for 2012 and Forecast Direct Costs for 2013



Source: Authors' Estimates 2012 and Forecasts 2013.

In our 2013 forecast we have incorporated the announced changes to the suckler cow welfare scheme. The change to the policy announced as part of Budget 2013 reduces the contribution of this subsidy to gross output per hectare by approximately

50 percent on Single Suckling enterprises. This reduction in coupled subsidy receipts means that the forecast level of gross output per hectare on Single Suckling enterprises further diverges from that of Cattle Finishing enterprises in 2013.

As can be seen in Table 4, the average gross margin for the Single Suckling enterprise is forecast to contract 7 percent in 2013 (relative to the estimated outturn in 2012) while the gross margin per hectare on the average Cattle Finishing enterprise is forecast to only decrease marginally in 2013.

Table 4: Forecast 2013 Cattle Enterprise Gross and Net Margins

	Single Suckling	Cattle Finishing
Gross Output ha^{-1} 2012	784	904
Gross Output ha^{-1}2013	772	903
Gross Margin ha^{-1} 2012	373	390
Gross Margin ha^{-1} 2013	347	379
Net Margin ha^{-1} 2012	-21	-59
Net Margin ha^{-1} 2013	-46	-69

Source: Authors' Estimates 2012 and Forecasts 2013.

The difference is due to the differing importance of purchased feed on these two cattle enterprises. The greater importance of purchased feeds in the direct costs of the average Cattle Finishing enterprise means that they benefit to a greater extent from the forecast reduction in concentrate prices in 2013.

The average net margin per hectare for Single Suckling enterprises in 2013 is forecast to be -€46 compared to an estimate of -€21 in 2012. Net margins on average on Cattle Finishing farms are forecast to be lower also in 2013 at -€69 per hectare, when compared with the estimated outturn for 2012 of -€59 per hectare. The forecast average margins earned on the least, average and most profitable of the Single Suckling and Cattle Finishing enterprises are presented in Table 5.

5. Concluding Comments

In 2012 Irish cattle prices for all age categories increased substantially on their 2011 levels. Expenditure on concentrate feed and pasture and winter forage increased in 2012. These increases in the costs of production were the product of higher concentrate feed prices, poor weather during summer 2012 (that led many farmers to purchase additional animal feed) and increases in fertiliser prices. However, despite increased costs of production, on average gross and net margins on Single Suckling and Cattle Finishing enterprises in 2012 improved substantially on those earned in 2011.

However, despite historically high output prices, the continued high levels of overhead costs and ongoing increases in direct costs mean that only the top one third of cattle enterprises are estimated to have earned a positive market based net margin in 2012. The profitability problems encountered on many Irish cattle farms have not been solved, nor it is likely to be solved, by increased cattle prices alone.

The Irish cattle farm outlook for 2013 is for output price stability as opposed to continued growth. With forecast increases in some important elements of direct costs in 2013, margins will at best be stable and are more likely to contract relative to 2012. The greater share of direct costs accounted for by expenditure on concentrates on

Cattle Finishing enterprises means that while their estimated improvement in margins lagged those on Single Suckling enterprises in 2012. In 2013, with feed expenditure forecast to decline, and expenditure on pasture and forage forecast to increase, margins on finishing enterprises are forecast to contract only marginally. Gross margins earned on Single Suckling enterprises are forecast to contract by 7 percent.

Table 5: Forecast 2013 Cattle Enterprise Financial Performance

	Least Profitable	Average Profitability	Most Profitable
		Single Suckling	
Gross Output ha^{-1} 2013	497	709	1111
Direct Costs ha^{-1} 2013	385	387	508
Gross Margin ha^{-1} 2013	112	322	603
Overhead Costs ha^{-1} 2013	321	388	469
Net Margin ha^{-1} 2013	-209	-66	135
Net Margin ha^{-1} 2012	-190	-44	167
		Cattle Finishing	
Gross Output ha^{-1} 2013	557	686	1466
Direct Costs ha^{-1} 2013	491	394	688
Gross Margin ha^{-1} 2013	65	292	778
Overhead Costs ha^{-1} 2013	347	423	572
Net Margin ha^{-1} 2013	-282	-131	206
Net Margin ha^{-1} 2012	-271	-123	217

Source: Authors' Estimates 2012 and Forecasts 2013.

References

Breen, J. and Hanrahan, K. (2010) Situation and Outlook for Cattle 2009/10.

CEPR (2012) "Euro Area Business Cycle Peaked in Third Quarter of 2011, Has Been in Recession Since." Centre for Economic Policy Research (CEPR), London. Available http://www.cepr.org/data/dating/Dating-Committee-Findings-Nov-2012.pdf

CSO (2012a) Agricultural Price Indices 2012: Preliminary estimates. Available to download at http://www.cso.ie/en/media/csoie/releasespublications/documents/prices/2012/prelimapi_2012.pdf

CSO (2012b) Meat Supply Balance Sheet 2011. Available to download at http://www.cso.ie/en/media/csoie/releasespublications/documents/agriculture/2011/meatsup_2011.pdf

DAFM (2012) Quarterly Summary Report for Feed Usage (Various Issues).

European Commission (2012) "Short Term Outlook for Arable Crop, Meat and Dairy Markets – September 2012". Directorate-General for Agriculture and Rural Development - Short Term Outlook – N°4 – September 2012

USDA (2012) Livestock and Poultry: World Markets and Trade. United States Department of Agriculture – Foreign Agricultural Service. October 2012. Available to download at http://www.fas.usda.gov/psdonline/circulars/livestock_poultry.pdf

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Review of Sheep Farming in 2012 and Outlook for 2013

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1. Introduction

For this paper data from farms in the Teagasc National Farm Survey (NFS) which have a sheep enterprise are used, together with data from Bord Bia, the CSO, European Commission DG Agri and Eurostat, as the basis for an analysis of the financial and technical performance of Irish sheep farms. Estimates of enterprise margins for 2012 are based on 2011 Teagasc NFS data and preliminary CSO price indices for 2012 (CSO, 2012a). Forecasts of sheep enterprise margins for 2013 are based on estimates of margins for 2012, and forecasts of input and output price changes in 2013.

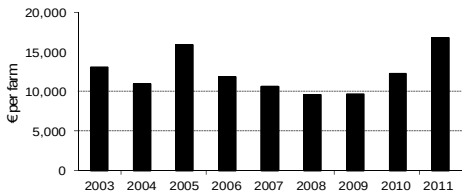
We begin the paper with a brief review of the family farm income (FFI) performance of all sheep farms in 2011. This is followed by an overview of the current short term outlook for European and Irish sheep markets. A detailed assessment of the 2011 sheep margins is then presented and this is followed by estimates and forecasts of margins for the lowland mid-season lamb enterprise for 2012 and 2013. The mid-season lowland lamb enterprise is the predominant lowland sheep system in Ireland. In our analysis of mid-season lowland lamb enterprises we have limited the sample analysed to those enterprises with more than 20 breeding ewes.

National policy in relation to the sheep sector, namely the *Sheep Grassland Scheme,* has operated with a €54 million budget for 3 years (2010, 2011 and 2012). This scheme has boosted sheep enterprise margins over the period 2010-2012. In our forecast the changes announced to the Sheep Grassland Scheme in Budget 2013 are incorporated in our 2013 forecasts.

2. Review of the Economic Performance of Sheep Farms in 2011

FFI on those farms classified by the Teagasc NFS as *mainly sheep* farms increased strongly in 2011, with FFI on Sheep farms increasing by 37 percent. The average FFI earned on these farms for the period 2003 to 2011 are shown in Figure 1.

Figure 1: Income on Mainly Sheep Farms in Ireland: 2002 to 2011



Source: Teagasc National Farm Survey.

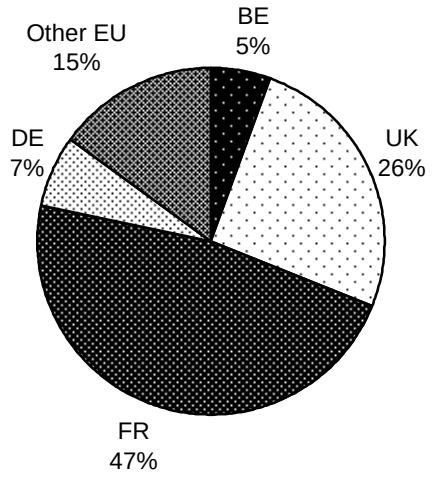
The large increase in FFI in 2011 was primarily a result of strong improvements in lamb prices and the continued payment of the *Sheep Grassland Scheme* subsidy. An additional factor that helped boost FFI is that expenditure on concentrates in 2011 declined relative to 2010.

3 *Sheep Meat Markets: Short run outlook*

The bulk of Irish lamb output is destined for foreign markets and in 2011 over 88 percent of Irish lamb production was exported (CSO, 2012b). This means that looking forward to where prices will go in 2013 it is important to understand that developments on Ireland's export markets largely determine the prices that Irish sheep farmers receive for their output. Movement in the prices of competing meats (beef, pig and poultry meat) also have an impact on demand for Irish lamb, both in Ireland and on export markets, and hence also affect the prices for lamb that Irish sheep farmers receive.

Though continental EU markets account for the majority of Irish lamb exports, the UK market remains important. The UK in 2012 accounted for an estimated 26 percent of Irish sheep meat exports as illustrated in Figure 2. On EU markets Irish lamb competes with lamb produced in other EU Member States as well as lamb imported into the EU from New Zealand and Australia. Aggregate EU demand for lamb has been slowly contracting in recent years and the outlook for 2013 is for this contraction to continue (EC, 2012). The continued negative outlook for the EU macroeconomy in 2013 (CEPR, 2012) means that the growth in the demand for lamb in 2013 is likely to be negligible. The weak demand outlook combined with developments in supply, both within the EU and on the world market will determine the short-run outlook for European (and Irish) lamb prices.

Figure 2: Irish Sheep Meat Exports (Volume) by Destination in 2012



Source: Eurostat COMTRADE database (Eurostat, 2012b).

The supply outlook for sheep meat production within the EU is one of continued contraction in 2013, with output growth in the EU largely limited to Ireland and the UK. The indigenous production of lamb in the EU in 2013 will largely be a function of the 2012 ending inventory of breeding ewes. Overall EU ending inventories of ewes in 2012 are likely to be lower than in 2011. The UK sheep breeding flock in June 2012 increased by 2 percent compared with June 2011, while stocks of ewes intended for first time breeding were up almost 7 percent (DEFRA, 2012). In contrast to developments in the UK and Ireland, continental EU inventories of breeding sheep are in general contracting and this contraction is forecast to continue into 2013. With

lower overall ewe numbers EU sheep meat production in 2013 is forecast to be lower than in 2012.

Beef and Lamb New Zealand (B&LNZ, 2011) and the New Zealand Ministry for Primary Industries (MPI, 2012) expect the New Zealand lamb crop and lamb shipments in 2013 to grow from levels observed in 2012. However volumes of lamb shipped are not forecast to recover to levels seen 5 years ago. New Zealand's lamb EU Tariff Rate Quota (TRQ) is not expected to be fully utilised in 2013. Australian lamb exports are also expected to increase in 2013. ABARES is forecasting that Australian lamb slaughter in 2012/13 will increase by 6 percent (ABARES, 2012). Increasingly Australian and New Zealand exporters are targeting East Asian and Middle Eastern markets and strong growth in these markets is expected to mean that the tight global supply and use balance for sheep meat that has driven the increases in international sheep prices in recent years is unlikely to ease sufficiently to significantly undermine EU lamb price levels in 2013 (EBLEX, 2012).

The combination of a slowly contracting indigenous EU supply and strong East Asian demand for New Zealand and Australian lamb exports mean that, despite weakening demand for lamb in the EU, prices of lamb on Irish and EU markets are unlikely to contract significantly in 2013. For 2013 we forecast that lamb prices will be largely unchanged from those received in 2012.

4. *Sheep Margins in 2011*

Changes in the value of output, costs and gross margin per hectare for this system in 2011 are shown in Table 1 together with values for 2010. The value of gross output on mid-season lamb enterprises in 2011 increased dramatically due to the large increase in lamb prices in 2011 over those that prevailed in 2010.

Table 1: Mid-Season Lamb Output, Direct Costs, Gross Margin and Technical Performance in 2010 and 2011

	2010	2011
	€/ha	
Gross output	882	1,056
Coupled Direct Payments	28	57
Direct Costs	381	381
Concentrates	163	155
Pasture and Forage costs	72	81
Other direct costs	147	145
Gross Margin	500	675
Ewes/ha	7.4	7.0
Lambs per ewe	1.3	1.4
Lamb Carcass (kg)/ha	198	207

Source: Teagasc National Farm Survey.

Total direct costs per hectare on the average mid-season lamb enterprise were unchanged in 2011 when compared with 2010. This stability was largely due to lower expenditure on concentrates which offset increased expenditure on pasture and forage costs. The large differences in the profitability of sheep farms operating the mid-season lamb system, have been noted previously (Hanrahan and Kinsella, 2012). In 2011, despite the large improvement in output prices, these differences

persisted and they largely reflect continuing differences in the intensity of production and farm management performance.

For comparison purposes, in Table 2 mid-season lowland lamb enterprises are ranked on the basis of gross margin per hectare, and assigned to three equally sized groups which we have termed *least, average* and *most* profitable. The average levels of output, direct costs and gross margin per hectare and indicators of technical performance across these three groups can then be compared.

The most profitable group of mid season lamb enterprises earned an average gross margin of €1,098 per hectare in 2011 while farms in the bottom group earned an average gross margin of only €284 per hectare. This means that the top producers earned, on average, almost 4 times more per hectare than their counterparts in the bottom group. The large differences in gross margin earned per hectare reflect differences in intensity of production, but also differences in direct costs per hectare (see Figure 2). Total direct costs per hectare are greatest on the group with the highest level of profitability reflecting the higher stocking rate on these farms.

When costs of production per kilo of lamb carcass produced are compared the impact of different levels of production intensity per hectare can be taken into accounted. Direct costs of production per kilo of lamb carcass produced on the least profitable farms are more than 84 percent higher than the costs per kilo incurred on the most profitable of the mid season lamb enterprises.

Table 2: Mid-Season Lamb Output, Costs, Margins and Technical Performance in 2011 by gross margin grouping

	least profitable	**average profitability**	**most profitable**
		€/ha	
Gross Output	**642**	**1020**	**1477**
Sheep Grassland Payment	42	45	76
Direct Costs	**358**	**366**	**379**
Concentrates	160	153	128
Pasture and Forage	78	70	108
Other Direct Costs	120	143	143
Gross Margin	**284**	**654**	**1,098**
Net Margin	**-84**	**151**	**560**
Ewe / ha	5.06	7.15	8.96
Lambs /ewe	1.27	1.35	1.40
Lamb carcass (kg)/ha	129	193	251
Dir. costs €/kg carcass	2.77	1.90	1.51

Teagasc National Farm Survey.
Note: In calculating the volume of lamb carcass output per hectare an average carcass weight of 20 kg has been used (Hanrahan, 2006).

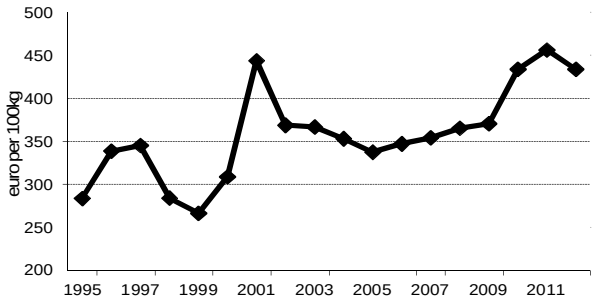
As is clear from Table 2, the large differences between the values of output per hectare between the three groups of farms are due in large part to differences in weaning and stocking rates. Higher levels of technical performance is reflected in the average carcass output per hectare of 251 kilos on most profitable mid season lamb enterprises versus 129 kilos on the least profitable enterprises.

In contrast to the net margin returns for other drystock enterprises, on average the net margins on midseason lamb enterprises are positive. The average net margin earned on the mid-season lamb enterprises analysed in 2011 was €147 per hectare. As the data in Table 2 show the large variation in gross margin earned per hectare is also reflected in variation in the net margins earned.

5. Estimated Sheep Gross Margins 2012

To obtain an estimate of farm profitability for 2012, it is necessary to estimate the volume and price of inputs likely to have been used in producing lambs, as well the volume and value of the lamb and other output produced. In our estimates for 2012 (and forecasts for 2013) we have assumed that stocking rates per hectare and weaning rates are unchanged from the observed 2011 levels. An increase in the intensity of lamb production such as for example an increase in the number of ewes stocked per hectare or in the numbers of lambs per ewe would change both the costs of production per hectare and the gross output per hectare. Such changes could lead to improvements in enterprise profitability. There are most likely also farms for which an increase in stocking rates could lead to lower profits. In the absence of hard data on farms that would fall into on or other category we make the simplifying assumption that technical performance remains unchanged.

Figure 3: Irish Lamb Price, 1995 – 2012



Source: European Commission DG AGRI and Bord Bia.

The sheep and lamb market in 2012 was characterised by reduced supplies of sheep meat imports on the EU market and reduced indigenous production of sheep meat. The impact of this supply contraction on prices was outweighed by weakening demand for lamb in the EU that led to a reduction in prices in 2012. Irish lamb prices in 2012 were approximately 5 percent lower than in 2011 (see Figure 4). The value of market based gross output per hectare for the mid-season lamb system in 2012 is thus estimated to have decreased.

Given assumptions of unchanged stocking and weaning rates, the evolution of direct costs per hectare determines the extent to which the increased gross output in 2012 translates into lower gross margins. The main costs for sheep farms are purchased feed, pasture and forage costs.

Purchased feeds typically account for 40 percent of total direct input expenditure on the average mid-season lowland lamb system. Over the course of 2012 purchased feeds have increased in price and there is evidence from Department of Agriculture data that total sales of sheep feed increased significantly in 2012 relative to 2011. The increased volume of sheep feed sold may be reflective of the poor summer of 2012. The increase may also reflect the increases in sheep numbers in 2012 (CSO, 2012c). Given the increase in the price of feed, and the evidence for an increase in volumes fed, expenditure on concentrates is estimated to have increased by 19 percent in 2012. It should be noted that levels of concentrate use and stocking rates per hectare are related. Other things equal, lower stocking rates will lead to lower concentrate use. In our 2012 estimates we have assumed that stocking rates are unchanged relative to 2011. The increased use of feed per head and the increase in average numbers of sheep per flock (DAFM, 2012) may point to an increase in the intensity of production that may be evident in the 2012 NFS results.

Pasture and forage costs typically account for approximately 30 percent of total direct costs on the mid-season lowland lamb system. Fertiliser prices have been relatively stable in 2012, with prices estimated to have increased by 4 percent relative to 2011 (CSO, 2012a). In 2012 poor weather and higher fertiliser prices are estimated to have led to some reduction in fertiliser applications by Irish sheep farmers. As a result, expenditure on pasture and forage is estimated to increase by approximately 4 percent on sheep enterprises.

Higher direct costs, combined with a decrease in the value of market gross output (inclusive of the Sheep Grassland Payment) are estimated to have led to a decline of 20 percent in the gross margin earned from lowland mid-season lamb enterprise in 2012 (see Table 3).

Table 3: Mid-Season Lamb Enterprise Gross Margin, 2010 – 2012

	2010	2011	2012[1]
		€/ha	
Total Direct Costs	381	381	416
Concentrates	163	155	185
Pasture and Forage	72	81	84
Other Direct Costs	147	145	146
Gross Output	882	1056	1006
Gross Margin	500	675	590

Source: Teagasc National Farm Survey. [1]*Estimate.*

6. Outlook for Sheep Enterprise Gross Margin in 2013

Despite the forecast expansion of New Zealand and Australian lamb exports, growth in demand for lamb in East Asia and the continued ongoing contraction of sheep meat production in the EU, means that global lamb supply and use are tightly balanced. Despite weak demand growth on continental EU markets, the ongoing contraction of aggregate European supplies will present opportunities for Irish lamb exports to grow in volume and value in 2013. Our forecast is that lamb price will remain at close to their 2012 level in 2013.

The outlook for input prices in 2013 from the perspective of Irish sheep farmers is mixed. While prices of concentrates are forecast to decline in 2013, the costs of

fertilisers and energy are forecast to increase, giving rise to increases in forecast pasture and forage costs.

Concentrate costs are the largest direct cost item on mid-season lowland lamb enterprise and prices are forecast to decrease by 5 percent in 2013 relative to 2012. The price of fertiliser in 2013 is forecast to increase relative to 2012, with contractor costs forecast to be largely stable in 2013 this means that overall pasture and forage costs are forecast to increase by 5 percent in 2013.

Table 4 summarises our forecast of output, costs and margins for the mid-season lamb enterprise for 2013. Given the stable outlook for lamb prices in 2013 relative to 2012 and the changes to the coupled *Sheep Grassland Scheme* subsidy announced in Budget 2013, the small decrease in input costs forecast for 2013 is insufficient to prevent the average gross margin earned from sheep farming from declining in 2013. The gross margin per hectare for the mid-season lamb system in 2013 is forecast to be €578, a 2 percent reduction from the 2012 estimate.

Table 4: Mid-Season Lamb Enterprise Gross Margins, 2010 – 2013

	2010	2011	2012[1]	2013[2]
		€/ha		
Total Direct Costs	381	381	416	415
Concentrates	163	155	185	1176
Pasture and Forage	72	81	83	91
Other Direct Costs	147	145	148	148
Gross Output	882	1056	1006	994
Sheep Grassland Payment	28	57	57	44
Gross Margin	500	675	590	578

Source: Teagasc National Farm Survey [1]Estimate, [2]Forecast.

On the basis of our analysis of future contract prices for crude oil, fuel costs are not expected to increase significantly in 2013. Other fixed costs are forecast to remain unchanged in 2013, so that total overhead costs on the mid-season lamb enterprise are forecast to be unchanged in 2013. Stable overhead costs (that on average in 2012 are estimated to be €525 per hectare) and declining gross margins that result from the changes to the *Sheep Grassland Scheme* subsidy mean that in 2013 average net margins per hectare from sheep production are forecast to decline. Assuming that the share of overhead costs allocated to the mid-season lamb enterprise is unchanged in 2013, average net margins earned per hectare would decline by 20 percent to just €44 per hectare.

7. Concluding Comments

The average gross margin earned by mid-season lamb producers in 2012 is estimated to have decreased relative to that earned in 2011. The estimated decline of 13 percent in gross margin on the mid-season lamb enterprise is driven by reduced lamb prices in 2012 and direct costs that are estimated to have increased by over 9 percent. The receipt of the Sheep Grassland Payment in 2012 significantly boosted the gross and net margins of sheep farmers.

Output prices in 2013 are likely to be close to those observed in 2012. Contracting demand for lamb in the EU is being matched by contraction in the EU supply of lamb, particularly from continental EU sources. Lamb production is expected to grow in Ireland and the UK in 2013. Exports to markets such as France are forecast to grow

because of the emerging gap between production and consumption. Exports from Australia and NZ to the world market are forecast to grow in 2013, but will largely be directed towards fast growing East Asian markets. New Zealand is again forecast to under-fill its EU Tariff Rate Quota for lamb. The absence of additional volumes of lamb imports into the EU mean that EU and Irish prices for lamb in 2013 are unlikely to change dramatically from current levels.

The stable output prices and direct costs outlook would normally be expected to lead to a stable outlook for margins earned from sheep farming. However, the changes announced as part of Budget 2013 to the 2013 Sheep Grassland Scheme will reduce the margins earned in Irish sheep farming in 2013. We forecast that gross margins earned by the average mid-season lamb enterprise in 2013 will be €578 per hectare, a reduction of 2 percent from the estimated gross margin in 2012 .Average net margins are forecast to decline to decline to €44 per hectare in 2013.

References

ABARES (2012) Agricultural commodities: September quarter 2012, vol. 2 no. 3, Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra. Available to download at http://adl.brs.gov.au/data/warehouse/agcomd9abcc004/agcomd9abcc004201209/AgCommodities2012.Vol2.No3_Ver1.1.0.pdf

Beef & Lamb New Zealand (2012) Sheep and Beef New Season Outlook 2012-13. Paper No P12022. Available to download at http://beeflambnz.com/Documents/Information/Sheep%20and%20beef%20new%20season%20outlook%202012-13.pdf

CEPR (2012) Euro Area Business Cycle Dating committee: Euro Area Business Cycle Peaked in third Quarter of 2011, Has Been in Recession Since. Available to download at http://www.cepr.org/data/dating/

CSO (2012a) Agricultural Price Indices 2012: Preliminary estimates. Available to download at http://www.cso.ie/en/media/csoie/releasespublications/documents/prices/2012/prelimapi_2012.pdf

CSO (2012b) Meat Supply Balance Sheet 2011. Available to download at http://www.cso.ie/en/media/csoie/releasespublications/documents/agriculture/2011/meatsup_2011.pdf

CSO (2012c) Crops and Livestock Survey June 2012 – Revised Provisional Estimates. Available to download at http://www.cso.ie/en/media/csoie/releasespublications/documents/agriculture/2012/cropjuneprov2012.pdf

Department of Agriculture, Food and the Marine (2012) 2011 National Sheep & Goat Census. Dublin, Ireland. Available to download at http://www.agriculture.gov.ie/animalhealthwelfare/animalidentificationmovement/sheepgoatcensus/

Department for Environment, Food and Rural Affairs (2012) Farming Statistics Provisional Crop Areas, Yields and Livestock Populations at June 2012, United Kingdom. October 15, 2012. Available to download at

http://www.defra.gov.uk/statistics/files/defra-stats-foodfarm-landuselivestock-farmingstats-june-statsrelease-jun2012ukprovcrops-1210151.pdf

EBLEX *Cattle and Sheep Market Update*, November 2012, Issue 5. Available at http://www.eblex.org.uk/documents/content/markets/m-c_&_s_market_update_05-12.pdf

European Commission (2011) Proposal for a Regulation of the European Parliament and of the Council establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy. COM(2011) 625 final/2. Brussels, 19.10.2011. Available to download at http://ec.europa.eu/agriculture/cap-post-2013/legal-proposals/com625/625_en.pdf

Eurostat (2011a) NewCronos Database, Theme 5, Agriculture, Forestry and Fisheries. Go to http://epp.eurostat.ec.europa.eu.

Eurostat (2011b) COMTRADE Database, Theme 6, External Trade. Go to http://epp.eurostat.ec.europa.eu.

Hanrahan, J.P. (2006) "Observations on variation in weight and classification of carcasses for Irish lambs" *Irish Grassland Association Journal*, 2006.

Ministry for Primary Industries (2012) Situation and Outlook for Primary Industries 2012. June 2012. Available from http://www.mpi.govt.nz/news-resources/publications

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Review of Tillage Farming in 2012 and Outlook for 2013

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1. Introduction

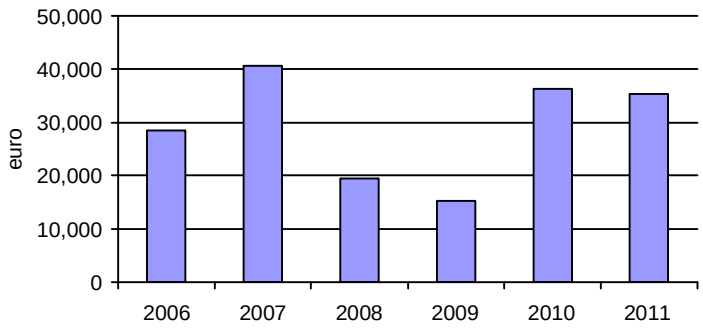
Drought in the US and poor growing conditions in the Black Sea region in 2012 resulted in a substantial contraction in the supply of cereals on world markets and consequently this led to higher harvest prices in Ireland in 2012. These high prices were, however, set against a backdrop of inclement growing and harvesting conditions in Ireland leading to substantial reductions in Irish yields in 2012. This adverse outcome was further exacerbated by high fertiliser and fuel costs in 2012.

This paper looks back at the performance of tillage farms and cereal crops in 2011, estimates the outcome for 2012 and looks ahead to the prospects for 2013. Data from the Teagasc National Farm Survey (Teagasc NFS) are used in our review of 2011. Estimates for 2012 for cereal prices, yields and key input costs are then used to produce an overall estimate of cereal margins for 2012. Finally, in the concluding sections of the paper, the forecast for cereal farms in 2013 are presented.

2. Review of the Economic Performance of Tillage Farms in 2011

Approximately 7,500 *mainly tillage* farms were represented by the Teagasc NFS in 2011. Market gross output increased by 14 percent on tillage farms. While the output of many cereal crops increased considerably, especially oats and malting barley, a reduction of 11 percent in the output value of potatoes reduced the overall output gain. Reductions in REPS payments led to a 3 percent decline in direct payments on tillage farms. Direct payments comprised 23 percent of gross output on tillage farms and 75 percent of income in 2011. Income on tillage farms declined by about 2 percent in 2011. Family farm income (FFI), as illustrated in Figure 1, averaged at €35,300 in 2011.

Figure 1: Family Farm Income on Specialist Tillage Farms in Ireland: 2006 to 2011



Source: Teagasc National Farm Survey.

To understand the economic performance of tillage farms in 2011, we begin with a review of the cost and return structure of the two main cereal crops, spring barley and winter wheat. Tables 1 and 2 present the average output, costs and margin per hectare of the two main crops in 2010 and 2011.

Table 1: Average spring barley gross and net margin per hectare: 2010 and 2011

	2010	2011	Percentage Change
Yield tonnes per ha.	6.4	6.8	7
Cereal price per tonne	163	169	4
Total Gross Output (incl straw)	**1,128**	**1,220**	**8**
Fertiliser, seed, crop protection	391	466	18
Other direct costs	142	142	-
Total Direct Costs	533	608	14
Gross Margin	**596**	**612**	**3**
Total Fixed Costs	446	497	11
Total Costs	979	1,105	13
Net Margin	**149**	**115**	**-23**

Source: Teagasc National Farm Survey.

Cereal prices and yield per hectare increased for the two main cereal crops in 2011. Gross output for both spring barley and winter wheat increased by 8 percent in 2011. Total production costs increased by 13 and 14 percent respectively for the two crops. While gross margin did increase by 3 to 4 percent, net margin declined. Net margin per hectare in 2011 was €115 and €388 for spring barley and winter wheat respectively.

Table 2: Average gross and net margin per hectare: Winter Wheat 2010 & 2011

	2010	2011	Percentage Change
Yield tonnes per ha.	8.8	9.7	10
Cereal price per tonne	174	178	3
Total Gross Output (incl straw)	**1,708**	**1,837**	**8**
Fertiliser, seed, crop protection	572	652	14
Other direct costs	129	121	-6
Total Direct Costs	702	773	10
Gross Margin	**1,007**	**1,063**	**4**
Total Fixed Costs	574	675	18
Total Costs	1275	1449	14
Net Margin	**433**	**388**	**-10**

Source: Teagasc National Farm Survey.

Table 3 presents average margins per tonne of crop produced for 2010 and 2011. The results show that while output value per tonne increased in 2011, this was not sufficient to offset the increase in costs. The average net margin in 2011 for spring barley and winter wheat was €17 and €40 per tonne respectively.

Table 3: Average spring barley and winter wheat gross output, margin and net margin per tonne

	2010 Spring Barley	*2011 Spring Barley*	*% change '10 to '11*	*2010 Winter Wheat*	*2011 Winter Wheat*	*% change '10 to '11*
	€	€	%	€	€	%
Cereal price per tonne	163	169	4	174	178	3
Total Gross Output (incl. straw)	177	178	1	193	190	-2
Gross Margin	94	89	-4	114	110	-4
Net Margin	**23**	**17**	**-28%**	**49**	**40**	**-18**

Source: Teagasc National Farm Survey.

The data in Tables 1, 2 and 3 present the average across all hectares and tonnes of spring barley and winter wheat in the country. The wide variation that occurs throughout the country in financial performance between different cereal producers is not apparent from these averages. Table 4 shows the average costs of production and margin for farms classified on the basis of gross margin per hectare per farm and splits the sample into one-third groupings (top, middle and bottom). Total costs of production per hectare are not largely different between the three groupings. However, large differences in gross output per hectare exist between the groupings. Gross output per hectare for the top one third of spring barley and winter wheat farms is 60 and 50 percent higher respectively than the bottom one third of farms. This results in a €457 and €688 per hectare difference in net margin per hectare between the bottom one third and top one third of spring barley and winter wheat farms.

Table 4: Variation in output and margin: top, middle and bottom one third of cereal farms

	Spring Barley			**Winter Wheat**		
	Bottom	Middle	Top	Bottom	Middle	Top
Yield (tonnes per ha)	5.4	7	7.6	8.33	9.81	10.94
Price per tonne	158	166	175	167	177	181
Gross output (€/hectare)	**894**	**1207**	**1428**	**1407**	**1787**	**2090**
Fert., seed, spray (€/hectare)	469	476	453	626	632	611
Other direct costs (€/hectare)	202	209	76	245	140	68
Gross Margin (€/hectare)	**223**	**522**	**899**	**536**	**1016**	1411
Total Fixed Costs (€/hectare)	393	425	612	640	685	827
Total Costs (€/hectare)	1064	1110	1141	1510	1456	1506
Net Margin (€/hectare)	**-170**	**97**	**287**	**-104**	**331**	**584**

Source: Teagasc National Farm Survey.

3. Review of Estimated 2012 Performance

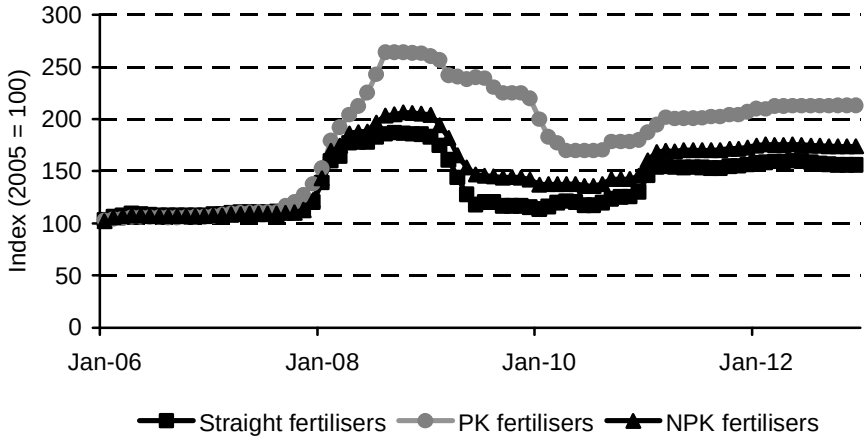
This section of the paper presents a review of the cereal sector in 2012. To provide an estimate of enterprise profitability for 2012, it is necessary to estimate the volume and price of inputs that are likely to have been used as well the volume and value of outputs. The following sections of the paper discuss first, the movements in input prices and usage in 2012 and second, the cereal market conditions, harvest yields, and production in 2012.

3.1 Estimated Input Usage and Price 2012

3.1.1 Fertiliser – Usage and Price 2012

There was further upward movement in fertiliser prices in 2012, but the increase was smaller than has been seen in recent years. As illustrated in Figure 2, the price of P and K based fertilisers were up about 7 percent in 2012 relative to 2011, while nitrogen based fertilisers rose in price by about 4 percent.

Figure 2: Monthly Irish Farm Fertiliser Prices 2006 to 2012



Source: Central Statistics Office

On the usage side, DAFM figures indicate that fertiliser purchases in the 2012 fertiliser year (October 2011/September 2012) decreased for N and P elements, with N down approximately 8 percent and P down 5 percent. By contrast K sales were up 3 percent. It is difficult to assess at this point the extent to which fertiliser use changed on cereal farms in 2012.

Given that the DAFM figure on fertiliser purchases refers to all fertiliser purchases for grassland and cropland, it was necessary to consult reports from farm advisors and industry sources to evaluate the change in fertiliser usage for crop farms. Reports from a number of sources seem to indicate that fertiliser usage per hectare in 2012 was in line with 2011 levels. With fertiliser usage unchanged on crop farms the increase in fertiliser prices experienced in 2012 implies an overall expenditure per hectare on fertiliser up by 7 percent in 2012 on the 2011 levels.

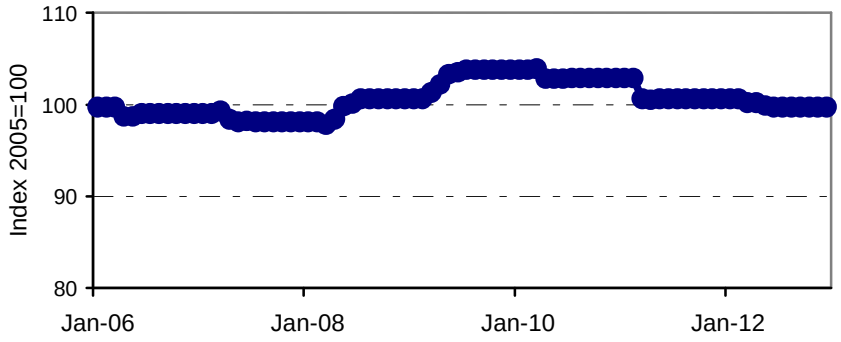
3.1.2 Seed – Usage and Price 2012

Purchased seed on crop farms is a less important input in expenditure terms in cereal production, comprising between 10 and 15 percent of direct costs for cereal production. In 2012, cereal farmers experienced a further increase in seed costs relative to the previous year due to the upward movement in the cereal prices. In autumn 2011 when seed supplies were purchased for the 2012 harvested winter crops, blue label seed costs were approximately 7 percent higher than 2011 levels.

3.1.3 Crop Protection – Usage and Price 2012

Compared to other significant costs on tillage farms, the increase in costs of crop protection has been limited over the recent past. Figure 3 shows the price of crop protection products varied little over the period 2006 to 2012 and prices are estimated to have changed very little in 2012 relative to 2011.

Figure 3: Price Index of Plant Protection Products in Ireland 2006 - 2012



Source: Central Statistics Office

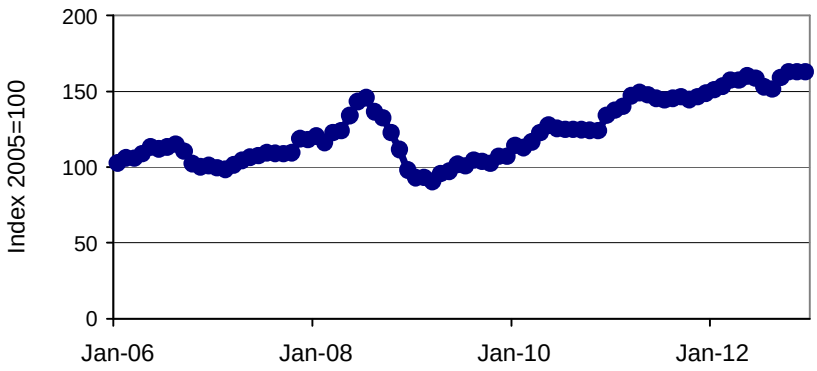
3.1.4 Energy and Fuel – Usage and Price 2012

Energy and fuel are important inputs in crop production. Given that a number of crop related direct costs and overhead costs are directly influenced by energy and fuel prices, the trend in energy prices is of significant importance for the average tillage farmer.

Brent crude oil price rose sharply early in 2012, reflecting concerns about supply availability from the Middle East. Brent crude oil prices peaked at over $125 per barrel (pb) in March of 2012, but declined to less than $95 pb by the June of 2012. Overall, the average price for Brent crude in 2012 was unchanged on the 2011 level at $108 pb. However, the euro weakened in value versus the US dollar over the course of 2012 by about 10 percent relative to the average level in 2011. The weaker euro means that crude oil prices actually increased in euro terms in 2012. The average crude oil price for 2012 was just under €87 pb an increase in euro terms of about 10 percent on the 2011 value of €77 pb.

The CSO fuel price series is illustrated in Figure 4. Overall, given the rise in oil costs, fuel costs in Ireland continued to increase in 2012, with diesel prices approximately 10 percent higher in 2012 relative to the 2011 level.

Figure 4: Price Index of Fuel Products in Ireland 2006 - 2012



Source: Central Statistics Office

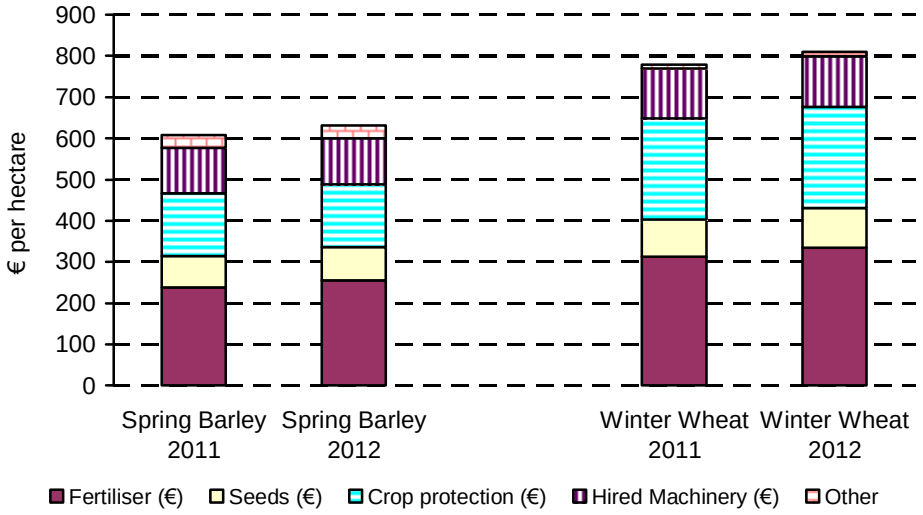
3.1.5 All other direct and overhead costs – Usage and Price 2012

It is assumed that labour costs and 'other costs' within agriculture increased by approximately 1 percent in 2012 relative to 2011.

3.1.6 Estimate of Total Input expenditure for 2012

Total input expenditure is estimated to have increased by approximately 4 percent in 2012 relative to 2011. As illustrated in Figure 5, the most significant increase in expenditure occurred with fertiliser, which is estimated to have increased by 7 percent 2012 relative to 2011, taking into account estimated volume and value changes. Crop protection costs are estimated to have remained more or less unchanged while seed costs are estimated to have increased by 7 percent. Machinery operating costs are also estimated to have increased in the order of 10 percent between 2011 and 2012.

Figure 5: Direct Costs for Spring Barley and Winter Wheat 2011 and Estimates for 2012



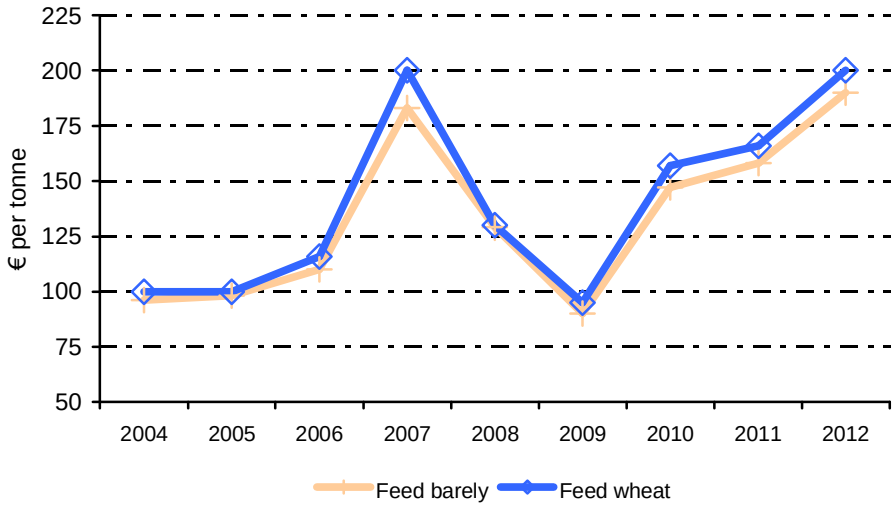
Source: Teagasc National Farm Survey Data and Authors' Estimates

3.2 Estimated Output Values 2012

3.2.1 Price, yield and moisture levels in 2012

Considerable price volatility remained a feature of international cereal markets in 2012, continuing a pattern that has been seen since 2007. Figure 6 shows feed barley and feed wheat prices. The price of both crops is estimated to have increased by 20 percent in 2012.

Figure 6: Farm Gate Irish Cereal Prices, 2004-2012



Note: Prices are 20 percent Moisture, exVAT
Source: Authors' own estimates

The last variable which must be considered when output value is estimated is yield per hectare. Table 5 shows the average green yields obtained in 2011 and 2012. The weather conditions during the growing season were very unfavourable with cold weather and above normal rainfall having a very negative impact on yield. For example, wheat yields were the lowest for over a decade.

Table 5: Average Yields and Moisture Levels, 2011 – 2012 Harvest

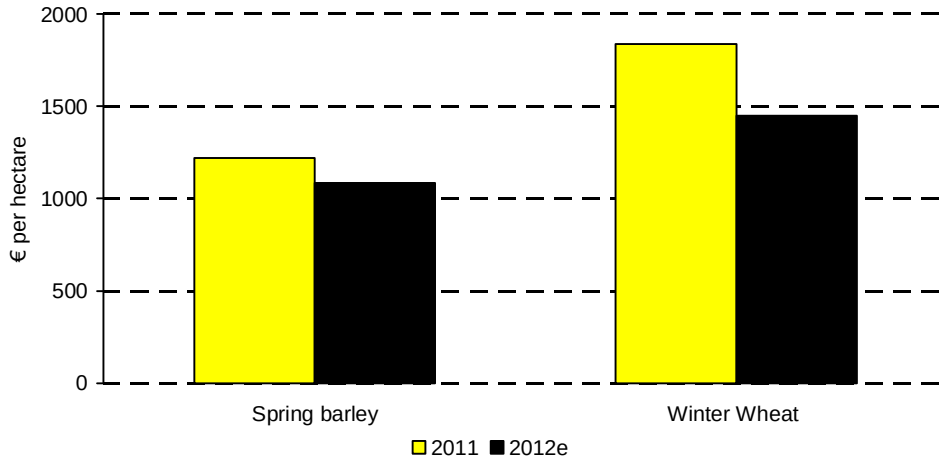
	Yield (tonne per ha.)			Moisture (%)	
	2011	**2012**	**% change**	**2011**	**2012**
Winter Wheat	10.2	7.2	-29	18.5	20.6
Winter Barley	9.1	7.7	-15	18.0	18.4
Winter Oats	7.8	6.8	-12	18.2	18.8
Spring Wheat	8.3	6.0	-27	19.4	20.3
Spring Barley	7.5	6.1	-18	17.9	19.0
Spring Oats	7.9	6.2	-21	18.5	19.1

Source: CSO 2011 & Teagasc Harvest Report (2012)

3.2.2 Estimate of Total Output Value for 2012

Total output value per hectare for the two main cereal crops is estimated to have declined by approximately 11 percent for spring barley and 21 percent for winter wheat in 2012 relative to 2011.

Figure 7: Spring Barley and Winter Wheat Gross Output per Hectare 2011 and Estimate for 2012



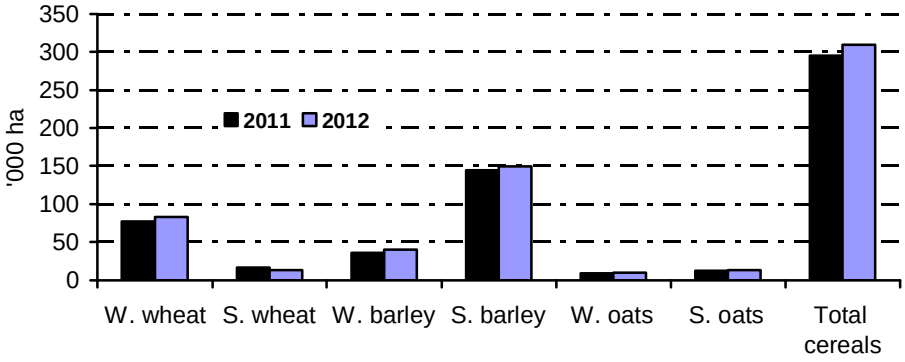
Source: Teagasc National Farm Survey (2011) and Authors' own estimates (2012)

3.2.3 Estimate of Total Production 2012

The figures presented in section 3.2.2 illustrate output value per hectare. However these estimates do not take into consideration the increase in area devoted to cereal crops in 2012. Figure 8 shows the area estimates for 2012.

Figure 8 shows that the total area devoted to cereal production increased by 5 percent in the 2011/12 crop year compared to the 2010/11 crop year. The largest percentage increase in area was observed for winter barley, where total area devoted to the crop increased by 13 percent year on year. Total wheat area was up 3 percent and barley area increased by 5 percent in 2012. Total area planted to oats increased by 10 percent.

Figure 8: Irish Crop Area in 2010/11 to 2011/12 Crop Year



Source: CSO and Teagasc Harvest Report (2012)

Table 6 combines actual total cereal production for 2011 as reported by the CSO with estimated total cereal production for 2012. The estimated 2012 production of wheat, barley and oats is based on 2012 yield estimates from the Teagasc harvest report and CSO statistics for the 2012 area planted. Overall cereal production is estimated to be down by 456,000 tonnes or 18 percent on 2011 levels.

Table 6: Actual & Estimated Production 2011 & 2012

	2011	2012	%Change
	000 tonnes		
Wheat	924.6	680	-27
Barley	1,407.6	1,223	-13
Oats	165.7	151	-11
Total	2,497.9	2,054	-18

Source: CSO and Teagasc Harvest Report 2012

3.2.4 International Production Estimates for 2012

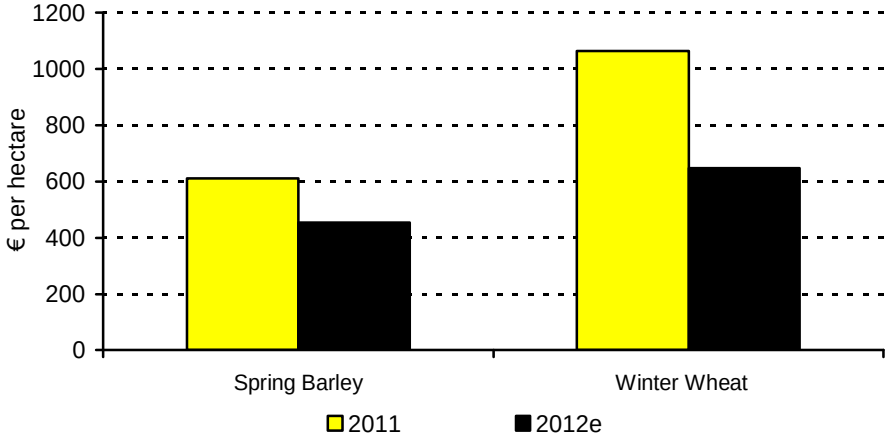
The latest edition (November 2012) of Strategie Grains (SG) estimates that the total production of grains within the EU for the marketing year 2012/13 was 270.8 million tonnes, with 19.4 million tonnes of carry out stocks.

The SG estimates shows global wheat production for 2012/13 to be down 8 percent on the previous year. The SG estimate for global maize production in 2012/13 is a reduction of 5 percent and in the case of barley, the reduction in global production in 2012/13 is estimated by SG at just over 2 percent. In the case of wheat and maize the global estimate for carry out stocks in 2012/13 is down substantially on the previous year, while there is little change in the carry out stock of barley compared with 2011/12.

3.3 Review of Tillage Enterprise Margins in 2012

The review of cereal output value showed that the average value of output received by farmers decreased by approximately 11 percent for barley and 21 percent for winter wheat in 2012, while the review of input costs concluded that total input costs were approximately 4 percent higher in 2012 than 2011. Figure 9 presents the effect on gross margin.

Figure 9: Gross Margin in 2011 and Estimate for 2012



Source: Teagasc National Farm Survey and Author's Own Estimates for 2012

Spring barley margins are estimated to have decreased by 26 percent to €454 per hectare while winter wheat margins are estimated to have decreased by 39 percent to €647 per hectare. It should be noted that the average gross margin figures

presented above are market based gross margins and therefore exclude all decoupled payments.

4. Outlook for 2013

In this section forecasts are provided on the expenditure for various input items in 2013, the likely farm gate cereal price that will prevail at harvest 2013 and the likely net margin.

4.1 The Outlook for Input Expenditure

4.1.1 Fertiliser – usage and price 2013

Slight upward movement in P and K based fertiliser price is expected in 2013, while CAN prices are expected to be 7 percent higher. The upward trend in fertiliser prices can be attributed to the strength of demand based on higher planting rates internationally.

Fertiliser usage per hectare on cereal farms in 2013 is expected to be on a par with 2012 levels, given that for agronomic reasons the scope for reduction in use in response to higher fertiliser prices is limited for cereal production. Overall, it can be expected that fertiliser expenditure will increase by about 5 percent in 2013 on cereal farms.

4.1.2 Seed – usage and price 2013

Cereal farmers experienced an increase in seed costs in 2012 relative to the previous year due to the upward movement in cereal prices. Given that cereal prices increased again in 2012 there has been a consequent further increase in seed prices for 2013. At present blue label seed prices are up about 10 percent on 2012 levels.

4.1.3 Crop protection – usage and price 2013

The increase in costs in 2013 relative to 2012 is forecast to be of a similar magnitude to the changes seen in the last three or four years, which was minimal at just under 1 percent. Volume changes in 2013 are forecast to be negligible.

4.1.4 Energy and Fuel – usage and price 2013

Increases in Brent crude oil and European natural gas prices took place in 2012. An analysis of futures prices indicates that the balance of market opinion sees Brent crude oil prices being maintained at over US $100 into 2013.

As of December 2012, the average Brent crude oil futures price for 2013 is about $108 pb. This equates to about €85 pb at a euro exchange rates of $1.28, which would represent a decrease of about 2 percent on the 2012 level. However, exchange rate movements remain an area of uncertainly and a potential source of energy price inflation should the euro depreciate against the US dollar.

It is forecast that there will be no change in contractor charges in 2013.

4.1.5 All other direct overhead costs 2013

Given the continuing weakness of the Irish labour market, the increase in labour costs, other overhead costs and general inflation in 2013 are forecast to be no more than 1 percent.

4.2 The Outlook for Markets 2013

Weather related production shocks adversely affected cereal production in Europe and the USA in 2012 and drove cereal prices to higher levels that expected in 2012. In the early months of 2013, international cereal prices are expected to continue to increase given the extremely low stock levels in the EU and worldwide. The latest estimates for planted area in the EU, indicates that there will be downward pressure on cereal markets in the latter stages of 2013. Strategie Grains (November 2012) has forecast that due to significant area losses in the EU 2012/13 there will be a recovery in EU grain area in 2013/14. Cereal area in the EU is projected to increase by 0.3 million hectares in 2013/14 to reach a level of 56.6 million hectares. It is too early to make any informed assessment of EU yield potential in 2013/14, but given that yields were below normal in 2012/13, a reversion to normal yields, along with an increase in planted area would see an appreciable increase in production in the EU.

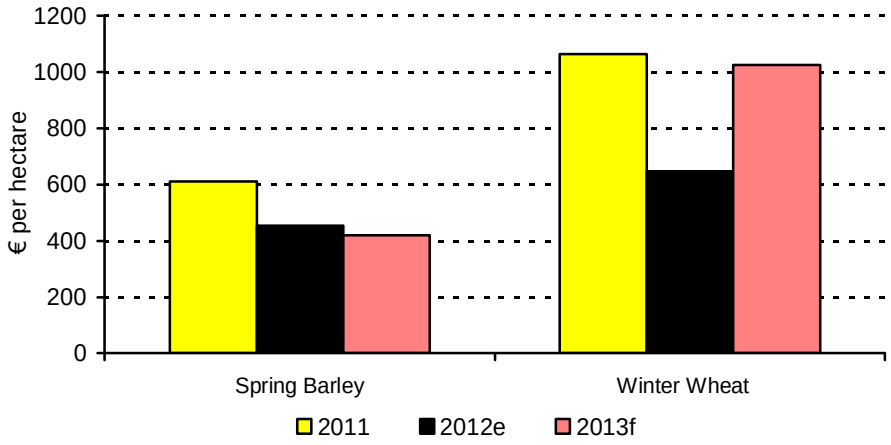
For the year as whole, futures markets expect lower prices in 2013 relative to 2012, but this outlook is heavily conditioned by expectations of normal weather in 2013. Overall, wheat prices are forecast to remain largely unchanged next year. Barley prices are forecast to decline by 10 percent.

4.3 The Outlook for Tillage Enterprise Margin in 2013

Increases in seed and fertiliser, coupled with relatively static prices for energy and other inputs, suggest that cereal production costs are likely to be slightly higher in 2013 relative to 2012. In relation to yield, it is forecast that spring barley and winter wheat yields will revert to the three year average of 2009 to 2011. This would represent a 28 percent increase in winter wheat yields and a 10 percent increase in spring barley yield relative to 2012.

These yield increases combined with falling barley prices deliver a 1 percent decline on the gross output value for spring barley. The relatively higher increase forecast for winter wheat yields coupled with no price change results in a 28 percent increase in gross output value. Figure 10 presents the actual gross margin for spring barley and winter wheat in 2011 and the respective estimates and forecasts for 2012 and 2013.

Figure 10: Gross Margins Spring Barley and Winter Wheat: 2011, 2012 and 2013



Source: Teagasc National Farm Survey and Authors' own estimates

Gross margin per hectare of spring barley is forecast to decline by 8 percent in 2013 relative to the estimate for 2012. When overhead costs are considered, net margins for spring barley are forecast to be negative at approximately -€90 per hectare. On

the back of strong yield growth, winter wheat gross margins are forecast to increase by 58 percent to an average of €1020 per hectare.

5. Concluding Comments

The 2011/2012 production year proved to be a disappointing year for tillage farmers. Poor harvests in the US and Europe pushed tillage prices upwards, but production conditions in Ireland impacted severely on yields and prevented farmers from deriving the maximum benefit from the elevated cereal prices.

It is anticipated that the price of key input variables such as fertiliser and seed will increase in 2013, while fuel prices should remain relatively flat. There is considerable volatility in the cereals market, but based on futures prices as of December 2012, it is forecast that 2013 barley harvest prices will be down on 2012 levels, while wheat prices may remain relatively stable. Overall, the outlook for the profitability of winter wheat production is quite positive for 2013, assuming a return to more normal yields. The barley price outlook does not look as favourable and it seems that margins for 2013 will be more or less unchanged on the 2011 level.

References

Hennessy T, Kinsella A, Moran B, and Quinlan G (2012) National Farm Survey 2011. Teagasc, Rural Economy Research Centre Athenry Ireland. Available to download at http://www.teagasc.ie/publications

Hennessy T, Moran B, Kinsella A, and Quinlan G (2011) National Farm Survey 2010. Teagasc, Rural Economy Research Centre Athenry Ireland. Available to download at http://www.teagasc.ie/publications

Stategie Grains (2012) No 239 November 2012

Central Statistic Office (2012) Statbank various series accessed at www.cso.ie

Review of Pig Sector in 2012 and Outlook for 2013

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1. Introduction

In 2012 the Irish pig industry continued to experience the lowest profitability in more than a generation. The escalation in feed prices which began in 2010-2011 has continued throughout 2012. The market price for pigmeat also rose in 2012 but not to the same extent as feed prices. This has resulted in an extension of cost squeeze that the industry has suffered over the last two years. The industry requires a significant and sustained period of profitability to recoup the accumulated losses it has sustained.

2. Irish Pig Production Costs

The cost of producing pigmeat in Ireland can be decomposed into feed cost and non-feed cost. Feed currently constitutes 75 percent of the total cost of producing a pig with the non-feed inputs contributing the remaining 25 percent. The largest volatility over the last two years has concerned the feed cost input.

2.1 Irish Pig Feed Costs

The Irish pig industry utilises a relatively small selection of feed ingredients, principally wheat, barley, and soyameal with small inclusions of maize, rapeseed and assorted oils. Some of these feed ingredients are not grown in Ireland, nor is Ireland self-sufficient in the other feed ingredients. Therefore the pig industry must import a significant volume of its feed ingredients. This leaves the industry very exposed to fluctuations in the global prices for these key ingredients. Sudden and unexpected international events drive up ingredient costs which affects Irish importation costs. In recent years we have seen drought conditions in the Russian region, Brazil and the U.S. having a particularly upward effect on feed ingredient prices. Table 1 shows the effect of drought on Russian exports in 2010/2011 and 2012/2013.

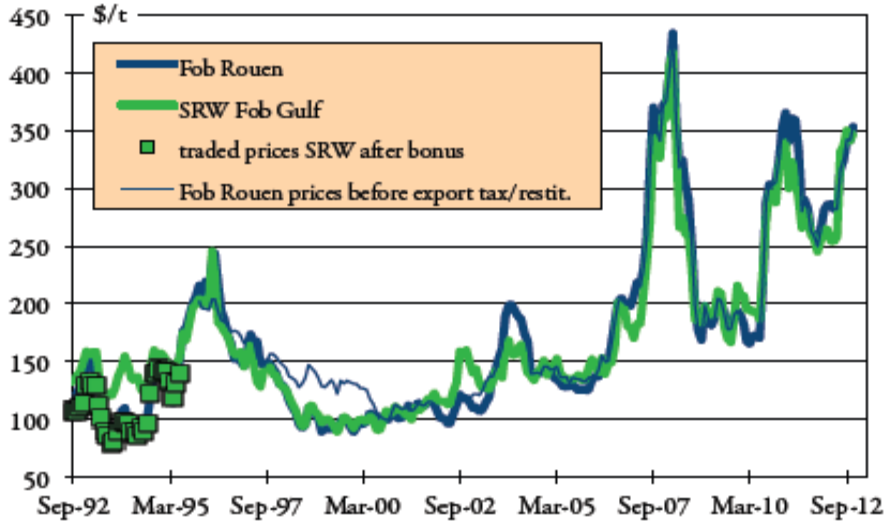
Table 1: Wheat Exports from the Black Sea region

	Year		
Country	**2010/11**	**2011/12**	**2012/13**
	million tonnes		
Russia	3.4	21.2	9.9
Ukraine	4.0	5.5	5.9
Kazakhstan	2.2	5.3	5.6
Total	**9.6**	**32.0**	**21.4**

Source: Strategie Grains

The reduction in Russian exports has a larger effect on global trade then the decrease in volume would suggest as the Russian wheat price generally provides the ‘price floor’ for wheat. Figure 1 illustrates the volatility of wheat price since 2007.

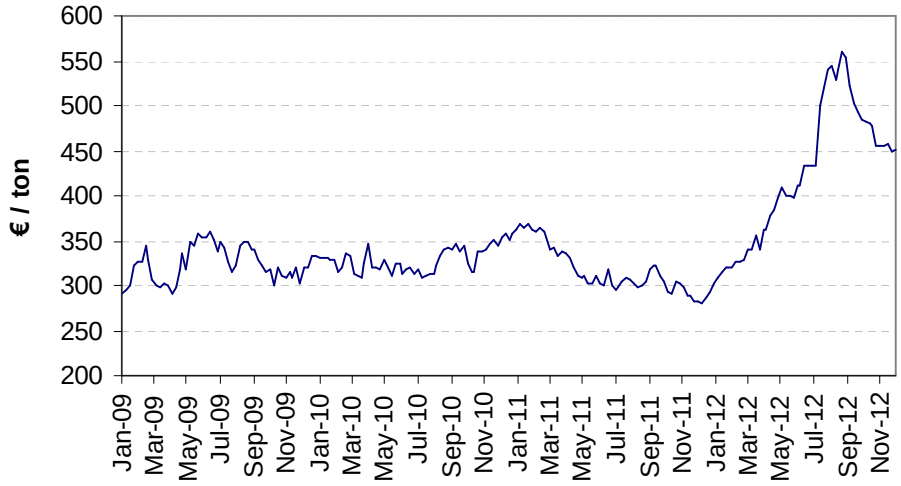
Figure 1: Changes in World Wheat Prices on a monthly basis ($/t)



Source: IFIP

In 2010/2011 the scarcity of wheat as a protein source increased the rate of substitution to soyabeans with a resultant escalation in the price of soyabeans in late 2010. However the subsequent bumper South American soyabean harvest in spring 2011 eased the pressure of soyabean supply leading to a corresponding drop in price. Unfortunately this was not the situation in 2012 as a soyabean drought in South America increased the soyabean price dramatically, thereby eliminating any effect of substitution for wheat.

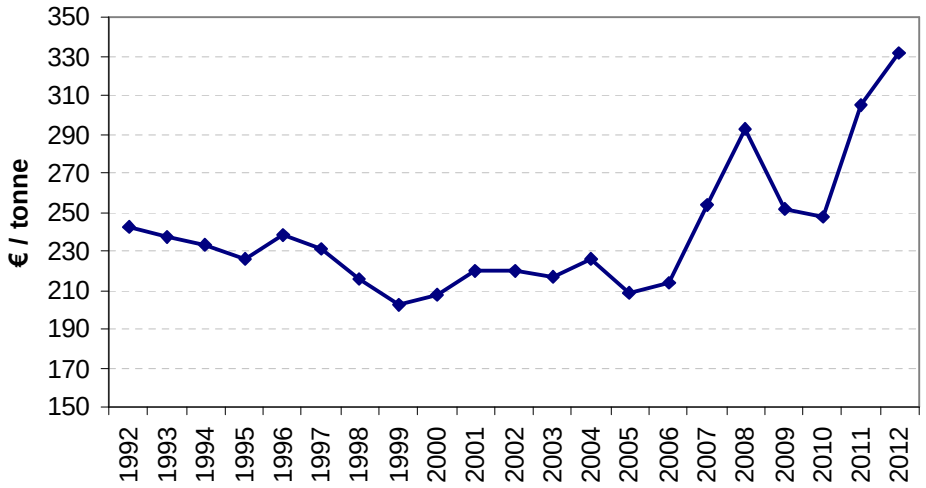
Figure 2: Soyabean price over a four year period to December 2012.



Source: IFIP

The price rise for the main pig feed ingredients from August 2010 onwards led to the Irish composite pig feed price increasing in November 2012 to its highest level in over twenty years. Annual Irish pig feed prices are shown in Figure 3.

Figure 3: Irish composite pig feed price from 1992 – 2012



Source: Teagasc Pig Development Department

The composite compound feed price increased by €75 per tonne from January 2012 to a peak in November 2012. The price then stabilised in December 2012. Monthly pig feed prices for 2012 are shown in Table 2.

Table 2: Purchased Irish Compound Feed Prices in 2012

Month	Composite Feed Price € per Ton	Feed Cost per kg Dwt Cent
January	297	110
February	296	110
March	298	111
April	305	113
May	321	119
June	327	121
July	331	123
August	336	125
September	356	132
October	370	137
November	372	138
December	372	138
Average	**332**	**123**

Source: Teagasc Pig Development Department

The annualised feed cost per kg dead weight of 123 cent is significantly higher then in 2011 (112 cent) and 2010 (93 cents). The increased feed cost during 2012 caused continued serious cashflow difficulties for producers, especially during the summer months when the feed price rose but the pig price remained static.

2.2 Non-feed costs in Irish Pig Production in 2011

The non-feed costs can be partitioned into *Common Costs* and *Herd Specific Costs*. The common costs apply on all units and represent the largest component of non-feed costs. The data quoted for Irish industry is collected from herds using the Teagasc Pigsys herd recording system which records, analyses and benchmarks herd productivity and financial performance. The costs quoted are based on 2011 data which is the most recent analysis of annualised costs available. Common costs are itemised in Table 3.

Table 3: Common Costs in Pigsys Recorded Herds

Cost Item	**2011**	**2006-2010**
	cent per kg	
Healthcare	6.1	5.2
Heat, Power Light	4.2	4.3
Transport	1.1	1.0
AI	1.5	1.5
Manure	1.9	2.4
Labour/Management	13.9	14.7
Repairs	2	2.4
Phone/Office	0.5	0.5
Environment	0.4	0.8
Insurance	0.6	0.7
Stock Depreciation	0.3	0.4
Miscellaneous	1.4	1.9
Total	**33.9**	**35.9**

Source: Teagasc Pigsys Report 2011

The common costs in 2011 were two cent lower when compared to the previous five year average. A larger reduction may have been anticipated in 2011 but the industry had previously experienced low profits margins in 2008 which resulted in a four cent reduction in common costs. This low cost base was further reduced in 2010 primarily by reducing the labour/management input cost by 1.1 cent.

2.3 Herd Specific Costs in Irish Pig Production in 2011

These costs include interest payments and building depreciation and vary greatly from unit to unit depending on the age of the unit and the level of continuous capital investment undertaken in the business. Herd specific costs are itemised in Table 4.

Table 4: Herd Specific Costs in Pigsys recorded herds

Cost Item	**2011**	**2006-2010**
	cent per kg	
Interest	2.0	2.8
Building Depreciation	3.1	4.6
Total	**5.1**	**7.4**

Source: Teagasc Pigsys Report 2012

The reduction in interest and depreciation costs in 2011 reflects the poor profitability of the industry in the preceding years which therefore limited capital investment.

2.4. Total Cost of Irish Pig Production in 2012

The estimated cost of production in 2012 (based on 2011 non-feed costs and 2012 feed costs) was 166 cent per kilogram dead-weight for pigs delivered to the slaughter plant. The level of this cost varied from a relative low of 153 cent/dwt in January 2012 to a high of 181 cent/dwt in November and December 2012. This variation was due to the fluctuating feed cost.

3. Irish Pig Prices in 2012

The estimated average pig price in 2012 was 166 cent which was 21 cent above the previous five year average (2006-2011) of 145 cent. Monthly Irish pig prices are shown in Table 5.

Table 5: Monthly Irish Pig Price in 2012

Month	**Pig Price** (cent per kg dead wt)
January	153
February	154
March	156
April	157
May	162
June	163
July	164
August	166
September	174
October	180
November	182
December	182
Average	**166**

Source: Teagasc Pig Development Department

The higher Irish pig price in 2012 was a combination of a more vibrant export market outside the EU and a response to the higher cost of production. The higher pig price was also reflected across other European Union countries as shown by the survey results in Table 6. This survey of the principal European pig prices revealed annual increases of between 7 percent and 14 percent year-on-year.

Table 6: European Pig Prices January to November 2011 and 2012

	2011	**2012**	
Country	**Jan - Nov**	**Jan - Nov**	**Change**
	Euro per kg	Euro per kg	**%**
Netherlands Monfoort	1.466	1.668	13.8
Denmark 61%	1.349	1.511	12.0
Germany ZMP 56%	1.517	1.709	12.7
Spain Llerida vif	1.228	1.341	9.2
Italy vif Modena	1.322	1.412	6.9
France MPB 56%	1.307	1.458	11.6

Source: MPB

4. Profitability of Irish Pig Production in 2012

The margin over feed costs per kg deadweight in 2012 has continued the pattern of recent years by fluctuating widely as illustrated in Table 7.

Table 7: Average Margin over Feed Costs with Compound Feed from 2006-2012

Year	Pig Price (delivered)	Feed Cost	Margin over Feed
	Cent per kg		
2006	147	84	63
2007	139	97	42
2008	152	112	40
2009	145	94	51
2010	140	93	47
2011	151	112	39
2012	166	123	43

Source: Teagasc Pig Development Department

In Table 8 the 2012 margin over feed is compared to the average margin over feed of the last five, ten, fifteen and twenty years and this clearly shows the difficult trading conditions and low profitability of recent years.

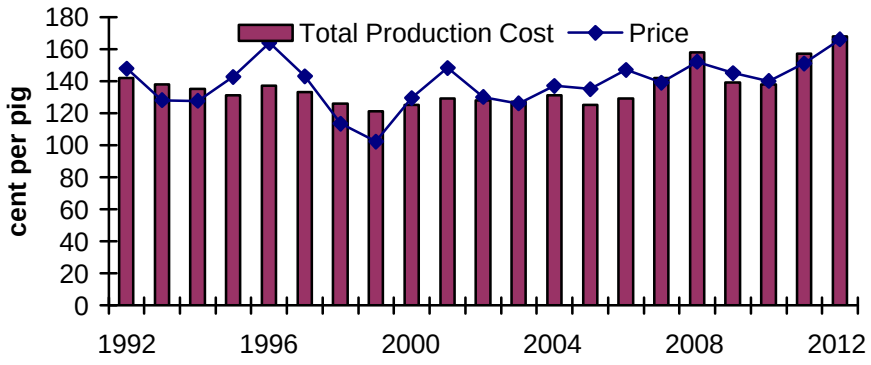
Table 8: Margin Over Feed in 2012 Compared to the 5, 10 15 and 20 yr average

	Margin Over Feed cent per kg/dwt	**% Diff.**
2012	43	-
5 Year average	44	-2
10 Year average	48	-11
15 Year average	47	-9
20 Year average	48	-11

Source**:** Teagasc Pig Development Department

When an average figure of 45 cent per kg (estimated by the author as a requirement to meet all production costs including financial repayments) is added to the feed costs incurred during 2012 it is clear that an operating margin deficit existed in Irish pig production for much of 2012. Figure 4 shows the pig price received when compared to the total production cost (feed + 45 cent) since 1992

Figure 4: Estimate of Pig Price compared to Total Production Cost from 1992



Source**:** Teagasc Pig Development Department

5. Irish Pig and Sow numbers in 2012

The latest Teagasc sow survey of commercial pig production units in 2012 revealed a slight decrease in sow numbers when compared to the previous survey. Irish sow numbers are shown in Table 9.

Table 9: Sow Numbers in Commercial Pig Herds 2001-2012

Year	Sow Numbers
	000 head
2001	166.1
2003	160.4
2005	154.3
2007	153.0
2009	148.7
2011	150.0
2012	147.9

Source**:** Teagasc Pig Development Department

As this survey was completed in January 2012 it does not reflect the full difficult trading conditions suffered during 2012. Anecdotal evidence would suggest that there has been a slight decrease in the national sow herd during 2012 due to some herds undertaking destock-restock activity and a number of herds downsizing in advance of loose sow housing legislation. This assertion appears to be supported by the increased number of sows being culled in Irish export plants in 2012, as illustrated in Table 10.

Table 10: Sow Culling in Irish Export Plants in 2011-2012

	2011	2012	%
	000 head		
Sows Culled	88	95	+8

Source: DAFM

The number of pig disposals in 2012 was estimated two percent higher than in 2011. This reflected an increase in the productivity of the national sow herd and the introduction of new vaccines onto the market which reduced mortality.

Table 11: Irish pig slaughter from 2010 to 2012

Year	2010	2011	2012
Slaughter Pigs - ROI Origin (Million Head)	3.1	3.4	3.52

Source: Teagasc Pig Development Department

The ratio of Republic of Ireland origin pigs in total pig slaughter in Northern Ireland plants had been increasing in recent years but fell slightly in 2012 to 17 percent as illustrated in Table 12.

Table 12: Slaughter and Live Export of Irish Pigs from 2006 to 2012

Year	Rep. of Ireland Licensed Export Plants	Exports to Northern Ireland	% Exports of Total
	million head		%
2006	2.619	0.478	15%
2007	2.570	0.512	17%
2008	2.511	0.457	15%
2009	2.363	0.482	17%
2010	2.601	0.558	18%
2011	2.847	0.610	18%
2012	2.907	0.612	17%

Source: DAFM & DARDNI

The trend of increased Irish slaughter pig disposals in 2012 was opposite to the trend in many of the European countries, as illustrated in Table 13. Over the first 44 week of 2012 the combined pig slaughtering of the major European producing countries remained relatively static when compared to 2011.

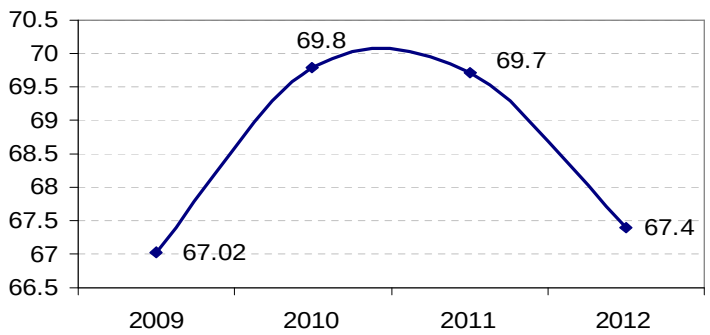
Table 13: European Pig Disposals 2011 and 2012

	Year		
	2011*	**2012***	**Change**
Country	Million head		**%**
Germany	42.7	41.7	-2.3
Spain	33.5	35.9	3.5
France	16.9	16.5	-2.6
Denmark	15.1	14.0	-6.8
Netherlands	11.9	11.7	-1.6
UK	8.0	8.2	2.5
Total	**128.1**	**128.0**	**-0.1%**

Note: *Based on 44 wks of production
Source: MPB

As illustrated in Figure 5, a further analysis of the principal exporting countries (Germany, Netherlands, Denmark), reveals a year-on-year decline of 3.2 percent (2011-2012) and reverses the recent upward trend of numbers slaughtered.

Figure 5: Slaughter pigs in Germany, Denmark & Netherlands 2009-2012



Source: MPB

7. EU Pigmeat Exports & Imports in 2012

The export of pigmeat products outside the EU continued to marginally increase in 2012 as shown in Table 14. However this followed a very strong export year in 2011. The largest export destinations were Russia, Hong Kong, China and Japan which contributed 62 percent of the total volume exported from the EU. Globally all the largest pigmeat export countries showed a combined growth of 2.8%.

Table 14: Pigmeat exports by selected countries

Country	2011	2012*	%
EU	2.05	2.07	1.1
USA	1.4	1.5	2.5
Canada	0.74	0.78	5.1
Brazil	0.39	0.43	9.7
Total	**4.62**	**4.75**	**2.8**

Source: MDP * Jan-Sept 12

8. Outlook for the Irish Pig Market in 2013

The outlook for the pig market can be decomposed into pig feed and pig price as these will be the key factors affecting profitability.

8.1 Irish Pig Feed Price Outlook in 2013

Pig feed is the single largest input cost (currently 75 percent) of pig production therefore the cost trend of this input will have a substantial effect on the profitability of the sector in 2013. The feed outlook can divided into the outlook for wheat and soyabeans as these are the principal pig feed cost drivers.

8.1.1 Wheat Prices in 2013

The poor Black Sea harvest in 2012 has resulted in wheat exports being reduced to a very low volume by December 2012. As we progress into 2013 this will cause greater upward pressure on wheat prices as the remaining major exporters (US, France, Argentina, Australia) will be under greater demand. The closing stock in Table 15 illustrates the recent poor 2012/13 harvest and the estimated tightening closing stock-to-use ratio by June 2013. However the expectation of a good harvest in 2013 will be clearly evident by June 2013 (start of harvest season). Presuming that this harvest see's a return to global five year average yield returns for wheat and maize then this should stimulate the beginning of a gradual wheat price easing from July – December 2013.

Table 15: Estimated Global Production and Demand for 2012-2013

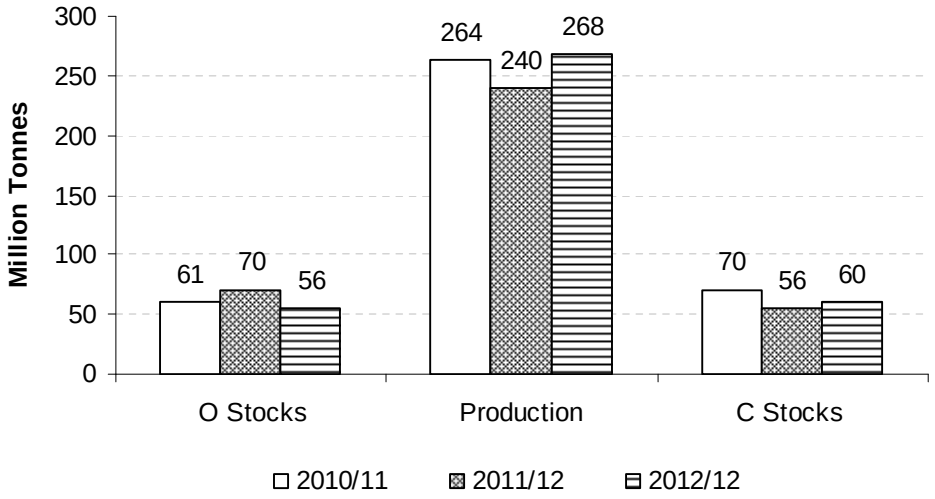
Year	O. Stock	Production	Demand	C. Stock	Stock/Use
2010/11	208.6	654.4	662.1	200.9	30.3%
2011/12	200.9	692.2	692	201.1	29.1%
2012/13	201.1	637.6	679.5	159.3	23.4%

Source: USDA & Strategie Grains

8.1.2 Soyabean

Soyabean production was severely affected in 2012, initially by the South American drought and then by the U.S. drought. He result of this was a global fall in production from 264 to 240 million tonnes. The outcome of this production decrease was the highest soyabean price in recent times. The Brazilian and Argentinean planting intentions reveal significantly higher soyabean forecasts for the 2013 harvest, with Brazil estimated to increase its production by 20 million tonnes. If the U.S. can return a five year production average then the soyabean closing stock will rise in 2013. This will lead to downward pressure from May 2013 for the duration of the year.

Figure 6: **Forecast Soyabean Production for 2010-2013**



Source: USDA

When examining the soyabean market it is important to examine the importation intentions of the Chinese market. The estimated Chinese import total for 2013 is 63 million tonnes. This is approximately 64 percent of the global export market and an increase since 2011 of 17 percent as illustrated in Table 16.

Table 16: Estimated Chinese Soyabean Importations

Year	2011	2012	2013
Million Tonnes	52.3	59.2	63.0

Source: USDA

8.1.3 Irish Pig Feed Prices in 2013

The estimated composite compound feed price in December 2012 was €372 per tonne. The restricted global supply pressure of wheat and maize during the January – June period will generate upward price pressure with a corresponding fall upon the arrival of the Northern Hemisphere harvest. The current feed ingredients future market indicates an annual increase of 6% over the 2012 composite price. This price increase will be dependant on the euro exchange rate remaining relatively steady and the volume of Chinese soyabean purchases being close to the predicted volume of 58 million tonnes for 2012-13.

8.2 Irish Pig Prices in 2013

The Irish pig price was relatively strong in 2012 and in the authors view this will continue in 2013. The continuing reduction in the EU sow herd size and the trend of declining slaughter pig disposals will reduce the availability of pigs for sale. In addition the buoyant export market looks set to continue with the exports to China in particular expected to increase further. An analysis of the global pig price futures indicates an average increase of 6.2 percent with the U.S. Chicago futures market currently (December 2012) showing an increase of 11 percent in 2013.

8.3 Profit Margin

If the composite feed price falls as forecast in the latter half of 2013 and the pig price remains buoyant then there will be an overall moderate improvement in the profit margin available for pig producers in 2013. This margin is critically required in order to restore the industry to a sound financial base, allow feed debt to be reduced, enable producers to undertake much needed repairs and to investigate the feasibility of further investment in building infrastructure.

9. Conclusion

In 2012 the Irish pig industry suffered the highest feed prices in over twenty years primarily due to the escalating feed ingredient costs. In light of these conditions the size of the Irish sow herd has remained very resilient with only a small reduction in size. The outlook for 2013 is for the industry to continue to remain tight for the first two quarters with an improvement in margins expected in the latter half of the year. The composite pig feed cost of €372 in December 2012 is expected to further increase primarily due to the tightening international supply of wheat and maize before reducing with the approach of the autumnal harvest in the Northern Hemisphere. Overall the composite feed price in 2013 is expected to be 6% higher then in 2012.

The pig price was strong in 2012, the highest since the introduction of the Euro but not sufficiently high to offset the negative impact of the rapid rise in feed costs on profitability. It is expected that the market conditions in 2012 will continue to return a high pig price primarily due to a reducing number of pig disposals in the main European pig producing countries and strong export conditions outside the EU. The principal EU export markets are expected to increase their pigmeat imports during 2013 by 6.1 percent. The outlook on the global pig futures markets currently indicate an increase of 6.2 percent in 2013 but the actual price may be moderately higher if the 6.1 percent export target is reached.

The higher feed cost in the first two quarters of 2013 and increasing pig price are expected to generate continued tight margins for the first two quarters. A reduction in feed prices and the maintenance of the high pig price in the latter half of the year will provide an increased margin. This increased margin is urgently needed for the industry to reduce previous accumulated losses and allow necessary repair and infrastructure investment.