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CONTRIBUTORS

J. Breen D. Clancy L. Connolly
T. Donnellan K. Hanrahan A. Kinsella
M. Martin B. Moran C. O'Donoghue
G. Quinlan M. Ryan P. Smyth F. Thorne

Compiled by Marian Moloney

Teagasc
Rural Economy Research Centre

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CONTENTS

THE MACRO-ECONOMIC SITUATION AND FARM INCOME

Cathal O'Donoghue
Rural Economy Research Centre,
Athenry, Co. Galway.

1. Introduction

The last 5 years have seen a roller coaster ride in Irish economic fortunes with the move from a period of high economic growth to large scale decline. In this paper we describe trends in incomes in farm households in Ireland and discuss some of the changes at the macro economic level.

2. Family Incomes and Sources

2.1 Farm Household Income Sources

Table 1 highlights the trend in income relativities between urban, rural (non-farming) and farming households. The measures include all income sources (in addition to farm income) and are net of taxes. Here we see that urban households have consistently higher incomes than households in rural areas. Historically farming household's income was higher than non-farming household incomes. While this is still the case, the trends are different with rural non-farming household income rising relative to the rest of the population and incomes of farm households falling relative to the average.

Table 1: Ratio Disposable Income Relative to Average (100) Urban, Rural, Farm Households

Year	1987	1994/5	1999/00	2004/5
Urban	100	105	107	104
Rural Non-Farm	90	83	84	89
Farming	122	108	101	98
Total	100	100	100	100

Source CSO Household Budget Survey
Note Incomes equivalised to account for differences in household size.

Looking in more detail at farm households in Table 2, we decompose this trend by size of farm. Unsurprisingly, disposable incomes rise with farm size. In 1994/95, the disposable incomes of farm households were higher than average. However since 1999, only those farms with high scale with 100 acres or more have household disposable incomes higher than the average.

Table 2: Ratio Disposable Income Relative to Average (100) - Farm Households by Acreage

Year	1987	1994/5	1999/00	2004/5
Less than 30 acres	91	79	80	80
30 and less than 50 acres	83	86	93	86
50 and less than 100 acres	103	105	90	90
100 acres or more	154	128	117	115

Source CSO Household Budget Survey
Note Incomes equivalised to account for differences in household size.

Table 3 outlines the different source of incomes. Amongst urban and rural households, the proportion of employment income has risen as the proportion of social welfare income has fallen. Amongst farm households, employment income has displaced farm income, so that by 2004 less than 45% of (gross) household income in farming households now comes from farming activities.

Table 3: Sources of Income Urban, Rural and Farm Households (as % of gross income)

	Year	Employment	Self-Employment	Farm	Pension	Investment	Other	Social Welfare	Tax
Urban	1987	69.3	6.3	0.0	3.8	1.7	2.9	16.0	-21.6
Urban	1995	67.3	6.8	0.0	4.9	1.7	3.3	16.0	-20.7
Urban	2000	71.7	7.1	0.0	4.7	1.6	3.7	11.1	-19.7
Urban	2005	70.8	8.9	0.0	5.3	1.0	2.2	11.9	-16.2
Rural	1987	68.1	6.5	0.0	2.7	1.1	2.9	18.6	-19.1
Rural	1995	59.7	10.4	0.0	2.9	1.8	2.8	22.4	-16.1
Rural	2000	64.0	10.3	0.6	3.7	1.5	4.3	15.5	-14.7
Rural	2005	64.8	12.4	1.6	4.6	0.8	1.8	13.9	-13.5
Farm	1987	22.7	3.3	55.7	0.2	3.0	5.1	10.0	-9.2
Farm	1995	28.5	3.3	52.6	1.1	2.1	3.2	9.2	-11.6
Farm	2000	34.2	3.8	46.8	1.5	2.3	3.0	8.3	-10.6
Farm	2005	35.0	4.2	45.6	1.4	1.4	1.7	10.6	-8.3

Source: CSO Household Budget Survey

In Table 4 we look at 2004 data in more detail by farm size. Here we see that farms with less than 50 acres are not significantly different in income composition from non-farming households with about 60% of income coming from employment and with less than 15% of farm income coming from agriculture. Farms with between 50 and 100 acres are reliant on employment for about 50% of their income and nearly a third from farming, while only farms with over 100 acres generate more than half their household income from agriculture.

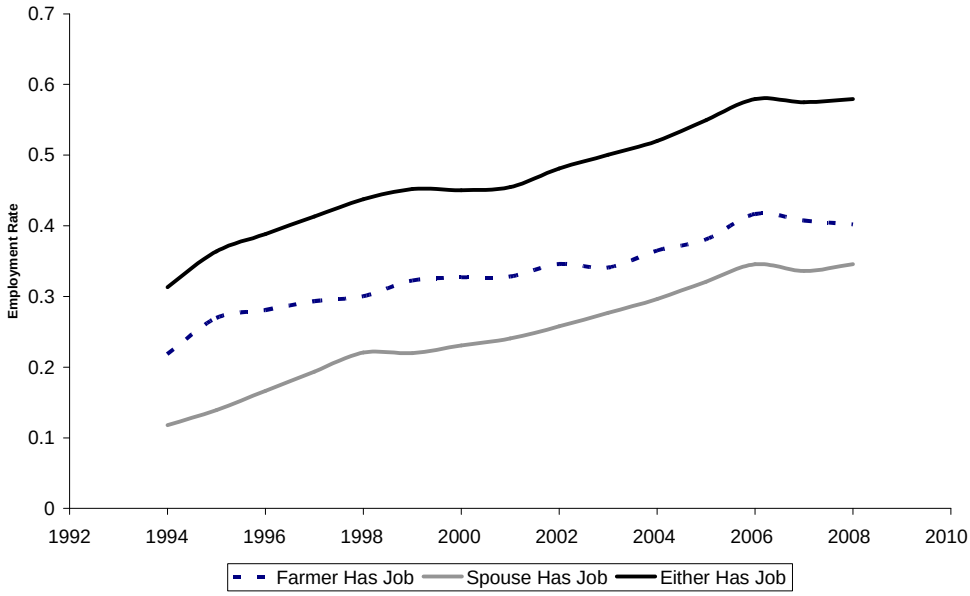
Table 4: Sources of Income by Farm Size (% of gross income), 2004

	Non-farming	Less than 30 acres	30 and less than 50 acres	50 and less than 100 acres	100 acres and over
Employment	68.9	62.9	58.8	47.4	30.8
Pension	5.2	1.4	2.4	1.5	1.1
Self-Employment	9.6	8.1	8.8	4.6	5.1
Farm	0.0	7.6	13.5	31.9	51.8
Investment	0.7	1.5	1.6	0.5	0.6
Rental	0.2	0.3	1.1	0.4	0.6
Other	1.4	1.1	1.2	1.9	1.3
In-Kind	1.4	0.8	0.7	0.2	0.2
Social Welfare	12.1	15.9	11.8	11.1	8.1
Other Transfers	0.5	0.4	0.1	0.5	0.4
Taxes	15.5	10.1	11.4	9.5	8.9

Source: CSO Household Budget Survey

We see from the trend in off-farm employment post 2005 that this trajectory of rising off-farm employment increased until 2008. Thus the conclusion that we can draw is that farm household income and welfare has been affected more and more by what has been happening in the wider economy.

Figure 1: Trends in Off-Farm Employment



Source: National Farm Survey

2.2 Poverty

The Survey of Income and Living Conditions collected by the CSO allows us to look at the difference in incomes post 2005 comparing urban and rural. The reported numbers unfortunately does not allow us to look differentially at farm households and to assess trends in poverty. Table 5 highlights the most recent differential in equivalised (that is adjusted for household size) disposable income (ie after taxes and benefits) between urban and rural households. Adjusted for household size, we see that rural incomes have remained at about 84% of urban incomes during the period 2006-2008.

Table 5: Urban and Rural Incomes post 2005 (Average Equivalised Household Disposable Income)

	2006	2007	2008
Urban	22586	25203	25928
Rural	18963	20890	21785
Ratio	0.84	0.83	0.84

Source: CSO Survey of Income and Living Conditions

Table 6 reports the trend in poverty headcount or the proportion of people living in households below 60% of median equivalised disposable income.

Although trending downwards, reflecting the lower income situation amongst rural households, the proportion of people in poverty is about 50% higher in rural areas.

Table 6: Poverty Statistics (Poverty Headcount)

	2003	2004	2005	2006	2007	2008
Urban	18.9	16.6	16.0	14.3	15.1	11.9
Rural	21.0	24.1	22.5	21.5	18.9	18.7
Ratio	111	145	141	150	125	157

Source: CSO Survey of Income and Living Conditions

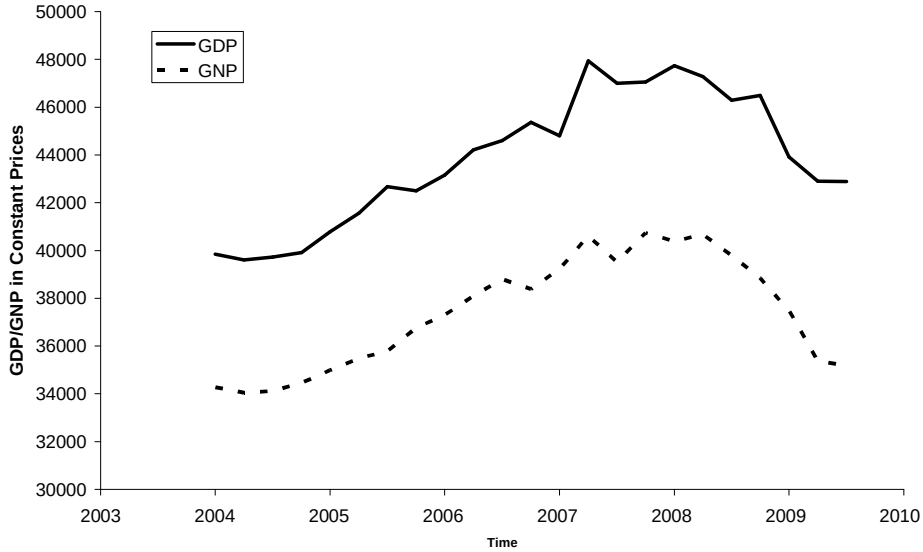
3. Macro-economic change 2005-2009

In this section we consider some of the macro-economic changes that have affected the Irish economy from the peak of the boom to the current recession.

3.1 Economic Growth

As is well documented, Ireland experienced a major growth phase, the Celtic Tiger from the mid-1990's to the end of 2007. Figure 2 outlines the more recent experience from 2004 to 2009, comparing in constant prices the trends in total GDP and GNP per quarter. The period to Q3 2009 saw a fall in GDP, a measure of national output, of 10.5% from its peak in Q2 2007 and a fall in GNP, a measure of national income, of 13.6% from its peak in Q4 2007. At this point real GDP was equivalent to the value in Q4 2005 and GNP, equivalent to the value in Q1 2005. The ESRI expect that at the lowest point of the cycle in 2010 that real GNP per capita will fall to 2001 levels.

Figure 2: Key Macro-Economic Indicators 2004-2009 (GDP/GNP per quarter)



Source: Central Statistics Office National Accounts.
Note: GDP and GNP are expressed in Constant Prices.

In Table 7, we compare the different driving forces of economic growth as measured by the proportional change in the component of income relative to the proportional change in total income. The observed trend is that from 2005-2007, most growth came from increases in domestic consumption arising to a large degree from borrowing as witnessed by trade accounting for a negative contribution as imports grew at a faster rate than exports. Investment, largely in the property market was the biggest driver in 2005 and second highest in the other years. Growth in government consumption was positive in each year and relatively stable, while trade returned to a positive source of growth in 2007 and 2008. Comparing with earlier periods, the high growth period 1996-2000 was marked by high investment, but more in productive capacity rather than property. The slower growth phase in the first 2 years of the decade saw lower investment and consumption, but high trade related growth. In the 2003-2004 period we saw the increase in largely property investment contributing to growth with trade falling as a driver.

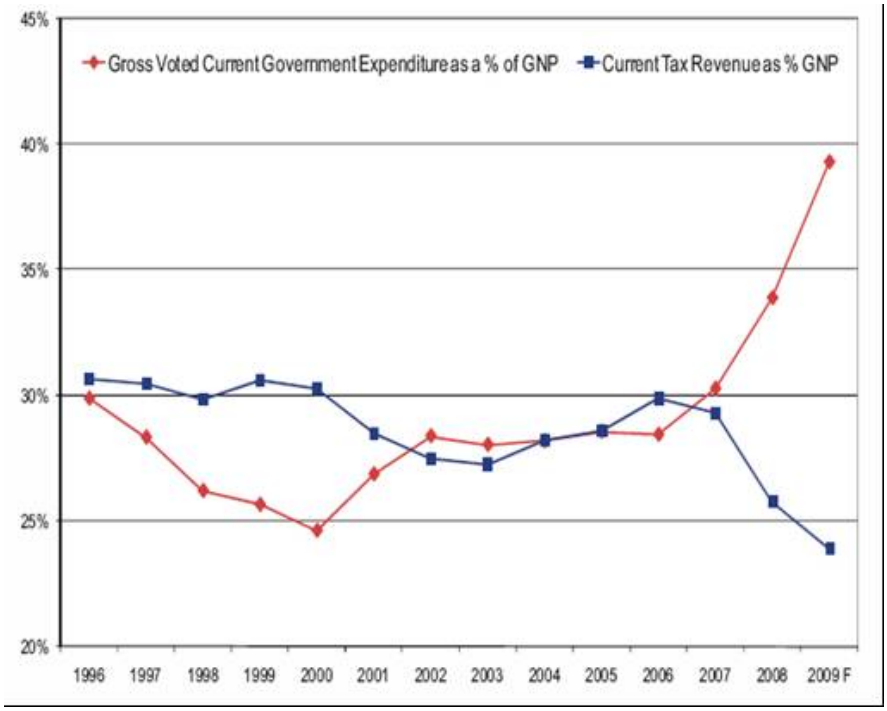
Table 7: Sources of Economic Growth

	1996-2000	2001-2002	2003-2004	2005	2006	2007	2008
Consumption	4.26	2.3	1.65	3.2	3.2	2.9	-0.5
Government	0.92	1.25	0.2	0.6	0.8	1	0.4
Investment	3.34	0.25	1.9	3.9	1.5	-0.1	-3.8
Trade	0.98	2	0.85	-1.6	-0.6	2.8	0.7

Source: CSO National Accounts, ESRI Quarterly Economic Commentary
Note: 2009 figures are to quarter 3.

Public Finance

Figure 3: Public Finances



Source: Central Statistics Office National Accounts.

Figure 3 details the trends in the public finances as a percentage of GNP since the mid 1990's. The period to 2000 was marked by substantial budget surpluses as the state ran down the national debt accumulated during the 1980's and early 1990's with the years to 2007 marked by a balanced budget, further reducing the service cost of the national debt to the lowest level at 4.5% of tax revenue in 2007. However the onset of the downturn in 2007 saw a worsening public finance position, with current expenditure

increasing by 33% as a percentage of GNP and revenue falling by 11% from 2007-2008.

Table 8: Sources of Public Finance Change

			Percentage change	
Revenue	2007	2008	2008	2009E
Income Tax	13572	13177	-2.9	-9.4
VAT	14966	13430	-10.3	-21.3
Corporation Tax	5838	5066	-13.2	22.6
Excise	6391	5443	-14.8	-20.2
Stamp Duty	3186	1651	-48.2	-49.9
Capital Gains Tax	3106	1430	-54.0	-68.4
Capital Acquisition Tax	392	332	-15.3	-19.2
Customs	266	248	-6.8	-22.2
Levies	1	1	0.0	0.0
Total	47718	40778	-14.5	-16.7
PRSI	7721	7983	3.4	
Health Contribution	1298	1327	2.2	
Training Fund Contribution	408	413	1.2	
Other	3023	3544	17.2	
Total Revenue	60168	54045	-10.2	
Total Expenditure (Net Voted)	36959	40757	10.3	13.8

In Table 8, we look at the sources of this change. Between 2007 and 2008, all sources of tax revenue fell bar some social insurance contributions. This trend continued into 2009 with further declines. The greatest declines however occurred in areas related to consumption and investment. The biggest falls have occurred amongst Stamp duty and Capital Gains tax at around 50% or higher falls per annum reflecting respectively the decline in house purchasing and the fall in both property and financial asset values. VAT and Excise duties fell over 10% between 2007-2008 and about 20% between 2008-2009, reflecting the decline in consumption. Meanwhile expenditures have grown at more than 10% per annum in 2008 and 2009, with growth particularly focused on social welfare.

3.3 Prices and Assets

We now consider changes in prices and assets. Firstly we consider the financial assets of the household sector. 2005 and 2006 saw financial assets grow at about 15% per annum, reflecting the strong economic position and the government incentivised savings instrument, the SSIA. However from 2007 we see declines with financial assets of the household sector falling by 8% in 2008. However the growth in financial liabilities grew

at a faster rate in 2004 and 2005 at over 20%, driven by the property boom. Financial liabilities continued to grow into 2008, seeing net financial assets fall by 35% between 2004 and 2008.

Table 9. Prices and Assets

Indicator	2004	2005	2006	2007	2008
Household Sector Net Financial Assets (€b)					
Assets	234	269	308	308	283
Liabilities	110	140	168	191	201
Net Financial Assets	124	129	140	117	81
House Price vs GDP					
House Price (1997=100)	227	232	262	249	225
GDP (1997=100)	171	180	186	199	191
Prices					
2004=100					
Ireland	100	102	104	107	110
Euro zone	100	102	105	108	111
1996=100					
Ireland	129	132	136	140	144
Euro zone	116	119	122	124	128

Source: CSO National Accounts

Looking at house prices, we see that by the peak in late 2006 early 2007 that they were 262% of the 1997 value, while GDP was only 186%. Unsurprisingly we have seen a large correction to this market in the subsequent period.

In terms of the overall cost of living and relative competitiveness, the period since 2004 did not see a dramatic difference between Ireland and its euro zone partners, with inflation growing by about 10% in both. However when one takes 1996 as the base, we see a significant divergence with Irish prices growing by 29% 1996-2004 compared with 16% in the wider euro zone resulting in lost competitiveness. The large price falls of 5.9% in the year to November 2009 is likely to have reduced this competitiveness gap.

3.4 Budgetary Changes

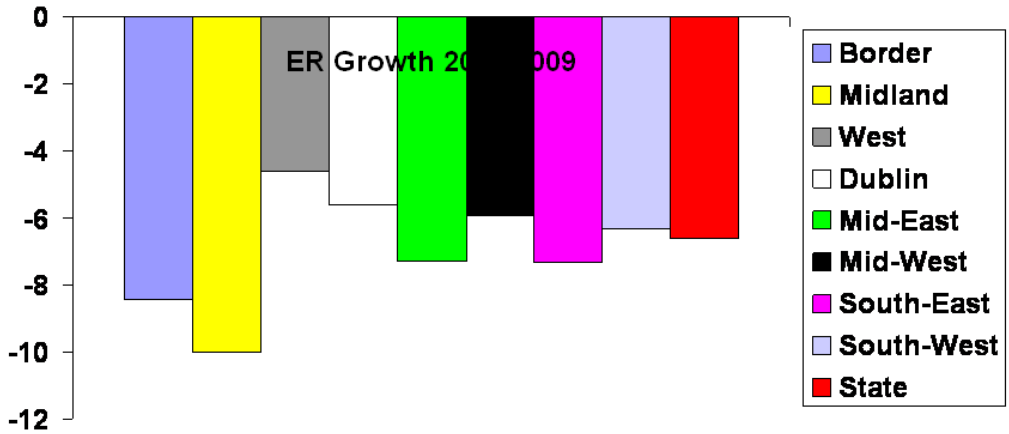
2009 has seen significant policy responses to the economic downturn including 3 budgets in 12 months increasing tax revenues, reducing public sector pay and some social welfare benefits. The ESRI found that while

2009 budget had gains for the bottom of the distribution and losses for the top of the distribution, the 2010 budget due primarily to the social welfare cuts for the young unemployed and families with children the bottom are likely to lose. At the top of the distribution, while incomes are expected to fall, relative to a situation where policies (tax credits and social welfare rates) followed prices and wages down by the same proportion, they are slightly better off. In other words if full indexation applied, the top of the distribution would be worse off than they are, while the bottom of the distribution are more worse off than under full indexation.

3.5 Labour Market

Accompanying the decline in macro-economic fortunes, we have seen a corresponding decline in employment. Figure 3 reports the employment rate growth in Ireland and by region in the period 2007-2009. We see a fall of about 6% in the country as a whole over the period, with the biggest falls occurring in rural areas in the Border rural region at nearly 10% and Midland rural region at about 8%. Dublin and the West of Ireland suffered the smallest declines at 4-5%.

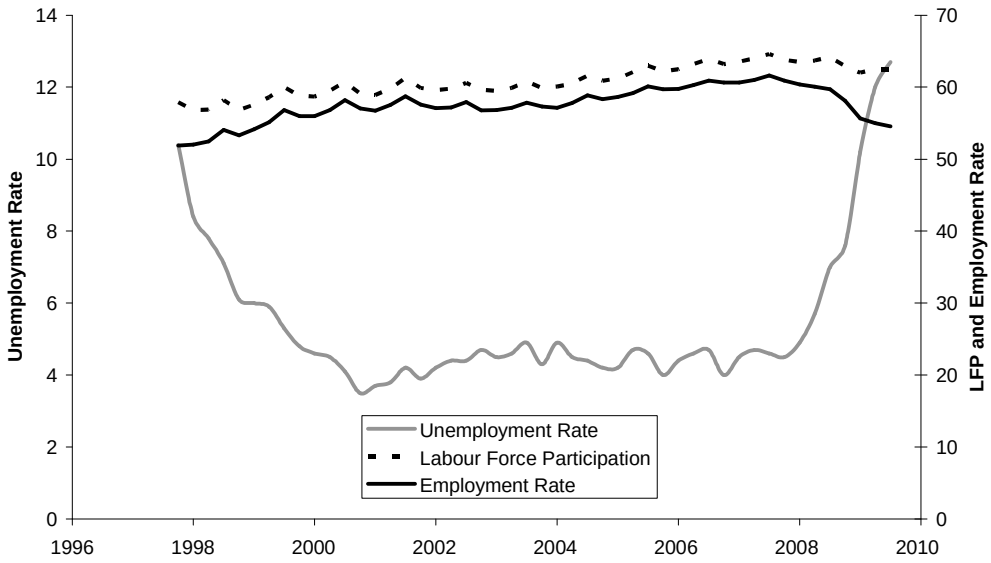
Figure 4: Regional Change in Employment 2007-2009



In figure 4, we report the long term trend in the Labour Market. The unemployment rate is defined as the number of people out of work and looking for work as proportion of the labour force. The labour force participation rate on the other hand is the proportion of adults in work or looking for work as a percentage of all adults, while the employment rate is the proportion of adults in work. In terms of unemployment, we see the rapid increase in unemployment since late 2007, returning the country to unemployment levels last seen in the 1990's and in fact is higher than any

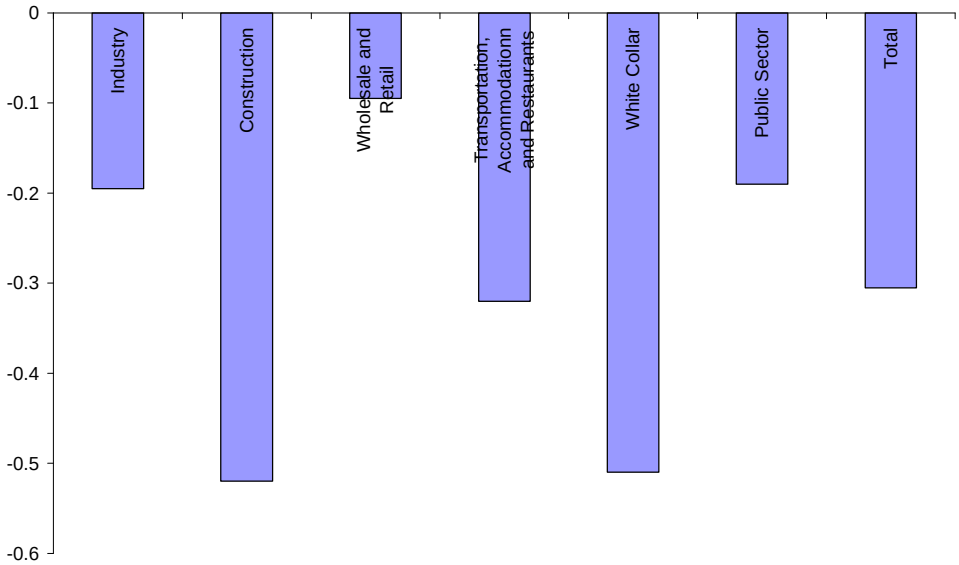
quarter of the Quarterly National Household Survey (QHNS) collected first in quarter 4 1997. The Labour Force Participation rate has declined slightly since its peak quarter 3, 2007 as we see a discouraged worker effect. The employment rate in quarter 3 2009 had fallen to below 55% of adults compared to over 61% in Q3 2007, a level not seen since 1999. Thus in the space of two years, the employment growth of a decade was wiped out.

Figure 5: Labour Force Participation, Employment and Unemployment



Turning now to farmers, we report analysis of Meredith (2009) who looked at the change in off-farm employment of those whose primary employment in the QHNS in Q2 2008 was farming. This figure shows that 30% of farmers lost their off-farm jobs. This was particularly stark for those working in construction, where more than 50% of those with construction jobs lost them in 12 months, declining from 6500 in 2008 to about 3000 in 2009. The proportional decline was similar for those engaged in white collar jobs such as insurance or real estate, seeing a fall from 2500 to just over 1000 in that year. The rate of job loss was higher for farmers in construction with 53% of farmers losing their construction jobs compared to 33% of the overall population in that period.

Figure 6: Change in Employment for Part-time Farmers 2008-2009



Source: Meredith (2009)

3.6 Wages

There has been a lot of debate in relation to pay cuts in different sectors. The CSO collects quarterly Earnings, Hours and Employment Costs Survey. This is being rolled out across all sectors and records the change in hours worked together with hourly and weekly wages. In Table 4, we report trends since 2005 drawing upon this data and other earnings surveys for all employees. The highest paid sectors at the end of 2008 were respectively Utilities, Financial Services and the Public Sector. The lowest paid sectors were hospitality sector and the motor trade. While we do not have the most recent data yet for all sectors, nearly half of the sectors for which we have 2009 Q2 data saw a fall in average weekly earnings. The biggest observed fall was in financial services, followed by mining and quarrying. Over the period of the survey, incomes across most sectors rose by 10-15% which is still ahead of the increase in the cost of living of 7% over this time as measured by the CPI above. This however of course only relates to those in work and relates only to averages. These numbers do not reflect the later budgetary falls in wages nor the pension levy paid by public sector workers, which combined is a fall of over 10%.

Table 10: Average Weekly Earnings per Sector

																Change	
Year	05	06	06	06	06	07	07	07	07	08	08	08	08	09	09	2005-2009	2008-2009
Quarter	q4	Q1	q2	q3	q4	q1	q2	q3	q4	q1	Q2	q3	q4	q1	q2		
Public Sector	869	868	879	883	899	908	927	918	937	941	943	945	967	971	973	112	103
Industry	712	705	706	703	743	744	752	730	780	780	783	779	817	812	788	111	101
Mining/quarrying	826	854	832	861	1015	854	888	846	952	904	925	892	939	835	813	98	90
Manufacturing	688	675	679	679	713	719	724	708	755	752	750	748	789	784	758	110	101
Food and Beverages	684	665	664	661	710	684	682	673	734	702	688	702	766	725	0	106	103
Utilities	1028	1118	1093	1018	1078	1086	1128	1007	1082	1143	1189	1157	1137	1165	1131	110	99
Finance/ insurance	859	964	1020	914	981	1081	1083	897	988	1156	1119	947	1021	1033	973	113	84
Motor trades	580	577	596	600	633	632	635	637	647	651	633	630	631			109	97
Wholesale trade	686	683	699	706	724	714	716	723	718	725	737	734	748			109	103
Retail trade	686	683	703	716	718	715	736	746	772	778	755	758	789			115	101
Hotel and restaurant	433	426	428	433	437	430	444	449	462	447	458	474	482			111	108
Land transport	666	665	673	675	710	706	720	716	705	757	743	725	746			112	98
Communications	864	812	852	861		888	907	911		977	920	926				107	95
Other business	689	700	692	700	726	714	728	733	729	737	721	703	734			106	100
Wholesale, retail	669	666	684	694	706	701	714	721	734	740	728	728	751			112	101
Transport	742	748	758	761		812	816	810		823	856	823				111	100
Real estate, Rental	780	809	807	843	863	835	860	863	868	854	844	839	886			113	104
Computing, R&D	714	721	703	721	739	763	767	766	774	798	816	818	850			119	106
Distribution	666	664	674	680	710	695	709	709	727	727	719	714	749			113	103
Business services	664	664	667	672	713	692	705	701	723	720	715	707	748			113	104
Construction	776	744	762	769	794	784	800	819	842	829	814	821	822			106	99

Source: CSO

Note: The change in income is expressed in relation to the last income statistic available.

3.7 Farm Commodity Prices and Output

In this section we report some of the trends in farm commodity prices and output over time. In Table 11, we report the trend in farm commodity prices over time. Manufacturing wages rose by 19% (92%) from 2004 to 2009 (1995-2009 in brackets), while inflation rose by 9% (43%). Over the same period input costs rose by 17% (41%), while prices for milk fell 19% (27%), cattle rose 4% (11%), sheep fell 17% (rose 12%) and cereals fell 8% (6%). 2008-9 was a particularly difficult year with falls in the prices of all commodities except cattle, with milk falling by 32%. While the individual year's results are worrying, what is more worrying is the longer term cost-price squeeze, where prices in all sectors have grown at a slower rate than inflation, while input costs have grown at a similar rate, thus squeezing margins.

Table 11: Farm Commodity Prices

Indicator	2004	2005	2006	2007	2008	2009	2008-9	2009-(1995=100)
Prices								
Manu. Wage	100	103	104	110	114	119	104.4	192
CPI	100	102	107	112	116	109	94.0	143
Input Costs	100	104	109	116	138	117	84.8	141
Milk	100	98	95	116	118	81	68.6	73
Cattle	100	102	110	108	124	129	104.0	111
Sheep	100	93	95	98	102	85	83.3	112
Cereals	100	96	110	184	132	122	92.4	94

Source: CSO Agricultural Prices

In Table 12, we report trends in volumes. Here we see that volume in all sectors is down versus 2004. Output is down 3% in 2009 relative to 2008. Over both periods, we observe large falls in sheep and cereals.

Table 12: Farm Commodity Volumes

Volume	2004	2005	2006	2007	2008	2009	2008-9
Cattle	100	100.0	97.7	101.1	97.4	96.9	0.99
Pigs	100	99.9	102.5	99.1	103.4	97.9	0.95
Sheep	100	102.3	99.6	92.1	83.7	75.2	0.90
Milk	100	95.6	99.2	98.3	95.1	93.3	0.98
Crops	100	99.8	96.4	88.0	90.5	86.2	0.95
Output	100	98.1	97.9	96.5	95.3	92.5	0.97

Source: CSO Agricultural Output

Turning to the value of output and components of value added, we report incomes relative to 2005 due to change in the accounting of subsidies in

2005. The value of cattle output, the only sector to increase the value of outputs, is slightly higher than in 2005. However the growth in output value is still lower than the increase in inflation of 7% over the period. The value of output in the pigs and crops sector is constant in nominal terms and thus 7% lower in real terms, but 15% lower than the growth in wages over the period. Sheep has had a secular decline in the total value of output over time due to the fall in volume combined with lower prices. While milk and cereals had a substantially lower value of outputs in 2009 than in 2005, this reflects primarily the price collapse in 2009. For the other years growth in output value outstripped wage and price growth.

Table 13: Farm Commodity Value

Value	2005	2006	2007	2008	2009
Cattle	100	106	106	118	105
Pigs	100	110	100	114	100
Sheep	100	99	95	89	83
Milk	100	99	125	122	80
Crops	100	106	116	117	100
Cereals	100	127	192	159	76
Output	100	104	113	116	94

We now consider trends in the components of value added in agriculture. The total value of output in 2009 was 6% below that in 2005, down from 16% higher in 2008. The value of contract work was up over the period and up slightly over the year, resulting in total agricultural output down 5% over the period. Although total output has fallen in value, inputs or intermediate consumption is up 11% over the period but down 9% since 2008. This squeeze of rising costs and falling output value has resulted in a 43% fall in gross value added since 2005 and a similar fall since 2008. Fixed capital consumption or the depreciation associated with capital investments rose over time increasing by about 15% since 2005 or about twice the inflation rate. Net value added which is gross value added minus fixed capital consumption, due to falling gross VA and rising depreciation saw a spectacular fall of 83% since 2005 and 71 percentage points in 2008-2009.

With net subsidies 10% down over the period, factor income which combines value added with net subsidies fell by 10% compared with an increase in the cost of living of 7% and of manufacturing wages of 15%. Comparing over the longer term factor income in nominal terms was 75% of the 1995 value in 2009 compared to an increase in manufacturing wages of 92% and the cost of living of 43%.

Table 14: Components of Agricultural Value Added

Value	2005	2006	2007	2008	2009
Output	100	104	113	116	94
Contract Work	100	101	107	104	105
Agricultural Output	100	104	113	115	95
Intermediate Consumption	100	106	110	122	111
Gross Value Added	100	99	119	99	57
Fixed Capital Consumption	100	103	108	115	114
Net Value Added	100	96	127	89	17
Other Subsidies Less Taxes on Production	100	87	88	91	90
Factor Income	100	90	100	90	67
Operating Surplus	100	88	98	88	61

Source: CSO Agricultural Output
Note Value of Outputs not reported prior to 2005 as value contained subsidies

4. Outlook

In addition to the budgets, the Government has enacted significant policies to stabilise the financial sector and to reduce broader government expenditure. Given that further expenditure reductions will be required to return the economy to the EMU requirements of a 3% deficit, there are limits to the capacity of the state to drive economic growth through government consumption. Over the next 5 years the focus will be on achieving macro-economic stability rather than growth.

There are a number of reasons why the household sector will not be able to be a major driver of economic recovery. Firstly given the high growth in unemployment, using the ILO measure seeing a rise from 4.8% in January 2008 to an estimated 12.5% in November 2009, while the numbers (which include part-time and seasonal workers) registered for unemployment benefits rose from 171,000 in November 2007 to 423,000 in November 2009, significant numbers of the population have suffered income losses due to unemployment. While unemployment levels have stabilised, it is not expected to fall until 2011. Many of those in work in both the public and private sectors have also seen wage rate falls. The fall in net asset holdings of households is also likely to result in lower spending. This is witnessed by the increase in the savings rate from 2.3% of disposable income in 2007 to about 11.5% in 2009. Higher savings rates are likely to continue until the economy picks up.

Therefore the only real driver for economic growth is via the export sector. Ireland remains one of the worlds largest trading economies as a percentage of GDP. Also the export performance during the downturn has

been strong relative to trading partners. Falling consumption has led to quite a large fall in imports resulting in an improved balance of payments. Key to returning to export led growth are a pick up in the global economy which we are starting to see and an improvement in our competitiveness. Competitiveness is driven by two things, the costs we charge and our productivity. While there have been reductions in the cost base through price and wage cuts, further concentrated efforts particularly in relation to competition and rental values is necessary to restore competitiveness. Vitally important however will be to return to high productivity growth. The consumption and construction led boom of the mid 2000's saw a very low rate of productivity growth, relative to competitors, as employment and economic growth occurred in lower productive sectors of retail, construction and related services. This was particularly a problem for rural areas who were disproportionately affected by this. Renewed focus is required in achieving the targets set by the Smart Economy initiative to return to this more productive, export growth.

The European Commission in its Autumn macro-economic forecast acknowledged that the European economy was at a turning point incorporating its first upward adjustment in forecasts in two years and signs of improvement in the EU economy via confidence indicators and real economic data. However while there are some optimistic changes, the reduction in fiscal stimuli and a smaller change in total stocks means that the recovery in 2010 will be fragile. Exports from Europe are expected to increase but relatively slowly in 2010. Like in Ireland, domestic demand is likely to remain weak in 2010. However growth is expected to quicken in 2011. Unemployment is however expected to continue to rise across the EU. Overall prices are expected to rise by about 1% in 2010. There remain risks to improved growth particularly from the weak financial sector and a continuing tight credit market.

In the UK, the largest market for Irish food exports, consumer confidence is expected to remain weak as the recovery is relatively slower than other countries. In addition reduction in the large fiscal deficit is likely to reduce disposable income further in the medium term. Consumer confidence is expected to improve 2011. With the large depreciation of sterling of about 10% due to concerns about the UK financial sector, imports are expected to remain flat in 2010, following a large fall in 2009.

FARM INCOMES 2008

L. Connolly A. Kinsella B. Moran G. Quinlan
Rural Economy Research Centre,
Athenry, Co. Galway.

1. Overview of 2008

Family Farm Income (FFI) declined from €19,687 per farm in 2007 to €16,993 in 2008 – a decline of 13.7%. The decline resulted from increased costs as gross output per farm increased by 3.7% but direct and overhead costs increased by 16.4% and 11.3% respectively in 2008, resulting in an overall increase of 13.8% in total costs. The decline of 13.7% in FFI in 2008 following an increase of 18% in 2007 and a decline of 26% in 2006 show the volatility in farm incomes following decoupling of direct payments in 2005 compared to the relative stability, albeit at low income levels, in the previous decade of coupled payments and product price supports mechanisms (Table 1).

Changes in FFI ranged from minus 52% on the Mainly Tillage System to plus 5% on the Cattle Other farms and by minus 10% on Mainly Sheep farms. There was a decline of 24% and 10% in FFI respectively on the Dairying and Other and Specialist Dairying Systems. Nationally average direct payments increased by 6% from €16,524 per farm in 2007 to €17,468 in 2008. There was increases in direct payment levels across all systems. In 2008 direct payment and subsidies contributed 31% of Gross Farm Output but for the first time in the history of the NFS, total direct payments actually exceeded Family Farm Income by 2.7% viz total direct payments of €17,468 compared to FFI of €16,993. The predominant reason for the change from the 2007 year, when direct payments contributed 84% to FFI, was the decline in the contribution of market output to total gross output due to decline in milk and cereal prices in 2008.

The 2008 year showed record levels in net new investment with an increase from €9,937 in 2007 to €15,506 per farm in 2008, an increase of 56%. This large increase in on-farm investment in 2008 had been forecast in late 2007, when a survey on the NFS sample indicated this increase in planned investment for 2008. Average investment on specialist dairy farms increased from €23,534 per farm in 2007 to €40,695 in 2008 i.e. by 73% resulting mainly from investment to comply with environmental regulations and slurry control and storage. Investment on dairy and other farms increased from €15,232 in 2007 to €23,882 in 2008, an increase of 57%. Cattle farms also increased investment from 2007 to 2008 – with Suckler farms and Cattle Other farms increasing by 49% and 52% respectively. However, investment on tillage farms showed a slight decline

in 2008 following a huge increase (+142%) in 2007. The incidence of off-farm employment of holder and/or spouse declined in 2008 from 58% in 2007 to 56% in 2008, with the holder having an off-farm job on 40% of all farms nationally.

2. Trends in Farm Income

In the Teagasc National Farm Survey (NFS), the principal measure of the income which arises from the year's farming activities, is Family Farm Income per Farm (FFI). This is calculated by deducting all the farm costs (direct and overhead) from the value of farm gross output.

Table 1 shows average Family Farm Income (FFI) per farm in current terms over the period 2000 to 2008.

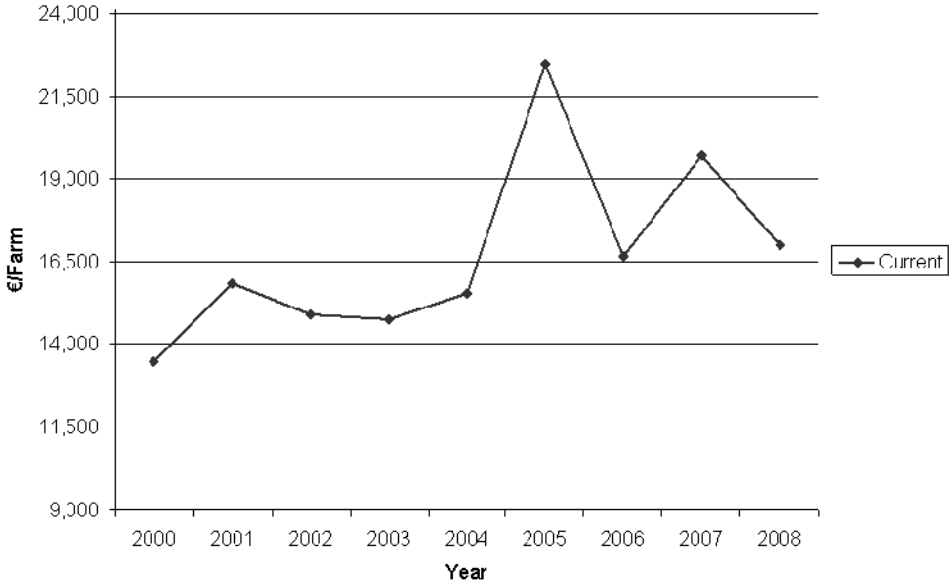
Table 1: Family Farm Income (FFI) €/farm 2000-2008

	FFI €/farm
2000	13,499
2001	15,840
2002	14,917
2003	14,765
2004	15,557
2005	22,459
2006	16,680
2007	19,687
2008	16,993

Source: National Farm Survey

The data shows farm income in 2008 was 19% above that for 1995 in current terms. The trend in FFI in current terms is shown in Fig 1. The main reason for the increase shown from 2004 to 2005 years is the once-off carryover of arrears of direct payments from 2004. However this increase was reversed in 2006 as shown in Fig. 1, with incomes in 2008 declining to the 2006 level, following the more profitable 2007 year.

Figure 1: Family Farm Income per Farm (€) 2000- 2008



Source: National Farm Survey

3. Average Family Farm Income

Income discussed so far relates to average farm income and it is important to point out that the average national FFI figure conceals the wide range of variation that exists across the different farm systems and sizes. The data in Table 2 summarises the average levels of Family Farm Income per farm, which were achieved in 2008 across the range of farming systems and size groups. When evaluated in conjunction with the main tables in the National Farm Survey report 2008 the following conclusions can be drawn.

- The results show that there is a positive relationship between farm size and FFI. On many farms, particularly in the intermediate size groups, income per hectare also increases with farm size. However, smaller farms cannot compensate for their lack of scale and therefore with the exception of the Specialist Dairy system, farms under 20 ha had extremely low incomes.

- Similar to previous year's results, the average FFI on the dairy and tillage systems are far higher than those on cattle and sheep systems of farming. Average farm income on the larger Cattle Other Systems was €59,219 per farm, compared to €102,605 on the largest Specialist

Dairying System. The 2008 year was not a good one for tillage farmers with income on the largest size group at €49,156 compared to €116,500 in 2007.

- As in previous years the average FFI for many sub-groups, especially in the Cattle and Sheep systems is below the average agricultural wage rate of €17,122 for 2008, so that those farm families do not receive a full return for their labour and no return on management or investment.

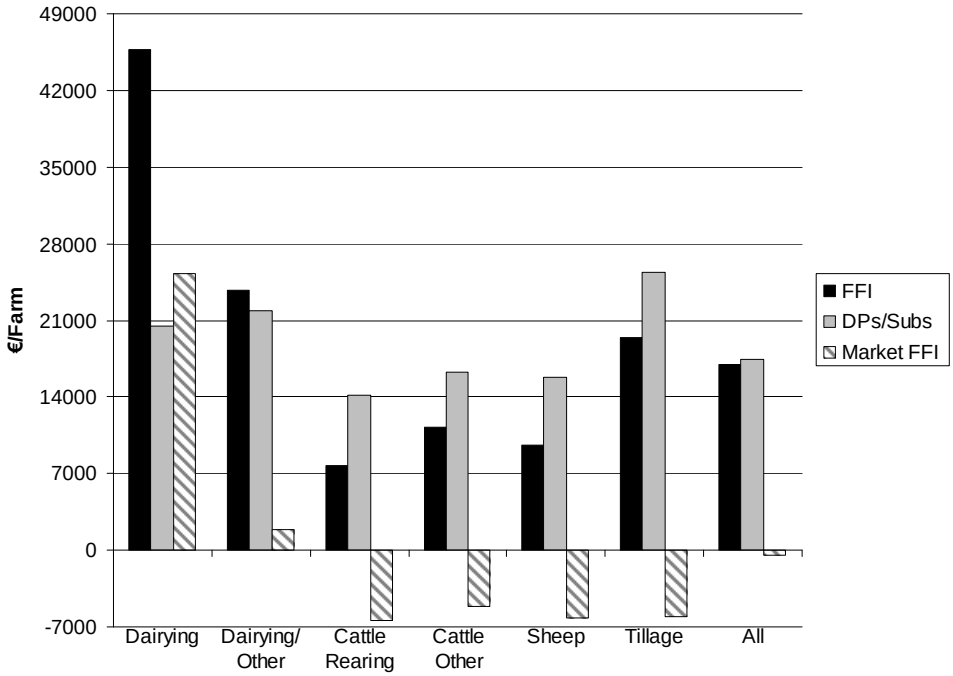
Table 2: Family Farm Income (FFI) by System and Farm Size (UAA) – 2008

Size (Ha)	<10	10-20	20-30	30-50	50-100	> 100	Hill Farms	All
				€/Farm				
Dairying	-	-	20900	46100	67000	102600	31400	45700
Dairying/Other	-	-	-	17700	45200	65000	-	23700
Cattle Rearing	-	3400	3800	12300	24200	-	8700	7700
Cattle Other	3200	4300	8100	15000	26400	59200	6400	11200
Mainly Sheep	-	3900	6700	15400	21300	31800	11100	9600
Mainly Tillage	-	-	-	14300	25600	49200	-	19400
All	2700	4300	8700	22500	39900	59800	11400	17000

Note: Where there are less than 10 farms in any given cell this is shown as - resulting in the "All" figure not corresponding to the individual figures shown.

The dependency of each system on direct payments is shown by excluding direct payments from FFI, resulting in a market based FFI (Fig. 2) by farm system. It is clearly evident that market output for the drystock systems is not sufficient to cover production costs and that a major contribution of direct payments is needed to make up the shortfall. In the current decoupled situation farmers need to seriously examine their production systems in an effort to cut costs and at a minimum retain their direct payments and subsidies

Figure 2: FFI, Direct Payments and Market FFI by Farm System – 2008



4. Gross Output and Costs

The efficiency and competitiveness of Irish agriculture can be examined by calculating the costs of production for the main products. On a national basis 70% of gross output was absorbed by total costs in 2008. If direct payments are excluded from gross output, then costs as a percentage of the market based value of gross output in 2008 was just over 100%. This has increased from 91% and 99% in 2007 and 2006 respectively, due mainly to the decline in market based output in 2008.

In 2008 only 18% of farms were capable of keeping total costs below 50% of output, lower than that of 2007 (23%), whereas just over 48% of farms had costs which were above 70% of output.

5. Analysis by Farming System

- The 2008 year saw a return to lower incomes compared to the record 2007 year. Following years of relatively static milk prices, the increase in the farmgate price of milk in 2007 resulted in record profit margins for the sector. However, average income on specialist dairy farms declined from €51,017 in 2007 to €45,732 in 2008, a decline of 10%. Total farm

output increased by 7% with milk output increasing by 6%. However, direct and overhead costs both increased by 22% and 15% respectively resulting in a total cost increase of 19%.

- Farmers in the Dairy/Other System also saw decreased incomes in 2008 with FFI per farm declining by 23% to €23,733. This decline was due to lower milk and livestock output as production costs remained the same in both years.

- The 2008 year showed no change financially for suckler farmers with incomes on the Cattle Rearing System of €7,739 per farm in 2008, virtually identical to the 2007 figure of €7,702. Gross output increased by 10%, but there was an increase of 16% and 13% respectively in direct costs and overhead costs. This was the main reason for the static FFI. Direct payments per farm for this system increased by 11% in 2008.

- Income on the Cattle Other System increased by 5% to €11,200, mainly as a result of output increasing by 11%. Direct payments increased by 5% to €16,318 per farm contributing to gross output increasing by 11% giving an FFI per farm of €11,200. FFI on both the Cattle Rearing System and the Cattle Other System was still only 23% and 34% respectively of the Average Industrial Wage in the 2008 year (€32,951).

- Income on the Mainly Sheep System declined from €10,682 in 2007 to €9,593 in 2008, a decline of 10%. Total farm output for this system remained static. There was a 3% increase in direct payments for the Sheep System, with direct costs increasing by 7% and overhead costs also increasing by almost 4%.

- Incomes on tillage farms peaked at €40,611 per farm in 2007, but regrettably returned to below traditional levels in 2008 at €19,380 per farm – a decline of 52%. The Mainly Tillage System includes farms which can have a high proportion of output from livestock, as well as from crops. Direct and overhead costs on tillage farms increased by 22% and 17% respectively in 2008 resulting in total costs increasing by 20% in 2008. This increased in production costs combined with a decline of 15% in crop output value, resulted in tillage farmers 2008 incomes declining to their lowest level in recent years.

The above summary in relation to farming systems refer to changes in per farm output, costs and incomes and does not allow for year to year changes in farm size. However the effect of differences in farm size is

shown in Table 3, which shows average FFI per hectare of land farmed across the different farming systems. Average FFI/Ha for all systems in 2008 at €463 showed a decline of 16% on the 2007 figure of €553/ha. There was a marked change when compared to previous years results with dairying yielding the highest FFI/ha, followed by Dairying Other and Cattle Other with Cattle Rearing System yielding the lowest returns. The decline in returns to tillage farmers is again clearly shown in Table 3.

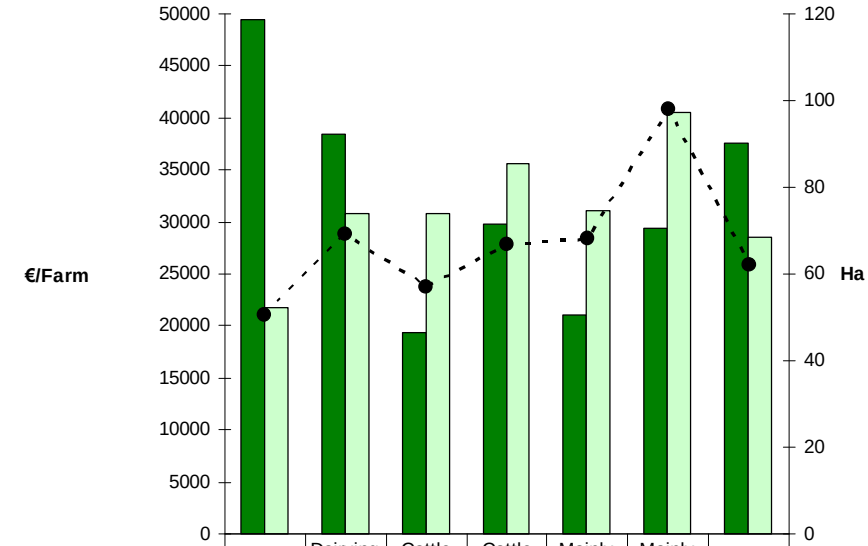
Table 3: Family Farm Income per Hectare 2007/2008

	2007 €	2008 €	% Change 2007/08
Dairying	1,134	961	-15
Dairying/Other	647	507	-22
Cattle Rearing	277	260	-6
Cattle Other	356	361	+1
Mainly Sheep	316	281	-1
Mainly Tillage	741	335	-55
All Systems	553	463	-16

6. Full-time and Part-time Farms

A full-time farm in the National Farm Survey is defined as requiring at least 0.75 standard labour units to operate calculated on the basis of standard man day (SMD) requirements, whilst part-time farms require less than 0.75 labour units. The number of SMD required by an enterprise varies according to the standard of the farm facilities. Farms are therefore divided into full-time and part-time on the basis of the estimated labour required to operate their business as distinct from labour available which is often in excess of that required. Data are also collected on the actual hours of labour input by farming system, as estimated by the farm operator. The actual labour input compared to the labour required on the basis of SMD provides an estimate of the degree of over or underemployment of labour for the main farming systems. The presence or absence of an off-farm job is not taken into consideration in the definition.

Figure 3: FFI, Direct Payments for Full-Time farms by farm system - 2008



	Dairying	Dairying /Other	Cattle Rearing	Cattle Other	Mainly Sheep	Mainly Tillage	All
FFI	49404	38434	19413	29825	21047	29356	37590
Direct Payments	21734	30810	30739	35573	31126	40526	28497
Farm Size (Ha)	50.4	69.3	56.8	66.9	68.2	98.0	62.1

Full-time farms therefore represent the larger more commercial sector of farming and in 2008 accounted for just under 31.3% (or 32,800) of all farms represented. Data in Fig. 3 details FFI, direct payments and farm size for the full-time farms by farming system. Fifty six per cent of full-time farms were in the two dairying systems, with a further 9% in the Mainly Tillage System and the remaining 35% in the drystock systems.

The average FFI on full-time farms in 2008 was €37,590 compared to €43,938 in 2007– a decline of 14%. The decline was due to increased costs (+14%) as output also increased on fulltime farms in 2008. Specialist dairy farms had the highest incomes (€49,400), followed by Dairy and Other (€38,430) with Tillage farms averaging €29,400 per farm.

On 20% of full-time farms, the farmer had an off-farm job, whilst on 43% of farms the spouse had an off-farm job. Overall on 52% of full-time farms either the spouse and/or holder had off-farm employment. This has

increased from 49% in 2006 highlighting the growing importance of off-farm sources of income on the full-time farm sector but no change from 2007.

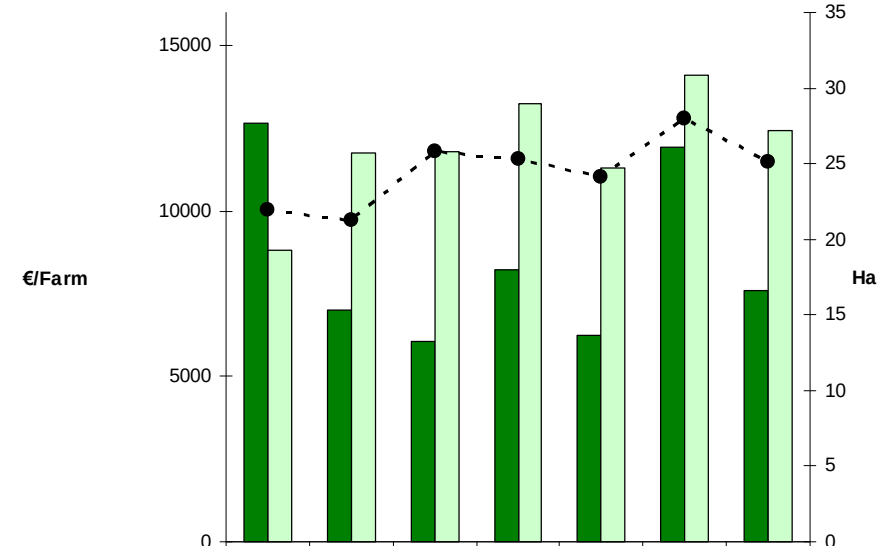
The total labour employed for all the full-time farms measured in actual labour units (on the basis of SMD) was 1.49, with 90% of this labour being family labour. The highest labour input was on the Specialist Dairying system, whilst the lowest was on the Sheep system, 1.59 and 1.29 respectively. The average farm size was 62.1 ha, ranging from 98 ha in the Tillage system to 50.4 ha in the Dairying system.

In 2008, 68.7% or 72,000 farms were part-time, with 87% in the drystock systems. The average FFI for all part-time farms was €7,580 (€7,993 in 2007) and this ranged from €12,634 on the Dairying System to €6,049 and €6,251 on the Cattle Rearing and Mainly Sheep system respectively. The average cash income on part-time farms was €11,380 in 2008 compared to €10,844 in 2007. Average direct payments and subsidies were €12,410 in 2008, or 164% of FFI. This compares to 143% of FFI in 2007, reflecting the general situation on part-time drystock farms where output from the market place is insufficient to cover total production costs.

On 58% of these part-time farms, either the farmer or spouse had off-farm employment (60% in 2007 and 63% in 2006). On 97% of farms there was another source of income – either from off farm job, pension or social assistance. The farmers on part-time farms were older (58 years) than those on full-time farms (52 years) and 63% were married compared to 77% on full-time farms.

Details of FFI, direct payments and farm size for part-time farms are detailed graphically in Fig. 4.

Figure 4: FFI, Direct Payments on Part-Time farms by farm system - 2008



	Dairying	Dairying/ Other	Cattle Rearing	Cattle Other	Mainly Sheep	Mainly Tillage	All
FFI	12634	7009	6049	8235	6251	11951	7580
Direct Payments	8833	11767	11792	13238	11288	14120	12410
Farm Size (Ha)	21.9	21.3	25.8	25.3	24.1	28.0	25.1

The total actual labour units for all the part-time farms was 0.87, with 99% of this labour being family labour. The highest labour input was on the Dairying/Other system while the lowest was on the Mainly Sheep system, 1.09 and 0.81 respectively. The average farm size was 25.1 ha, ranging from 28.0 ha in the Tillage system to 21.3 ha in the Dairying/Other system.

7. Income Distribution

The variation in incomes is further reflected in the income distribution shown in Table 4 for 2003 to 2008. This shows that percentages in each income category remained relatively static between 2007 and 2008, with the less than €6,500 category, increasing by two percentage points, while the higher income category (>€40,000) declined by three percentage points.

Table 4: Distribution of Family Farm Income 2003-2008 (%)

(€000)	< 6.5	6.5 – 13	13 – 20	20 – 25	25 – 40	> 40
			% Farms			
2003	39	22	14	6	10	9
2004	40	22	11	6	11	10
2005	24	24	15	7	12	18
2006	37	24	12	5	9	12
2007	39	19	11	5	9	16
2008	41	21	11	5	9	13

- For 2008, the percentage of farms with under €6,500 income increased from 39% in 2007 to 41% in 2008. The highest percentage of farms having income in the lowest income category.

- 22% of farms had an income from farming greater than €25,000 in 2008 compared to 25% in the previous year.

8. Analysis of REPS Farms

REPS farms had an average FFI of €18,339 compared to €15,869 on Non-REPS in 2008. An estimated 45% of farms received REPS payments in 2008, which is identical to the 2007 year. As was the case in previous years, 75% of farms which participate in REPS are in the three drystock systems, namely Cattle Rearing, Cattle Other and Mainly Sheep. Similar to 2007, 2008 saw a return to higher FFI on the Non-REPS Dairying system of €45,948 compared to FFI of €45,121 on the REPS dairying system. Income on Dairy and Other farms and Tillage farms was also higher on the non-REPS farms at €27,095 and €19,573 respectively compared to €19,782 and €19,243 per farm on the REPS farms. On REPS cattle farms (Cattle Rearing and Cattle Other) income was higher than on non-REPS farms with the REPS payment contributing up to €5,900 on these farms, being 47% of FFI. In 2008 income per farm for the Mainly Sheep system was higher on REPS farms than non-REPS farms, €13,431 as opposed to €4,429 on non-REPS, with the REPS payment contributing on average €6,752 to this system. A more detailed analysis of 2008 REPS farm data will be compiled and published later in 2009.

The following tables present the key information in relation to farms participating in REPS (Table 5) and those not participating in REPS (Table 6).

Table 5: FFI, Direct Payments for REPS farms by farm system - 2008

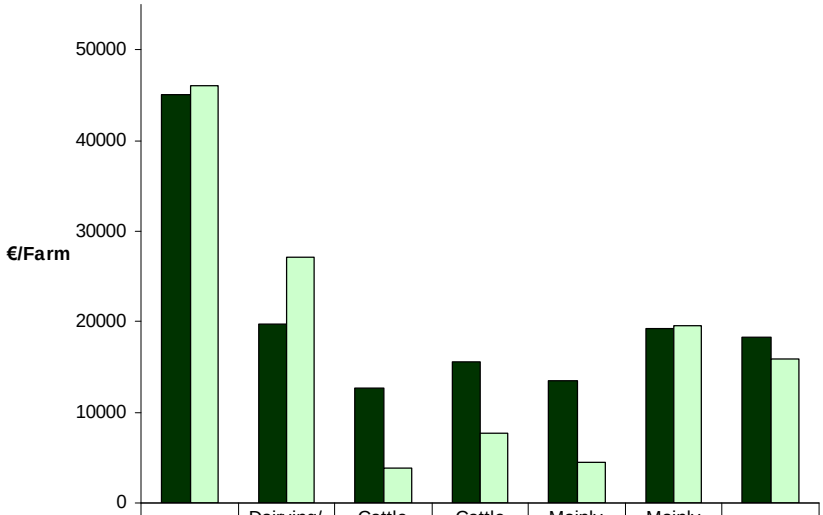
	Dairying	Dairying /Other	Cattle Rearing	Cattle Other	Sheep	Tillage	All
				€/Farm			
FFI	45121	19782	12603	15581	13431	19243	18339
Direct Payments	23282	21713	20437	21782	20865	26493	21817
REPS Contribution	6904	6757	5928	5839	6752	7133	6318
Farm Size (Ha)	43.8	40.4	4.4	34.2	38.6	49.6	37.7

Table 6: FFI, Direct Payments for Non-REPS farms by farm system - 2008

	Dairying	Dairying/Other	Cattle Rearing	Cattle Other	Sheep	Tillage	All
				€/Farm			
FFI	45948	27095	3781	7685	4429	19573	15869
Direct Payments	19106	22137	9124	11925	8904	24400	13876
Farm Size (Ha)	49.4	52.6	25.9	28.5	28.0	65.6	35.9

The difference in Family Farm Income between the REPS and Non-REPS farms is shown graphically in Fig. 5 for 2008.

Figure 5: FFI for REPS and Non-REPS farms by farming system – 2008



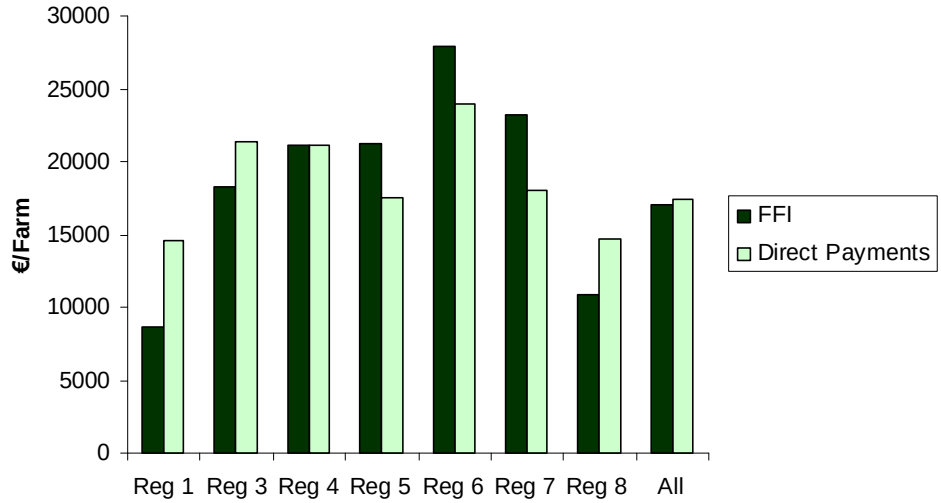
	Dairying	Dairying/ Other	Cattle Rearing	Cattle Other	Mainly Sheep	Mainly Tillage	All
FFI-REPS	45121	19782	12603	15581	13431	19243	18339
FFI-Non-REPS	45948	27095	3781	7685	4429	19573	15869

9. Regional Analysis

Farms in Region 2 (Dublin) have been excluded from this regional analysis owing to the small sample of farms for this region. There is quite an amount of variability between FFI, ranging from €8,635 in Region 1 (North-West) to €27,786 in Region 6 (Southeast). Only two of the regions (Region 1 and 8) have FFI below the national average of €16,993.

Analysing the demographic data by region produces some interesting details. The highest incidence of off-farm employment occurred on farms in the midlands region, Region 4 where the incidence of off-farm job for the farmer and/or the spouse was 64% compared to the national average of 56%. If we look specifically at the incidence of an off-farm job for the holder only, then Region 8 (Western) shows the highest level at 56% (compared to national average of 40%).

Figure 6: FFI, Direct Payments/Subsidies by Region – 2008



The average age of holder was highest in Region 1 at 58 years and youngest in Region 3 at just under 55 years. Seventy six per cent of households were classified as demographically viable in Region 6, while only 56% were classified as such in Region 1 (average for all farms was 66%). Figure 6 details FFI and direct payments by region for 2008.[1]

The average farm size (UAA) for all farms was 36.7 ha. However within the regions the average farm size was higher in all regions except for Region 1 (North-West), where it is only 31.2 ha. Region 6 (South-East) has the highest average farm size, being 48.3 ha.

10. New on-Farm Investment

Net new investment is defined as all capital expenditure during the year, less sales of capital and grants received. It does not include land purchase. Average net new investment per farm was €15,506 in 2008 (Table 7), a 56% increase on 2007 (€9,937). This followed an increase of 66% between

1

Region 1 - Louth, Leitrim, Sligo, Cavan, Donegal, Monaghan
Region 3 - Kildare, Meath, Wicklow.
Region 4 - Laois, Longford, Offaly, Westmeath
Region 5 - Clare, Limerick, Tipp. N.R
Region 6 - Carlow, Kilkenny, Wexford, Tipp. S.R., Waterford.
Region 7 - Cork, Kerry
Region 8 - Galway, Mayo, Roscommon

2006 and 2007 also, so that average investment per farm has increased by 159% since 2006 (€5,989 in 2006).

Table 7: Average New Investment - (€/farm) by Farm System – 2008

	Dairying	Dairying/ Other	Cattle Rearing	Cattle Other	Mainly Sheep	Mainly Tillage	All
				€/Farm			
Gross New Investment	48866	31325	10880	12054	11440	23030	19479
Net New Investment	40695	23882	8231	9011	9791	18180	15506
% of farms on which investment was made	90%	80%	63%	54%	54%	69%	68%

(Note: net new investment is equal to gross new investment in machinery, buildings, quotas and land improvements (including forestry) minus sales and capital grants received during the year).

- In 2008 average net new investment per farm increased substantially and was equivalent to 91% of FFI (50% in 2007, 36% in 2006). Dairying farms (Dairying and Dairying/Other) contributed 51% of the total new investment, although these farms comprise only 23% of the farming population. Farms in the Mainly Tillage System contributed 7% to total net new investment, whilst comprising 6% of the farm population.

- The drystock systems while comprising 71% of the farming population contributed 41% of net new investment.

Acknowledgements

The authors would like to acknowledge the data provided by the farmers participating in the National Farm Survey and also the Teagasc farm recording staff who carry out the survey.

SITUATION AND OUTLOOK FOR DAIRYING 2009/10

Trevor Donnellan and Paul Smyth
Rural Economy Research Centre,
Athenry, Co Galway.

1. Introduction

A sharp decline in dairy farm margins in 2009 was forecast in Donnellan and Hennessy (2008). However, the actual extent of the decline in milk prices that subsequently emerged in 2009 has exceeded what was expected.

International dairy product prices dropped sharply as we entered 2009 and the decline persisted through the peak milk production months in Ireland. Input costs declined in 2009 but not by as much as was expected. The overall outcome for the sector in 2009 saw a collapse in dairy farm margins in Ireland. This paper looks back on dairy farm performance in 2008, reviews the outcome for 2009 and looks ahead to the prospects for 2010.

Data from the Irish National Farm Survey (NFS) (Connolly et al 2009) are used in our review of 2008. The milk price and key input costs estimated for 2009 are used to produce an estimate of dairy farm profit for 2009. In the concluding sections of the paper, the forecast for dairy farm margins in 2010 is presented. Unless stated otherwise, all figures referred to in this paper are in nominal terms and all income and profit estimates exclude the value of decoupled income support payments.

Graphs which contain NFS data for 2008, and estimates and forecasts for 2009 and 2010 are also reproduced as tables in the appendix to the paper.

2. Review of the Economic Performance of Dairy Farms in 2008

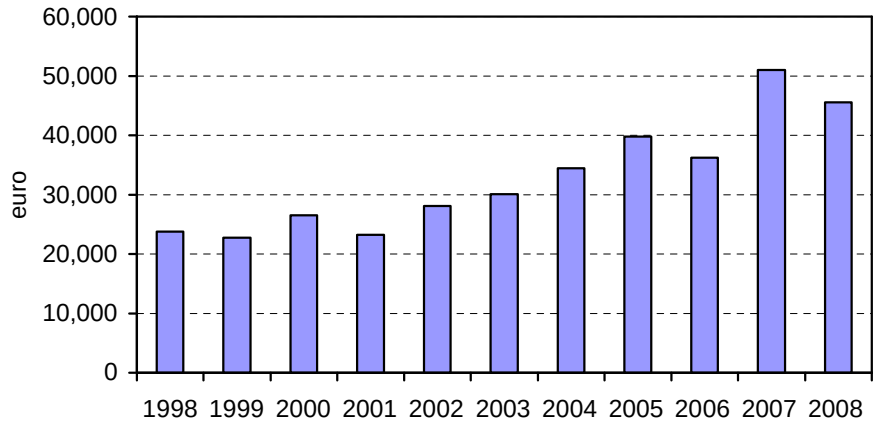
In this section we review output, input costs and income on dairy farms based on our analysis of the results produced by the 2008 NFS, which was released in the summer of 2009.

While 2008 began with very high milk prices, market conditions deteriorated and prices declined sharply as the year progressed. The average milk price for 2008 was quite close to the 2007 level, as much of the milk had already been delivered in Ireland before prices dropped to lower levels. However, cost inflation was evident in 2008 and was the main factor in reducing profitability in 2008 relative to 2007.

As a result, income on specialist dairy farms decreased by over 10 percent from 2007 to 2008 bringing the average income, as estimated by the NFS, to €45,500 in 2008. Incomes on specialist dairy farms in recent years are illustrated in Figure 1.

Despite the constraints of the milk quota system, declining dairy farm numbers have facilitated an increase in milk production on a per farm basis. According to Department of Agriculture Fisheries and Food (DAFF) figures, there were approximately 19,000 active dairy producers in Ireland in 2008. The average milk production per farm, estimated using NFS data, has risen by 17 percent to 242 thousand litres over the five years to 2008.

Figure 1: Income on Specialist Dairy Farms in Ireland: 1998 to 2008



Source: National Farm Survey (various years)

To place the economic performance of dairy farms in 2009 in context, we first review the financial performance of farms in 2008 using NFS data.

Costs in 2008

The main direct costs of production on dairy farms are feed, fertiliser and silage making costs. These are tracked in the NFS through estimates of purchased concentrate feed costs as well as pasture and forage costs. These two cost categories account for over one third of the costs of dairy production in Ireland, and on high costs farms are typically a higher proportion of overall costs.

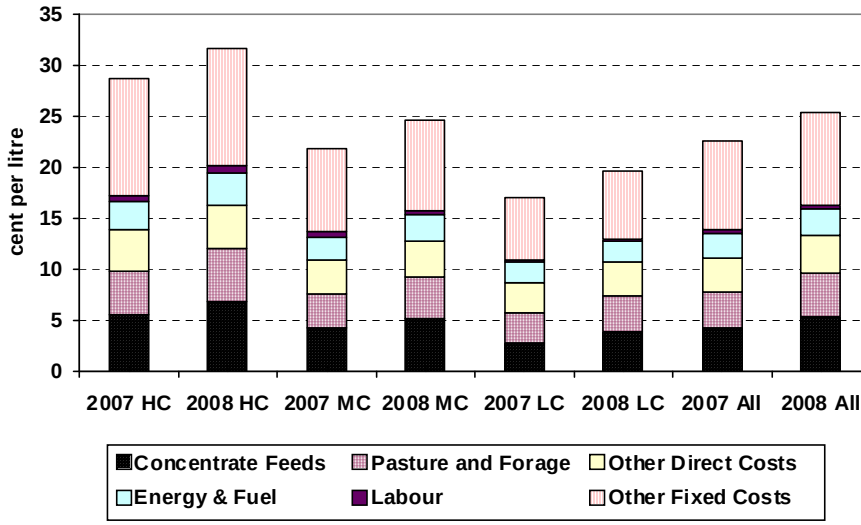
As Figure 2 illustrates, the national average cost of production was approximately 25.33 cent per litre (cpl) in 2008, which was about 13 percent higher than the 2007 level.

Costs in 2008 by cost grouping

The variation in costs across farms is apparent in Figure 2, which disaggregates the total costs of production in 2007 and 2008 for all creamery milk suppliers. The weighted sample of 18,193 creamery milk suppliers are classified into three equally sized groups on the basis of total costs per litre of milk output. The best performing one third of farms are labelled lower cost (LC), the middle one third are termed moderate cost (MC) and the least well performing one third of dairy farms are classified as higher cost (HC).

The average total cost of production on higher cost farms in 2008 was 31.7 cpl, compared to 24.7 cpl on moderate cost farms and just 19.7 cpl on lower cost farms. Across the range of creamery milk producers the difference in costs, between the average of the best performing one-third of producers and the average of the poorest performing farm group, was 12 cpl in 2008, whereas the gap between the low cost and high cost group was 11 cpl in 2007.

Figure 2: Variation in Total Costs of Milk Production across all Creamery Milk Producers in Ireland in 2007 and 2008



Source: 2008 National Farm Survey Data (2009)

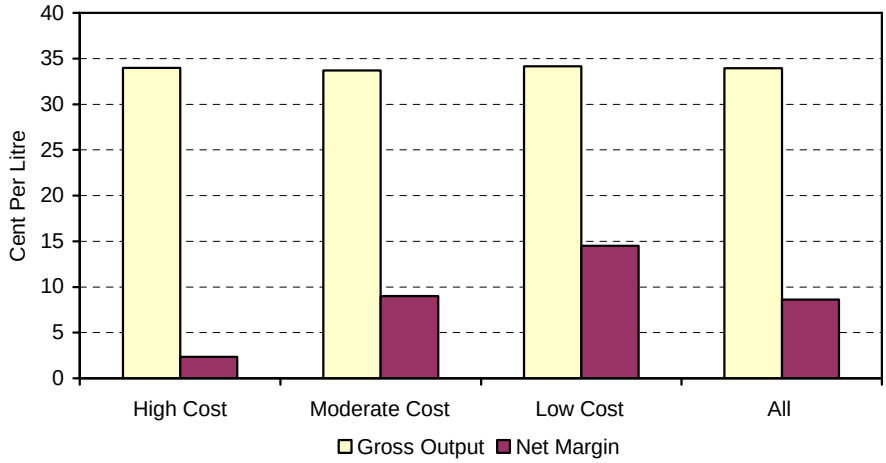
Direct Costs
Purchased concentrate, *pasture and forage costs* varied from 3.8 cpl on low cost farms in 2008 to 6.9 cpl on high cost farms. The other direct costs category includes *veterinary, AI* and *hire of machinery*. These costs ranged from 3.2 cpl on low cost farms to 4.2 cpl on high cost farms.

Overhead Costs
Fixed costs are broken into three categories; *energy and fuel* (including car, electricity, phone and all fuel used on the farm), *labour* (including casual and permanent hired labour) and *all other fixed costs* (including depreciation and maintenance of machinery, buildings and land). Figure 3 presents gross output and net margin for the three farm cost groups.

Gross Output & Net Margins in 2008
Gross output includes the value of milk and calf sales less replacement costs. Calf sales are worth on average 3 cpl with only a small variation across farms. Replacement costs have typically ranged from 2.5 to 2.7 cpl, so any revenue from calf sales is largely offset by replacement costs. The value of milk sales typically accounts for 95 percent of the value of gross output on dairy farms in Ireland. As is evident from Figure 3, the variation in the value of gross output per litre across farm groups is only marginal, with just a 3 percent difference between the cost groupings.

The average net margin on lower cost farms in 2008 was 14.5 cpl, those farms with moderate costs on average earned 9 cpl, while the lower cost dairy farms earned an average of just 2.3 cpl. This means that in 2008, the difference in profit between the low and high cost groups for a typical 250,000 litre farm was €30,000. Within each of the three cost groups there remains considerable variation in cost per litre. This implies that the differences in farm profit across the entire sample are even larger than those between the averages for the three cost groupings.

Figure 3: Variation in Gross Output and Net Margin across all Creamery Milk Producers in Ireland in 2008



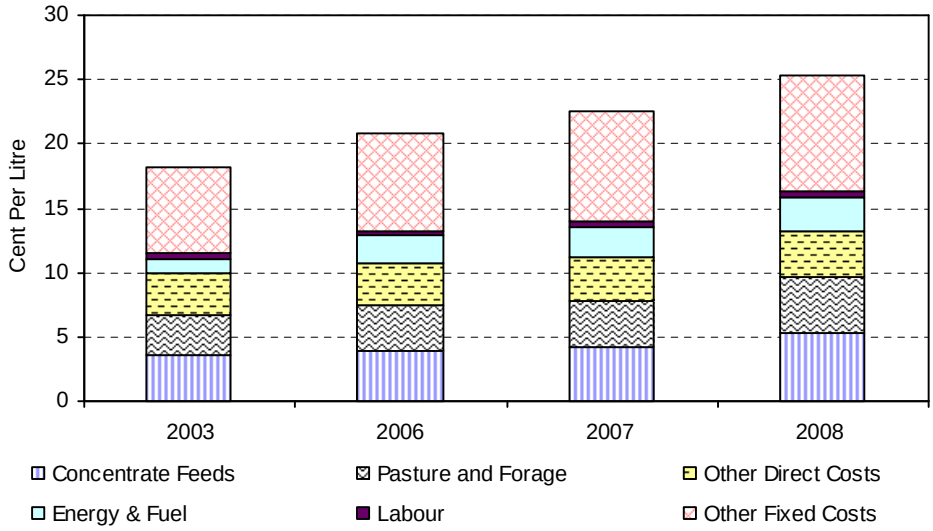
Source: 2008 National Farm Survey Data (2009)

Costs in 2008 relative to earlier years

In terms of costs of production, 2008 was outside the historical norm and qualified as a "high cost" year for dairy farmers. Figure 4 presents a review of costs of production in 2003, 2006, 2007 and 2008 for all creamery milk suppliers.

The average total costs of production in 2008 were about 13 percent higher than the 2007 level. Concentrate feed expenditure per litre of milk output was approximately 25 percent higher in 2008 relative to 2007. Pasture and forage costs increased by 23 percent while other direct costs increased by 7 percent in 2008. Labour, as well as energy and fuel costs, increased by about 8 and 11 percent respectively, while all other fixed costs increased by 5 percent relative to the 2007 level.

Figure 4: Variation in Total Costs of Milk Production across all Creamery Milk Producers in Ireland in selected years

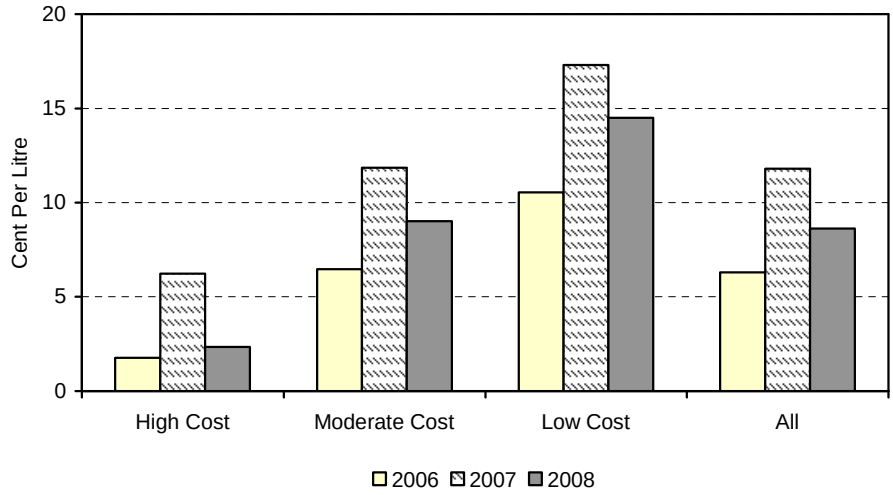


Source: National Farm Survey Data (Various Years)

Net margins in 2008 relative to earlier years

Figure 5 compares the net margin from milk production in 2007 and 2008. The figure shows that the average net margin earned across all producers decreased by over 26 percent, from 11.8 cpl in 2007 to almost 8.6 cpl in 2008. This follows on from an 80 percent increase in 2007 relative to 2006. The reduction in net margin in 2008 is even more pronounced for the higher cost farms. On high cost farms, the net margin per litre fell over 80 percent from 2007 to 2008, going from 6.2 cpl to 2.3 cpl.

Figure 5: Variation in Net Margin of Milk Production across all Creamery Milk Producers in Ireland in 2006, 2007 and 2008



Source: National Farm Survey Data (Various Years)

3. Review of 2009 Estimated Performance

This section of the paper presents a review of the dairy farm sector in 2009. NFS results for 2009 will not be available until the latter half of 2010. Therefore, it is necessary to estimate the price and volume of inputs used in 2009, as well as the volume and value of outputs for the year. The following section of the paper first discusses costs in 2009, looking at both prices and usage. Following that the output prices and the development on dairy product markets in 2009 is detailed.

3.1 Estimated Input Usage and Price 2009

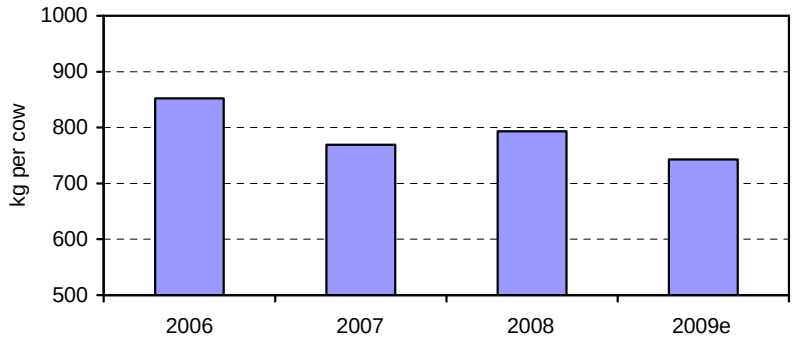
3.1.1 Feedstuffs

Purchased feed (concentrates) typically accounts for about 20 percent of total input expenditure on dairy farms, although this varies by farm and by year. Figure 6 shows the average volume of concentrate feed per cow. This is derived by the authors from Department of Agriculture Fisheries and Food (DAFF) figures on feed sales and from Central Statistic Office (CSO) data on animal numbers. The observed year on year variability is normally weather related.

The quantity of purchased dairy feed in 2009 is estimated to have been somewhat lower than the 2008 level. Data, provided by DAFF, for the first 6 months of 2009 indicates that aggregate dairy feed purchases were

down about 5 percent on the 2008 level. Low milk prices are probably the main reason why feed purchases are down in 2009. Weather conditions were unfavourable and if milk prices were higher, feed use might actually have increased in 2009, relative to 2008.

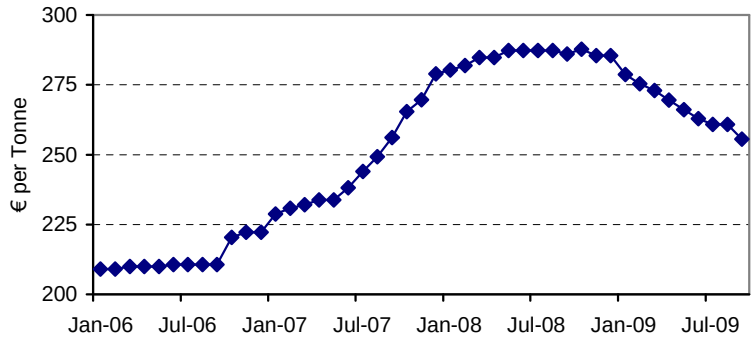
Figure 6: Concentrate Feed Purchases per dairy cow in Ireland: National Average for 2000 to 2009



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

Internationally, increased planting rates, improved harvests and weaker demand growth have provided the circumstances for a decline in cereal prices globally in 2009 from the extremes observed in 2007 and 2008. Figure 7 presents monthly Irish prices for dairy meal from 2006 through to 2009.

Figure 7: Monthly Price Index of Dairy Meal (16-18% Protein) in Ireland 2006 to 2009



Source: Central Statistics Office (Various Years)

Based on the data available to date for 2009 and consultations with industry representatives, farm advisors and farmers, the annual average price for 2009 is estimated to have fallen back to €265 per tonne, corresponding to an 8 percent price decrease on the 2008 level.

The 8 percent decrease in feed prices in 2009, combined with the 5 percent decrease in dairy feed volume, suggest that total expenditure on dairy feed in 2009 will be down 13 percent on the 2008 level.

3.1.2 Fertiliser – usage and price 2009

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. International fertiliser prices have been in decline since about the third quarter of 2008 and there has been a substantial drop in international fertiliser prices over the course of 2009, due in part to a better balance between production and use and also due to the substantial fall in energy prices, which are a key element in fertiliser production costs.

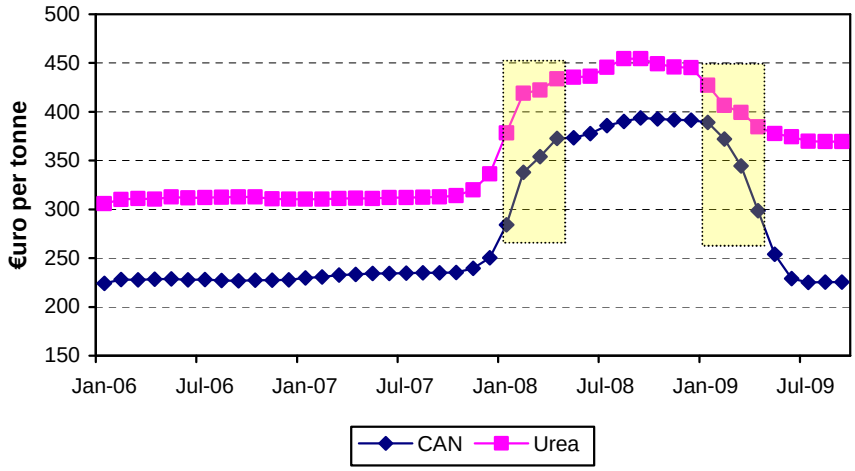
The fall in nitrogen prices has continued into 2009 and prices have now stabilised at levels closer to the 2006 level. As nitrogen usage collapsed internationally over the last 12 months, there has been a contraction in industry processing capacity. Phosphate prices have also fallen back to levels which would be considered as normal. While potash prices have also fallen, this decrease has been slower, and not as substantial, as in the case of other fertiliser elements. As a result potash prices, while decreasing, still remain above the 2006 level in late 2009.

Figure 8 charts the monthly index of farm level fertiliser prices from 2006 through to 2009 in Ireland. In Ireland fertiliser prices reached their peak in December 2008 and have been falling month by month in 2009. On a calendar year basis, fertiliser prices are down by between 15 to 20 percent in 2009 relative to 2008. The decrease in Urea prices has not been as pronounced as in the case of CAN.

However, the bulk of the fertiliser purchasing on dairy farms takes place in the first half of the year. The typical fertiliser purchase period is indicated in Figure 9 by the highlighted observations in the early months of the year. The ability of farmers to avail of the lower prices which emerged over the full course of 2009 may have been limited. Actual average prices paid for fertiliser in early 2009 will have been relatively close to prices paid in early 2008. It is estimated that the fertiliser prices paid by dairy farmers in 2009 were up 4 percent in the case of CAN and down 12 percent in the case of

Urea relative to the 2008 level. On this basis, it is estimated that there was a 5 percent decrease in fertiliser prices in 2009.

Figure 8: Monthly Price Index of fertiliser (average of all compounds) in Ireland for 2006 to 2009



Source: Central Statistics Office (Various Years)

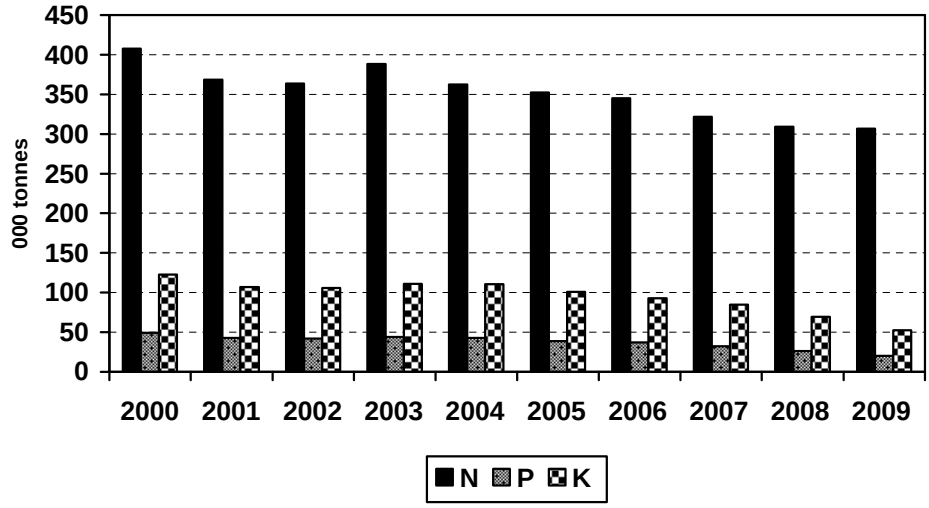
On the volume side, DAFF figures indicate that fertiliser sales in the 2009 fertiliser year (October 2008/September 2009) are virtually unchanged in the case of nitrogen (N). However, steep declines in potassium (P) and phosphate (K) purchases are evident relative to 2008. Fertiliser sales data are reported in Figure 9.

The extent of the decrease in potassium and phosphate sales in 2009, which have each dropped by close to 25 percent on the 2008 level, suggests that farmers were substituting away from P and K mixes in favour of N. The decline in cereal area in 2009 will also have adversely affected P and K sales.

These sales figures relate to sales by fertiliser compounders rather than actual application on farm. In late 2008, there was some anecdotal evidence that N usage levels were still in decline on dairy farms and that the decline had been masked by forward purchasing for 2009. NFS results for 2008 indicate a **7** percent drop in N usage on dairy farms and a 20 percent decrease on beef farms. With aggregate N sales holding firm in 2009, and the possibility that there may have been unused fertiliser stocks coming into the year, it may well be the case that N usage has increased in 2009, primarily due to substitution away from P and K, which were more

expensive than N in relative terms in 2009. Taking all of these factors into account, it is estimated that overall fertiliser use on dairy farms in 2009 is unchanged.

Figure 9: Irish Fertiliser Sales by Compounders 2000 to 2009



Source: DAFF (various years)

Overall, taking price and volume into account, this suggests that there has been a 5 percent decrease in fertiliser expenditure on dairy farms in 2009 compared with the 2008 level.

3.1.3 Contractor Costs

Fertiliser costs comprise about 50 percent of the total for pasture and forage costs, with the remaining half made up of contractor costs. Increasing fuel and plastics costs led to an increase in silage cutting costs in 2008. This increase was largely reversed in 2009 due to falling fuel costs. It is estimated that silage making costs decreased by 10 percent in 2009.

3.1.4 Pasture and Forage Costs

With fertiliser costs unchanged relative to 2008, and contracting costs decreasing by 10 percent, the overall estimated change in pasture and forage costs for 2009 is a decrease of 8 percent.

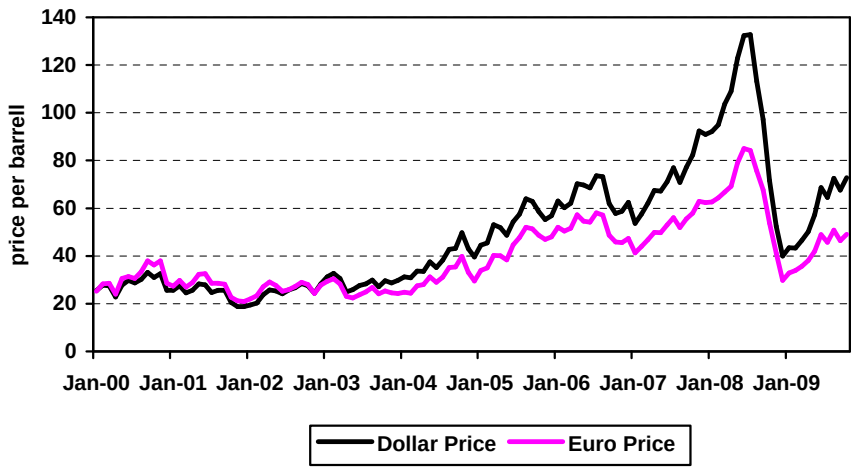
3.1.5 Energy and Fuel – usage and price 2009

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 fuel and energy on dairy farms, with fuel accounting for the remaining 70 percent.

Motor Fuel: Crude oil prices are presented in Figure 10. Over recent years, prices have been on a rollercoaster, rising from $72 per barrel (pb) on average in 2007, to over $106 pb on average in 2008 and dropping again to an average of $60 pb in 2009.

The substantial increase in the value of the euro versus the US dollar over this period means that the extent of the percentage and absolute crude oil price variations are smaller in euro terms than in dollar terms. The average crude oil price for 2008 was €70 pb, about 33 percent up on the average 2007 level of € 52 pb. The average for 2009 will be €44 pb, a decrease of over 35 percent on the 2008 level. As a result of changes in crude oil prices, fuel costs in Ireland have decreased significantly in 2009 with diesel prices approximately 17 percent lower than the 2008 level.

Figure 10: Monthly Average Brent Crude oil prices in Euro and US dollar in 2000 to 2009



Source: St Louis Fed

Electricity: Electricity costs change infrequently in Ireland due to price regulation. CSO data indicates that electricity price rose 17.5 percent in the month of August 2008 and that further increases amounting to about 3 percent occurred early in 2009. A downward adjustment of 11 percent

followed in May 2009 and electricity prices remained unchanged throughout the rest of 2009. Taking account of these monthly variations over the course of 2009, it is estimated that electricity prices are up 5 percent in 2009 relative to the 2008 level.

Energy and Fuel: Demand by farms for fuel and electricity tends to be relatively inelastic with respect to price. Therefore, it is assumed that usage in 2009 will be on a par with the 2008 level. Thus, the 5 percent price increase means that overall expenditure on electricity in 2009 is anticipated to have risen 5 percent on the 2008 level, while expenditure on fuel in 2009 is likely to have decreased by 15 percent on the 2008 level. Overall expenditure on energy and fuel on dairy farms is down 9 percent in 2009 relative to 2008.

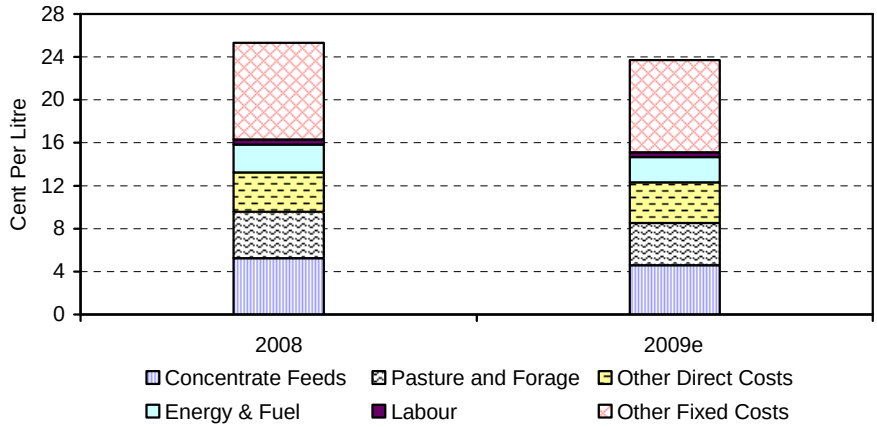
3.1.6 All Other Direct and Fixed Costs– usage and price 2009

Inflation in agricultural wages is unlikely to have occurred in 2009 given the depressed state of the labour market in Ireland. Again, it is assumed that the quantity of labour used on farms is relatively price inelastic and is likely to change little year on year. However, as 2009 was a difficult year on dairy farms producers may have looked for ways to reduce their labour requirements. Therefore, a decrease of 5 percent in volume is included in our assessment. The price of other input items is up about 2 percent in 2009 on the preceding year. It is assumed that usage of these input items will be in line with 2008 levels and as a result the increase in prices in 2009 is reflected in a corresponding increase in expenditure on these items of 2 percent.

3.1.7 Estimate of Total Input expenditure for 2009

Figure 11 charts the average total costs of production for all creamery milk suppliers in 2008 and the corresponding estimates for 2009. It is estimated that the total costs of production for the average creamery milk supplier in Ireland in 2009 is 23.7 cent per litre. This is equivalent to a 6 percent reduction in 2009 relative to 2008.

Figure 11: Total Costs of Milk Production across all Creamery Milk Producers in Ireland 2008 and Estimated for 2009



Source: 2008 National Farm Survey Data (2009) and Authors' Estimates
Note: e = estimate

3.2 Estimated Output Values 2009

In Ireland the 2009 manufacturing milk price was down dramatically on the level of the two preceding years. Monthly milk prices dropped sharply in the latter stages of 2008 and through much of 2009. A whole range of reasons have contributed to the price decrease.

The reduction in price reflected a slow down in dairy product demand growth due to lower income growth because of the global recession and a reaction to higher absolute and relative prices for dairy products. Additionally, high dairy prices led to substitution away from dairy products in favour of other less expensive food ingredients and this also had an impact on demand. When wholesale prices did begin to fall, price stickiness at the retail level was also a factor in delaying the transmission of these lower wholesale prices to the retail level, with adverse consequences for dairy consumption. Finally, on the supply side, there was a lag between the decease in farm milk prices and the slowdown in production globally, which contributed to a build up of dairy product stocks.

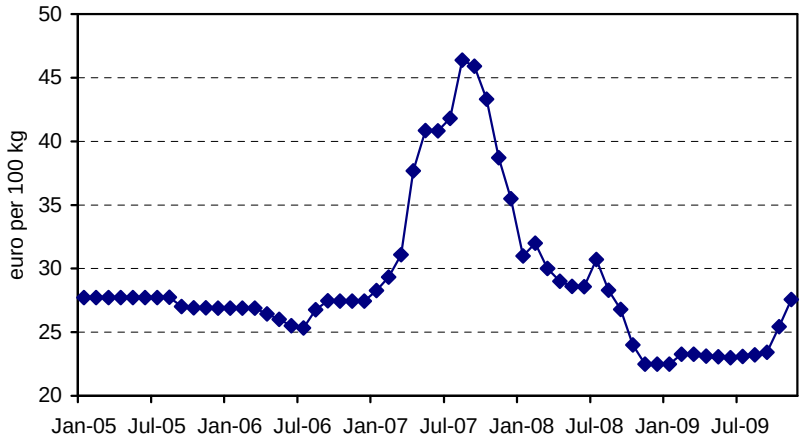
Irish milk deliveries in the 2008 calendar year were 2.5 percent below quota and production in 2009 has further decreased on the 2008 production level by a further 2.5 to 3 percent. During the same period, the Irish milk quota has increased by 2 percent which means that production in calendar year 2009 will be about 8 percent below the notional calendar

year milk quota level. On a milk quota year basis, production in the 2009/10 year was running over 10 percent below the milk quota as of November 2009.

Irish dairy cow numbers have stabilised in recent years and there was even an increase of 1.3 percent in the June number in 2009 relative to the 2008 level. However, due to unfavourable weather and low milk prices milk yields per cow will probably be down about 3 to 5 percent in 2009 relative to the 2008 level.

Figure 12 shows the Irish Dairy Board (IDB) butter and skimmed milk powder equivalent milk price from January 2005 to November 2009. The weakening of international dairy commodity markets in 2009 has been reflected in the IDB price and in the farm level milk price in Ireland. However, as of December 2009 there are significant signs of a recovery in international dairy product prices, due to resurgence in dairy demand and weak milk production growth globally.

Figure 12: Irish Dairy Board Butter/SMP Equivalent Price from 2005 to 2009

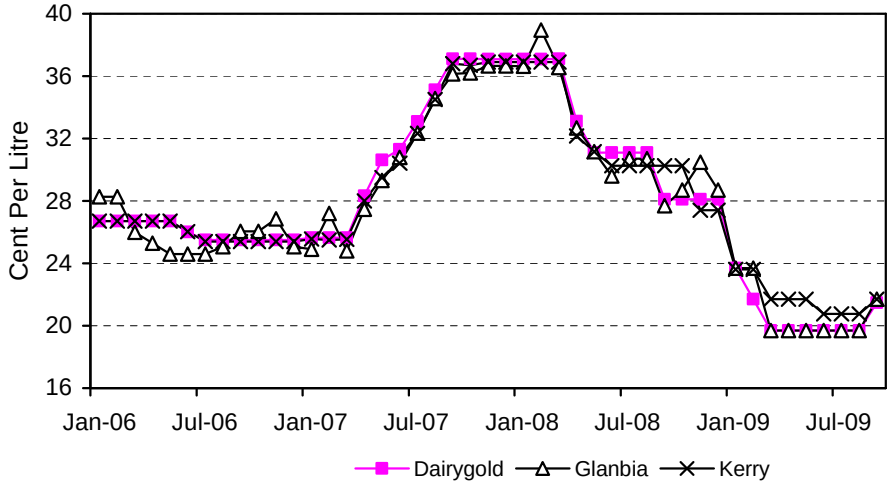


Source: Irish Dairy Board

This market improvement has begun to show through in IDB prices but will not impact at all on the average farm milk prices in 2009, since it has occurred so late in the year. Figure 13 presents the monthly milk prices paid by various processors from 2006 through to September 2009 and Figure 14 charts the IDB price and the milk price paid by a selection of Irish milk processors. The upturn in prices on international dairy markets has begun to feed through to the IDB price towards the end of 2009. However,

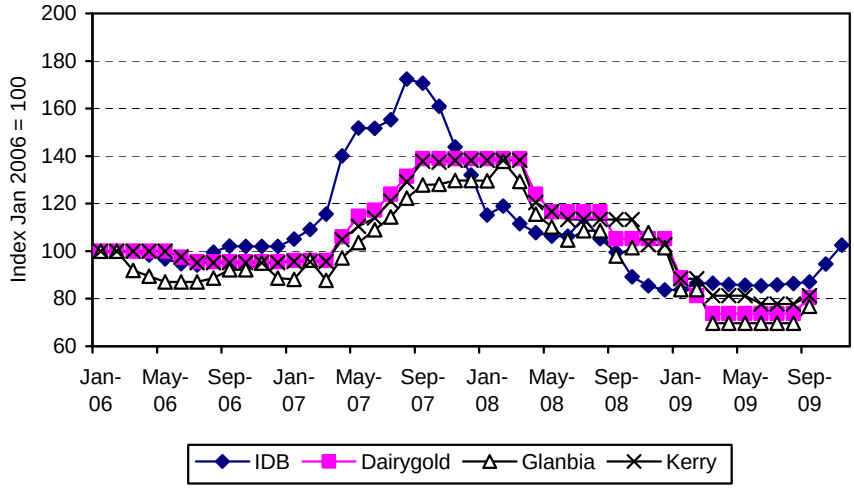
the normal lag between movement in the IDB prices and movement in the price paid by processors to milk producers should still prevail.

Figure 13: Farm Gate Milk Prices (vat excl) 2006 - 2009



Source: Irish Farmers' Journal Milk League
Note: 3.6% fat & 3.3% protein (vat excl)

Figure 14: Indices of Irish Dairy Board Butter/SMP Equivalent price and selected milk prices from 2006 to 2009



Source: IDB and Farmers Journal

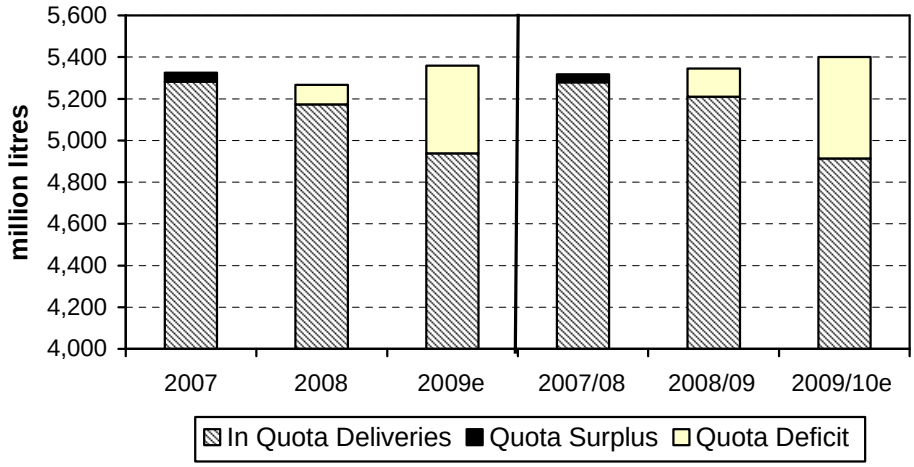
Even allowing for a modest increase in the price paid for milk from September through to December 2009, the average milk price for 2009 is

estimated to be 23 cent/litre vat inclusive. This represents a record one year drop in milk prices of 10 cents per litre.

The impact of the low 2009 milk price on the supply of Irish milk in 2009 can be observed in Figure 15. We first examine milk production on a calendar year basis. Irish milk deliveries in 2009 will be below the 2008 level by about 2.5 percent on a calendar year basis, which is significant given that 2008 calendar year milk deliveries were below normal.

Looking at deliveries relative to the milk quota, the picture is quite stark as Irish milk deliveries could be 10 percent below the 2009/10 milk quota.

Figure 15: Irish milk deliveries (fat adjusted) and quota surplus/deficit (calendar and quota year basis)

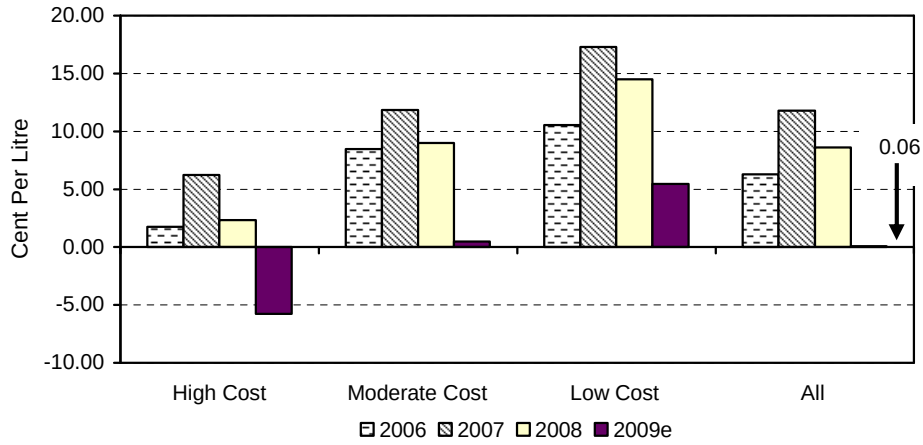


Source: Adapted from CSO Data and Authors' calculations
Note: Figures excludes imported milk for processing
e = estimate

3.3 Review of Dairy Enterprise Net Margins in 2009

The review of milk prices showed that the average milk price for 2009 was 30 percent lower than the average for 2008, while the review of input costs concluded that total production costs per litre are estimated to be 6 percent lower in 2009 than in 2008. The NFS sample of creamery milk suppliers has been broken into three equally sized groups based on the production cost per litre of milk. Figure 16 presents the average dairy enterprise net margin, with the average net margin for all creamery milk suppliers, and those in each of the three cost groups for 2006, 2007, 2008 and an estimate for 2009.

Figure 16: Net Margin for Creamery Milk Producers in Ireland in 2006, 2007, 2008 and estimated for 2009



Source: National Farm Survey Data (various years) and Authors' Estimates (2009)
Note: e = estimate

Gross output values are estimated to have declined sharply in 2009 relative to the each of the previous two years, while the decline in input costs is insufficient to prevent a collapse in margins in 2009. It is estimated that average net margin per litre will decrease from 11.8 cpl in 2007 and 8.6 cpl in 2008, to almost zero (0.06) cpl in 2009.

4. Outlook for 2010

In this section we forecast the expenditure on various input items in 2010, the annual average milk price that will prevail and the likely profit margins on dairy farms in 2010.

4.1. The Outlook for Input Expenditure

4.1.1 Feedstuffs

While the low level of profitability in 2009 may have created cash flow problems, producers will be reluctant to limit feed usage in 2010, due to the potential for an adverse impact on cow fertility. Weather conditions will obviously also impact on feed usage in 2010 and this influence cannot be anticipated. For 2010, we have assumed a 5 percent recovery in feed usage to about 800 kg per cow.

The 2009 Irish harvest prices for feed wheat and barley are 30 percent down on the 2008 level. Farmers purchasing feed in 2010 can expect to benefit from the fall in 2009 harvest prices. How much of that price decrease is going to be passed on the farmers is unclear. By contrast prices for imported feeds will be moving upwards in 2010 with forecasts of increased prices for cereals and maize of between 15 to 20 percent. Overall, a decrease in feed prices of 15 percent is forecast for dairy farms in 2010. A 15 percent decrease in feed price, coupled with a 5 percent increase in volume, would leave feed expenditure in 2010, 10 percent below the 2009 level.

4.1.2 Fertiliser

Falling energy prices, falling commodity prices and credit problems for farmers, all led to reduced growth in fertiliser demand internationally in 2009. This trend will not continue into 2010 and fertiliser prices will begin to move upwards as excess fertiliser production capacity has been shutdown. Consumption will begin to recover so that production and consumption are in balance.

Upward adjustment in Urea and CAN prices can be expected. International price increases could be of the order of 15 to 20 percent in 2010 relative to the 2009 level. However, the prices paid for fertiliser by Irish dairy farmers early in the 2010 season should be of the order of 15 percent below the corresponding period in 2009, as the remaining downward adjustment in prices from the high levels of recent years takes place.

With price down 15 percent and usage unchanged, this would leave total expenditure on fertiliser down 15 percent in 2010. Factoring in a 5 percent increase in contractor charges in 2010, would mean that total expenditure on pasture and forage would be down about 8 percent in 2010 on the 2009 level.

4.1.3 Energy and Fuel

Despite a decrease in crude oil prices in 2009, electricity prices increased by 5 percent. Further energy price increases are expected in 2010.

As of November 2009, the average crude oil futures price for 2010 is about $80 pb, which is about €53 pb at current exchange rates. This would represent an increase of about 25 percent on the 2009 level. On this basis, and taking account of the new carbon levy, we estimate that the price of farm diesel will increase by at least 10 percent.

Natural gas prices are also projected to increase in 2010 relative to 2009, but the increase is expected to be smaller than in the case of crude oil at about 10 percent. Taking these factors into account, an increase of about 10 percent in electricity prices seems possible in 2010.
This leaves overall expenditure on energy and fuel up about 10 percent in 2010 relative to the 2009 level.

4.1.4 Other Direct and Fixed Costs

The ongoing downturn in the Irish economy is likely to stifle any increase in labour costs and general inflation in 2010. However, as evidenced in 2009, the price of some minor farm inputs continues to move upwards, despite the widespread deflation in the rest of the economy. Therefore the price of other direct inputs is projected to continue to increase in 2010 by about 2 percent.

4.2. The Outlook for Dairy Markets

The Irish milk price collapsed in 2009 and the only positive that can be drawn from this is that prices can only move in one direction (upwards) in 2010. As is usual, the reasons for this are tied to events on international markets.

International dairy commodity prices have been increasing significantly in the final quarter of 2009, albeit from particularly low levels. Internationally, the global recession has begun to recede and a slowing down in dairy production growth is becoming more evident. Consequently, dairy prices should improve in 2010 relative to 2009.

While the recovery in milk prices has received considerable attention, there are a couple of issues that need to be mentioned to caution against over optimism. Sizable stocks have accumulated in the EU and US, particularly in the case of skimmed milk powder. These will need to be sold at some point and will have a negative impact on dairy prices when they are released. In addition, the EU Commission will keep a close eye on the level of export subsidies and already refunds have been suspended as dairy markets recover.

The seasonality of Irish milk production means that the annual average milk price in Ireland in 2010 will be particularly sensitive to the timing of the recovery in international dairy prices. The extent of the recovery in milk prices by mid 2010 will be especially significant for the Irish dairy sector, given the importance of prices in the peak delivery months in determining the outcome for the year as a whole. If milk prices strengthen beyond 2006 levels by the end of the first quarter of 2010, then the outcome in terms of

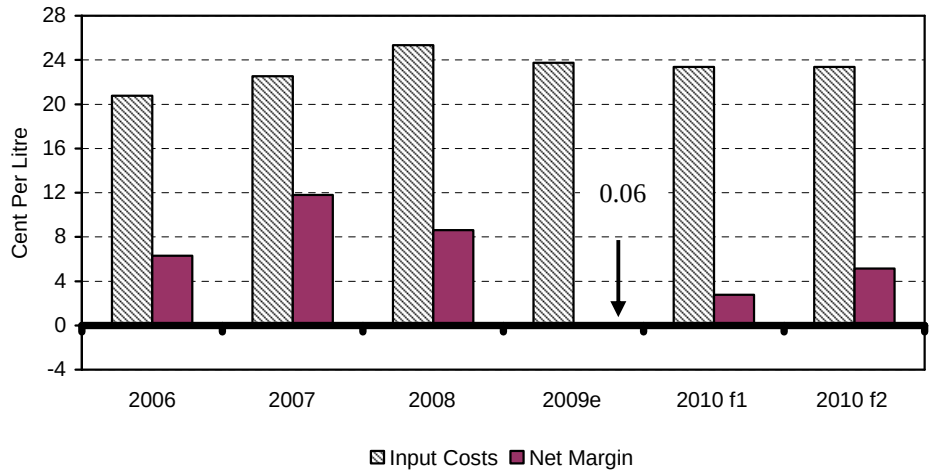
net margins in 2010 could be similar to 2006. However, if the price recovery takes place more slowly, this will still leave Irish annual milk prices in a depressed position in 2010 and another year of very poor margins could transpire.
Overall, it is estimated that annual average milk prices will be up about 10 percent in 2010 on the 2009 level at about 26 cpl. In the next section, we also analyse a more optimistic outlook with annual average prices up 20 percent at around 28 cpl.

4.3. The Outlook for Dairy Enterprise Net Margin in 2010

In aggregate input expenditure is expected to decline slightly in 2010. With a positive movement on milk prices, net margins will increase in 2010. However, margins will be well below those experienced in 2007 and 2008 and possibly even below those of 2006.

In Figure 17 we present two possible 2010 outcomes for net margins based on 10 per cent (f1) and 20 percent (f2) milk price increases.

Figure 17: Net Margin for Creamery Milk Producers in Ireland in 2006 2007 and 2008 with estimate for 2009 and forecast for 2010

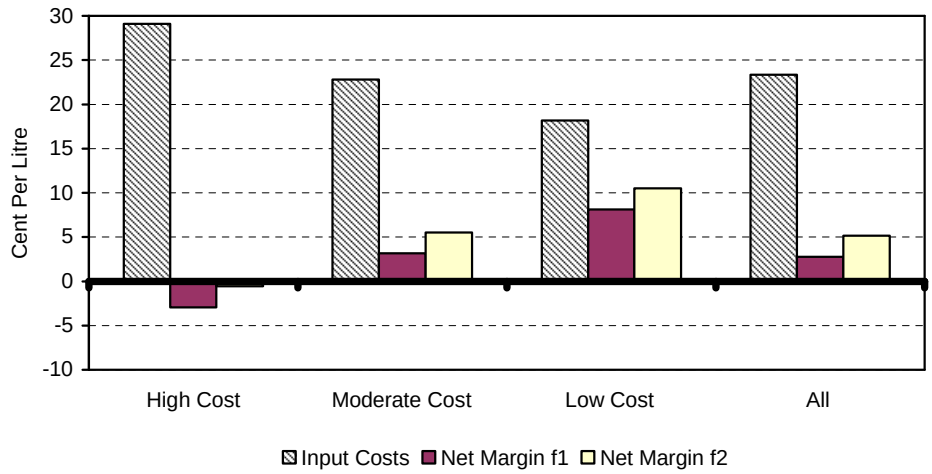


Source: National Farm Survey Data (Various Years) and Authors' Estimates (2009 & 2010)
Note: e = estimate
f1 = forecast based on 10% milk price rise f2 = forecast based on 20% milk price rise

Under the f1 forecast the average net margin for 2010 is estimated to be 3 cpl, which is still well below the norm for the years that preceded the price boom. Under the f2 forecast, the average net margin would be over 5 cpl.

Figure 18 presents the input cost and net margin estimates for the three cost groupings.

Figure 18: Forecast Net Margin for Creamery Milk Producers in Ireland in 2010

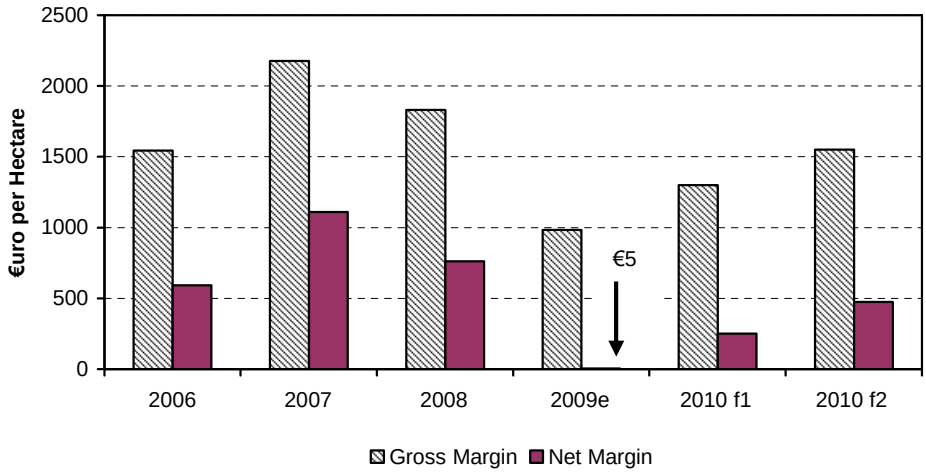


Source: Authors' Estimates
f1 = forecast based on 10% milk price rise f2 = forecast based on 20% milk price rise

The f1 forecast in Figure 18 is predicated on a 10 percent increase in milk prices in 2010 relative to 2009. On this basis it is estimated that net margins on high cost farms may still be negative in 2010. However, under the f2 forecast, even if an annual average milk price increase of 20 percent were to materialise in 2010 (to about 28 cpl), then this would still leave some of the bottom third of producers in negative net margin territory in 2010, although an average margin of about 5.2 cent per litre could be achieved for all producers.

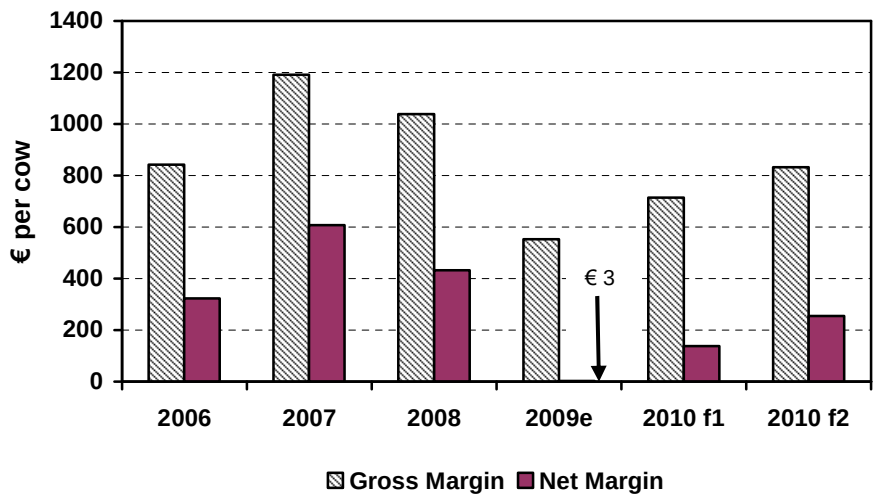
Figure 19 presents margins on a per hectare basis. The average gross margin per hectare has declined from approximately € 2,177 in 2007 and € 1,832 in 2008, to an estimated € 948 in 2009. With a milk price increase in the range of 10 to 20 percent, that would put forecast gross margins per ha in the range of € 1,300 to €1,551 in 2010.

Figure 19: Gross and Net Margin per hectare with forecasts for 2010



Source: National Farm Survey Data (Various Years) and Authors' Estimates
Note: e = estimate
f1 = forecast based on 10% milk price rise f2 = forecast based on 20% milk price rise

Figure 20: Gross and Net Margins per Cow with forecasts for 2010



Source: National Farm Survey Data (Various Years) and Authors' Estimates
Note: e = estimate
f1 = forecast based on 10% milk price rise f2 = forecast based on 20% milk price rise

The average net margin per hectare has declined from approximately € 1,156 in 2007 and € 787 in 2008, to an estimated €5 in 2009. Based on the two milk price scenarios set out above, forecast net margins per ha could range from € 257 to € 475 in 2010.

5. Concluding Comments

Following an exceptional year in 2007 and a relatively good year in 2008, milk prices and dairy farm margins collapsed in 2009. A recovery in milk prices and margins is anticipated in 2010, but the possibility of further cost inflation will remain a concern.

In aggregate input prices are set to decline slightly in 2010, reflecting a mix of increases and decreases in individual cost items. Some items, such as labour and other costs, are likely to remain relatively unchanged. Feed and fertiliser expenditure should decline, however, contracting and fuel costs are likely to rise. Margins on dairy farms will remain under serious pressure in 2010 and the outturn for the year is likely to see margins in 2010 remaining well below the highs of 2007 and 2008.

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Table A1: Costs of milk production by cost grouping 2007

	2007 HC	2007 MC	2007 LC	2007 All
	cent per litre			
Concentrate Feeds	5.55	4.28	2.79	4.2
Pasture and Forage	4.29	3.28	2.9	3.49
Other Direct Costs	3.99	3.42	2.95	3.45
Energy & Fuel	2.75	2.21	2.02	2.33
Labour	0.65	0.42	0.25	0.44
Other Fixed Costs	11.41	8.34	6.09	8.61

Source: National Farm Survey (Various Years)
Notes: HC Higher Cost MC Moderate Cost LC Lower Cost
See also Figure 2 in the main text

Table A2: Costs of milk production by cost grouping 2008

	2008 HC	2008 MC	2008 LC	2008 All
	cent per litre			
Concentrate Feeds	6.84	5.15	3.79	5.26
Pasture and Forage	5.24	4.03	3.63	4.30
Other Direct Costs	4.15	3.66	3.26	3.69
Energy & Fuel	3.19	2.53	2.03	2.59
Labour	0.76	0.4	0.26	0.47
Other Fixed Costs	11.47	8.91	6.67	9.02

Source: National Farm Survey (Various Years)
Notes: HC Higher Cost MC Moderate Cost LC Lower Cost
See also Figure 2 in the main text

Table A3: Dairy Gross Output and Net Margin 2008

	High Cost	Moderate Cost	Low Cost	All
	cent per litre			
Gross Output	33.99	33.69	34.15	33.95
Net Margin	2.34	9.00	14.50	8.62

Source: National Farm Survey (Various Years)
See also Figure 3 in the main text

Table A4: Costs for Creamery Milk Suppliers 2003, 2006- 2008

	2003	2006	2007	2008
	cent per litre			
Concentrate Feeds	3.52	3.84	4.20	5.26
Pasture and Forage	3.19	3.63	3.49	4.30
Other Direct Costs	3.19	3.18	3.45	3.69
Energy & Fuel	1.20	2.18	2.33	2.59
Labour	0.41	0.38	0.44	0.47
Other Fixed Costs	6.71	7.54	8.60	9.02

Source: National Farm Survey (Various Years)
See also Figure 4 in the main text

Table A5: Variation in Net Margin of Milk Production across all Creamery Milk Producers in 2006, 2007 and 2008

	High Cost	Moderate Cost	Low Cost	All
	cent per litre			
2006	1.77	6.46	10.53	6.29
2007	6.23	11.85	17.30	11.80
2008	2.34	9.00	14.50	8.62

Source: National Farm (Various Years)
See also Figure 5 in the main text

Table A6: Average concentrate feed purchases per dairy cow in Ireland: 2006 to 2009

	2006	2007	2008	2009e
	Kg per cow			
Feed use	852	769	793	743

Source: National Farm Survey (Various Years) and Authors' Estimates
Note: e = estimate f = forecast
See also Figure 6 in the main text

Table A7: Irish Fertiliser Sales by Compounders 2000 to 2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
	000 tonnes									
N	408	369	364	388	363	352	345	322	309	307
P	49	43	42	44	43	39	37	32	26	20
K	123	107	106	111	111	101	93	85	70	52

Source: DAFF (Various Years)
See also Figure 9 in the main text

Table A8: Total Costs of Milk Production across all Creamery Milk Producers in Ireland 2008 and Estimated for 2009

	2008	2009e
	cent per litre	
Concentrate Feeds	5.26	4.58
Pasture and Forage	4.30	3.96
Other Direct Costs	3.69	3.77
Energy & Fuel	2.59	2.35
Labour	0.47	0.45
Other Fixed Costs	9.02	8.6

Source: National Farm Survey (Various Years) and Authors' Estimates
See also Figure 11 in the main text
Note: e = estimate

Table A9: Net Margin for Creamery Milk Producers in Ireland in 2006 to 2008 and estimated for 2009

	High Cost	Moderate Cost	Low Cost	All
	cent per litre			
2006	1.76	8.46	10.53	6.29
2007	6.22	11.84	17.29	11.80
2008	2.34	9.00	14.50	8.62
2009e	-5.78	0.47	5.47	0.06

Source: National Farm Survey (Various Years) and Authors' Estimates
See also Figure 16 in the main text
Note: e = estimate

Table A10: Net Margin for Creamery Milk Producers in Ireland for 2006 to 2008, estimate for 2009 and forecast for 2010

	2006	2007	2008	2009e	2010 f1	2010 f2
	cent per litre					
Input Costs	20.76	22.52	25.33	23.76	23.36	23.36
Net Margin	6.29	11.80	8.62	0.06	2.78	2.16

Source: National Farm Survey (Various Years) and Authors' Estimates
See also Figure 17 in the main text
Note: e = estimate

Table A11: Forecast Net Margin for Creamery Milk Producers in Ireland in 2010

	High Cost	Moderate Cost	Low Cost	All
	cent per litre			
Input Costs	29.11	22.79	18.19	23.36
Net Margin f1	-2.94	3.15	8.11	2.78
Net Margin f2	**-0.56**	**5.51**	**10.50**	**5.16**

Source: National Farm Survey (Various Years) and Authors' Estimates
See also Figure 18 in the main text

Table A12: Net and Gross Margin per hectare for Creamery Milk Producers in Ireland

	2006	2007	2008	2009e	2010 f1	2010 f2
	Euro per hectare					
Gross Margin	1,543	2,178	1,832	984	1,299	1,551
Net Margin	592	1,109	763	5	251	475

Source: National Farm Survey (Various Years) and Authors' Estimates
Note: e = estimate f = forecast
See also Figure 19 in the main text

Table A13: Gross Margins and Net Margins per Cow 2006 to 2010

	2006	2007	2008	2009e	2010 f1	2010 f2
	Euro per cow					
Gross Margin	842	1,192	1,038	552	715	832
Net Margin	323	607	432	3	138	255

Source: National Farm Survey (Various Years) and Authors' Estimates
Note: e = estimate f = forecast
See also Figure 20 in the main text

SITUATION AND OUTLOOK FOR CATTLE 2009/10

James Breen and Kevin Hanrahan
Rural Economy Research Centre,
Athenry, Co. Galway.

1. Introduction

This paper presents a review of the economic performance of cattle production in 2008 based on data provided by the National Farm Survey (Connolly et al. 2009). Estimated returns from cattle production in 2009 are presented along with the forecast outlook for 2010.

Overall, lower cattle prices in 2009 led to a reduction in the value of cattle production on Irish farms. This lower output was partially offset by lower input expenditure resulting from lower prices for some important inputs used in cattle production. However, average gross margins on cattle production enterprises are estimated to have declined in 2009 relative to 2008 and the pattern of negative market-based net margins on Irish cattle production systems persisted in 2009. The outlook for cattle markets in 2010 is stable, with the ongoing contraction in EU production expected to lead to some increase in cattle prices despite continuing weak consumer demand for beef.

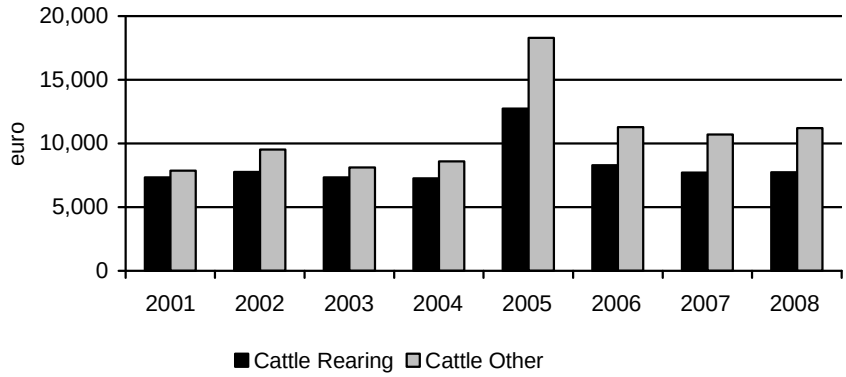
2. Review of the Economic Performance of Beef Farms in 2008

The trend in average family farm income (FFI) for the two main classifications of cattle farms in the Teagasc National Farm Survey (NFS) over the period 2001 to 2008 is shown in Figure 1. The trend in average nominal FFI has been upward, with higher incomes in the period 2006 to 2008 than during the period 2001 to 2003. The average FFI in 2005 was significantly higher than in the other years shown. This increase in average FFI was largely as a result of the introduction of the Single Farm Payment (SFP) in 2005, when some farmers received not only their SFP, but also coupled premia which had been carried over from 2004. In 2008 the average FFI on cattle rearing farms increased marginally to €7,739. The average FFI on cattle other farms increased by 4.6 percent to €11,200.

Figure 1 also illustrates the growing divergence, over the period 2001 to 2008, between the average FFI earned on farms in the cattle rearing system and the average income earned on the cattle other system. In 2001 the difference in average FFI between cattle rearing and cattle other farms was €500. By 2008 the difference in the average family farm incomes earned on these two farm types had grown to almost €3,500. This

development is largely 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 and the positive impact of this change on the income of those farms purchasing and finishing these animals.

Figure 1: Family Farm Income on Cattle Rearing and Cattle Other Farm Systems: 2001 to 2008



Source: National Farm Survey (various years)

Specialist cattle farms, as defined by the NFS farm typology, account for approximately 57,300 farms or 55 percent of the NFS farm population. However, there were a further 36,700 non-specialist cattle farms who also had a cattle enterprise. In total 94,000 farms or 90 percent of the NFS population have a cattle enterprise on their farm, making cattle production by far the most prevalent agricultural enterprise on Irish farms. Given the large number of Irish farms with a cattle enterprise and the considerable degree of variability that exists between Irish cattle systems, a high degree of variability in the level of outputs and costs between farms can be expected.

There is considerable heterogeneity in Irish beef production systems, both in terms of the system used to rear the animal and the age at which the animals enter and leave the farm. However, as noted earlier, many farms that are not classified as cattle farms under the NFS farm typology do have a beef enterprise. All farms, both specialist cattle and non-specialist cattle farms, with greater than 5 cattle livestock units are included in this analysis. In Section 2 we analyse the economic performance of Irish cattle production in 2008 by classifying these farms on the basis of their dominant cattle system. In sections 3 and 4 we present the estimated net

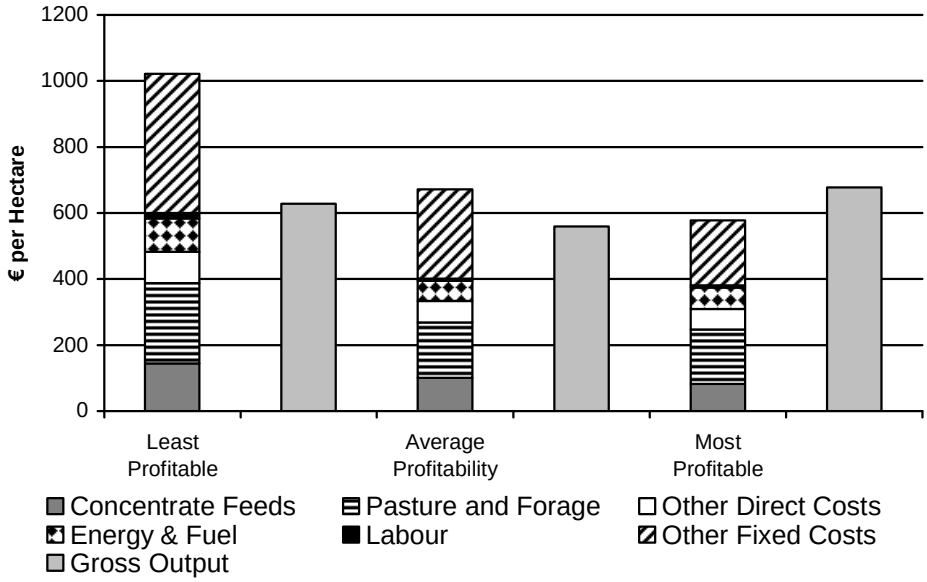
margin performance of Irish cattle farms in 2008 and the forecasted net margin performance for 2010 respectively. Net margin is calculated as gross margin less overhead costs. The allocation of overhead costs (sometimes referred to as fixed costs) to different enterprises on a farm is done on the basis of the enterprise share of gross output. Developments in the output shares of different farm enterprises can make the comparison of enterprise net margins problematic. To avoid these complications we analyse the net margin (profit) performance of Irish cattle farming by aggregating across all cattle enterprises per farm.

2.1 Comparison of Alternative Beef Production Systems in 2008

This section discusses the cost structure for four of the more common categories of beef production systems prevalent in Irish agriculture: single suckling (SS), cattle reared on dairy (RD), weanling to store/finish (WF) and store to finish (SF). For each of the four production systems we have categorised the enterprises on the basis of net margin per hectare and broken the farms into three equally sized groups which we have termed farms with *least, average* and *most* profitability.

Single Suckling (SS): In 2008 the average direct cost of production per hectare (Ha) for SS beef systems ranged from €482 per Ha on the least profitable farms to €309 per Ha on the most profitable farms (see Figure 2 below). The cost of concentrate feed along with the cost of pasture and winter forage accounted for 80 percent of the direct costs of production on SS farms. The average expenditure on concentrate feed varied from €144 per Ha on the low profitability farms to only €83 per Ha on the high profitability farms. As shown in figure 2, considerable variability in the other overhead cost category also exists between farms. Payment of the 2008 suckler cow welfare payment was split over 2008 and 2009, in this analysis we include the payment in 2009 for suckler cows kept in 2008 in the estimation of the 2008 gross output and gross margin, as it represents payment for animals and increased costs of production that were incurred in 2008. Receipt of the suckler cow welfare payment is conditional on having the animals and therefore it is a coupled payment and is included in the calculation of the enterprise gross output for 2008 and 2009.The most profitable third of SS farms earned an average gross output of €678 per hectare.

Figure 2: Variation in Total Production Costs and Gross Output on Single Suckling Beef farms in 2008



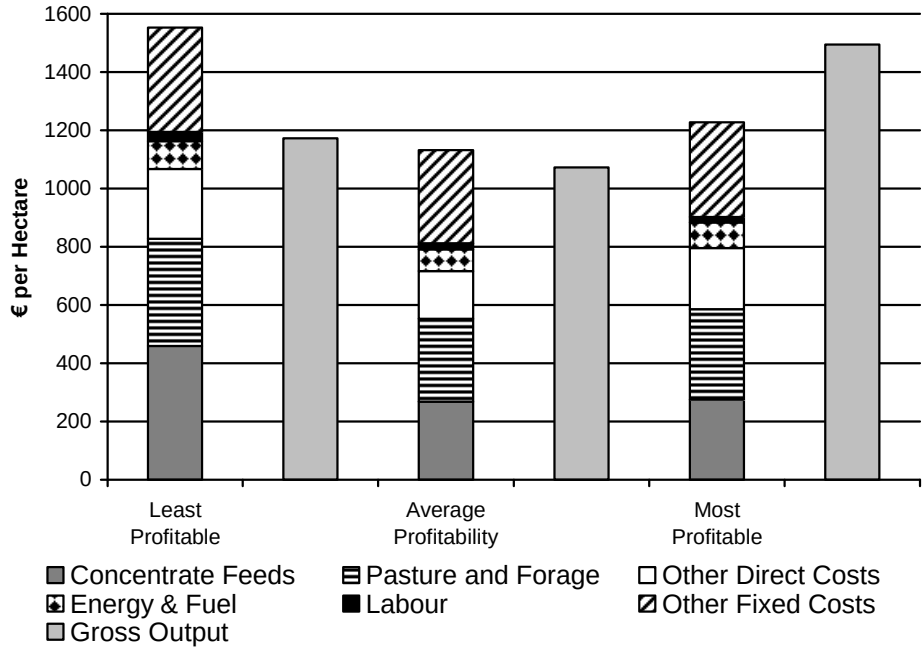
Source: 2008 National Farm Survey Data (2009)

Cattle Reared on Dairy Farms (RD): The second production system examined involves the rearing of cattle born on the farm to the dairy herd. There are a number of points of note when comparing the RD production system with the SS system. Firstly the average gross output earned is significantly larger than that earned on SS farms. However, associated with higher gross output per Ha on RD farms are higher average direct costs. The higher gross output and costs of production and the gross output per Ha on the RD farms is largely due to a higher stocking rate. The average stocking rate on the RD farms in 2008 was approximately 1.8 cattle livestock units per forage Ha compared with between 1.3 and 1.4 livestock units per forage Ha for the other three cattle systems examined. There is also considerably more variability in both average gross output and direct costs, across the low, medium and high profitability groups within the RD system than exists between the equivalent groups of farms operating the SS system

The higher level of direct costs on the RD farms, which range from €713 to €1,066 per Ha, are largely due to high levels of expenditure on concentrate feed and other direct costs. The high expenditure on concentrate feed is

most likely due to the earlier weaning of calves on dairy farms and the fact that, other things being equal, finishing dairy cross cattle generally requires higher volumes of concentrate feed per animal than would be required for non dairy cross animals. The high level of other direct costs on RD enterprises is due to the cost of milk and milk substitutes that are fed to calves. While the expenditure on concentrate feed and other direct costs on RD farms are double the level on SS farms, expenditure on pasture and winter forage on RD farms is closer to the level of expenditure on the SS enterprises. The most profitable one third of RD farms had a gross output of €1,495 per Ha compared with €1,173 per Ha on the least profitable farms.

Figure 3: Variation in Total Production Costs and Gross Output on Cattle Reared on Dairy farms in 2008

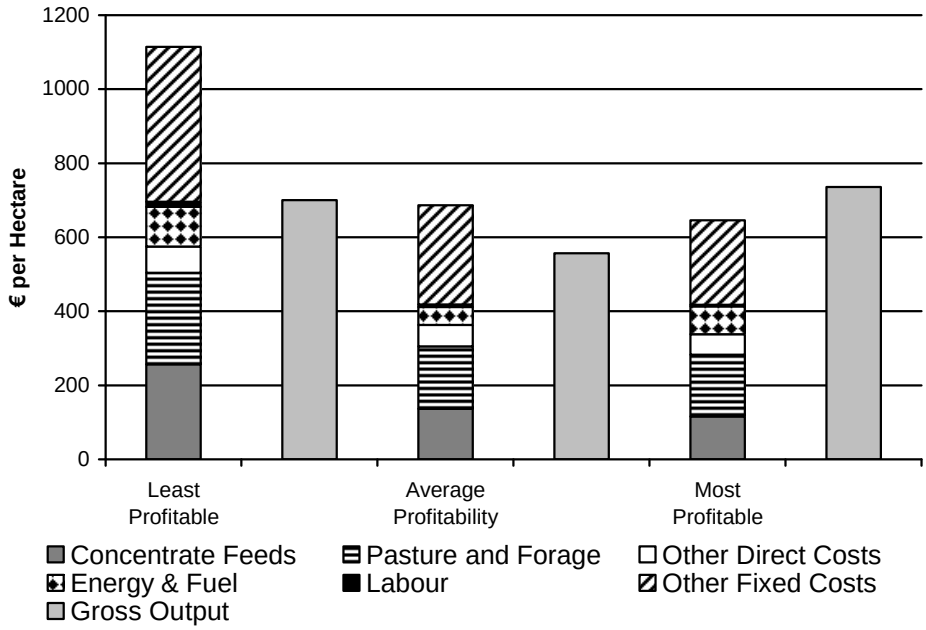


Source: 2008 National Farm Survey Data (2009)

Weanling to Finish (WF): The direct costs of production on farms specialising in buying weanlings which are either sold as finished animals or sold as stores (WF), are in general more variable than on the SS or RD enterprises. The direct costs of production on the weanling to store/finish system in 2008 ranged from €575, on those enterprises in the low profit group, to €338 per Ha on the high profit WF enterprises. Most of the

variability in these direct costs is due to differences in expenditure on concentrate feeds (see Figure 4). There is also a considerable degree of variability in the other fixed cost category. The gross output per hectare on the low profit and high profit weanling to store/finish farms was quite similar at €736 and €700 per Ha respectively. However as shown in figure 4, the low profit farms had substantially higher costs of production.

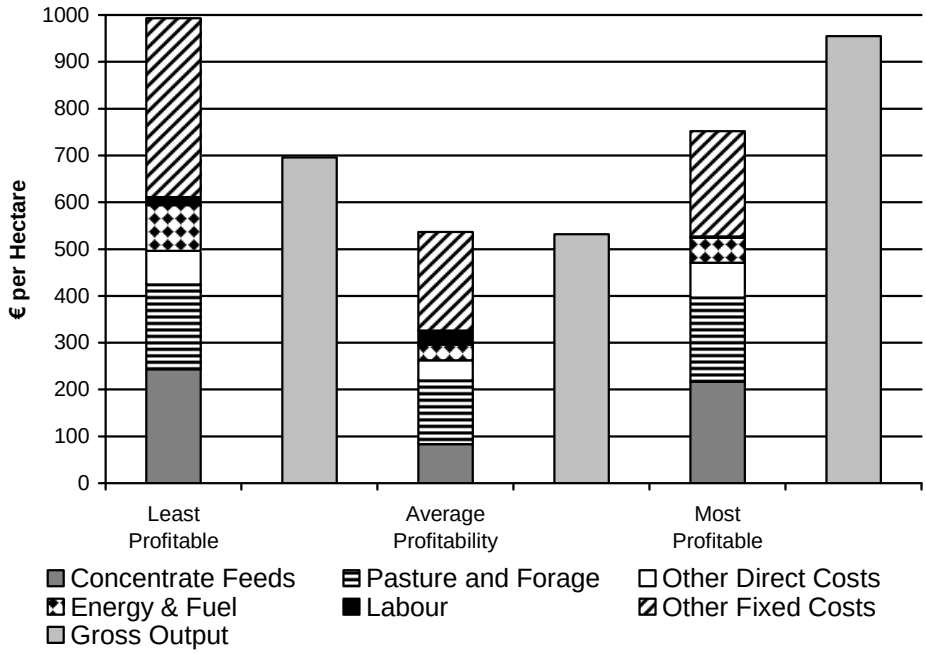
Figure 4: Variation in Total Production Costs and Gross Output on Weanling to Store/Finish Beef farms in 2008



Source: 2008 National Farm Survey Data (2009)

Store to Finish (SF): The final system examined is the store to finish system (SF), in which animals are purchased as stores and brought to finish. As with the WF farms, expenditure on concentrate feed on SF farms is more variable between farms operating this system than expenditure on pasture and winter forage. Concentrate feed expenditure in 2008 ranged from €243 per Ha on the low profit farms, to only €83 per Ha on the moderate profitability farms. There was also a considerable degree of variability in the average gross output on the SF farms. Average gross output per Ha on the high profit farms was €955 while gross output per Ha on low profit farms was €696 per Ha.

Figure 5: Variation in Total Production Costs and Gross Output on Store to Finish Beef farms in 2008



Source: 2008 National Farm Survey Data (2009)

The preceding discussion highlights the large differences in costs per Ha on low, medium and high profitability cattle farms and the differences in direct costs and gross output between the different cattle production systems. However, it is important to recall that there are also substantial variations in gross output across farms, and that high levels of gross output per Ha are often associated with high levels of direct and overhead costs of production.

The average direct costs per Ha on the most profitable SS and RD farms are significantly lower than those for the least profitable SS and RD farms: in contrast, the direct costs of production on SF farms are quite similar on the least and most profitable farms. This would suggest that while low input cost systems allow farmers engaged in cattle rearing to maximise gross margin, this may not be the case for those farmers who are finishing animals that are not bred on the farm.

Table 1 summarises the average direct costs, gross market output and gross market margin across each of the four production systems on a per Ha basis. The highest average gross margin per Ha in 2008 was earned on

the RD farms, who earned an average market based gross margin of €390 per Ha. The SF farms had an average gross margin of €332 per Ha, while the SS and WF farms had average gross margins of €256 and €229 per Ha respectively.

Table 1: Average Market Gross Margin per Hectare across Beef Production Systems in 2008

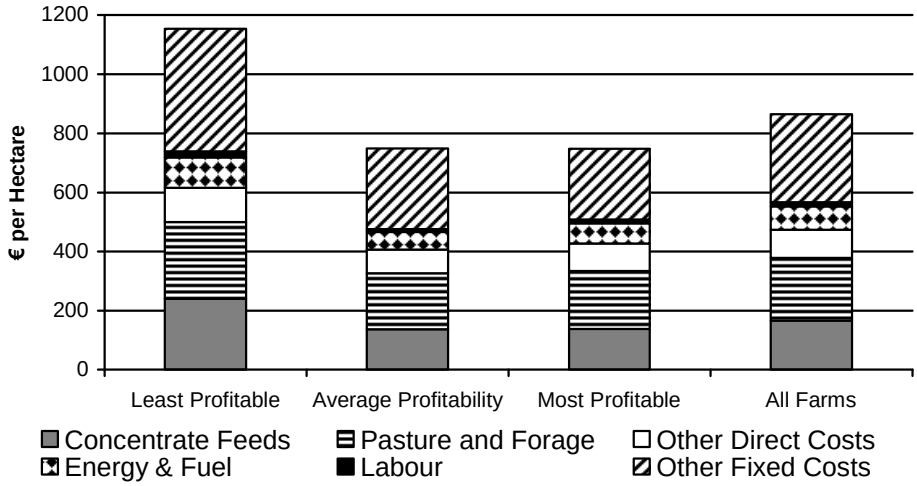
	Single Suckling	Dairy Beef	Weanling to Finish	Store to Finish
Gross Output (€/HA)	620	1242	659	750
Direct Costs (€/HA)	364	852	430	418
Gross Margin(€/HA)	256	390	229	332

Source: 2008 National Farm Survey Data (2009)

2.2 Comparison of Returns to Cattle Production

When comparing the costs of cattle production on the basis of farm profitability we can see that there is a considerable degree of variability between the least profitable one third of cattle farms and the other two thirds of cattle farms. The average total cost of production on the least profitable one third of cattle farms in 2008 was €1,154 per hectare, which was 54 percent higher than the costs of production per hectare on the other two thirds of cattle farms. As we can see from Figure 6, expenditure on concentrate feed accounts for a large share of the difference in total costs between Irish cattle farms. The least profitable farms on average spent €240 per hectare on concentrate feeds in 2008, which is more than 70 percent higher than the average expenditure on the other two thirds of cattle farms. Average expenditure on pasture and winter forage on the least profitable cattle farms was also higher than on the farms with average and above average levels of profit per hectare. The other major difference in costs between the least profitable third of cattle farms and other cattle farms arises in the level of other overhead or fixed costs. On the least profitable farms these costs amounted to €415 per hectare, over 70 percent higher than on the most profitable one third of beef farms.

Figure 6: Variation in Total Production Costs for all Cattle farms in 2008

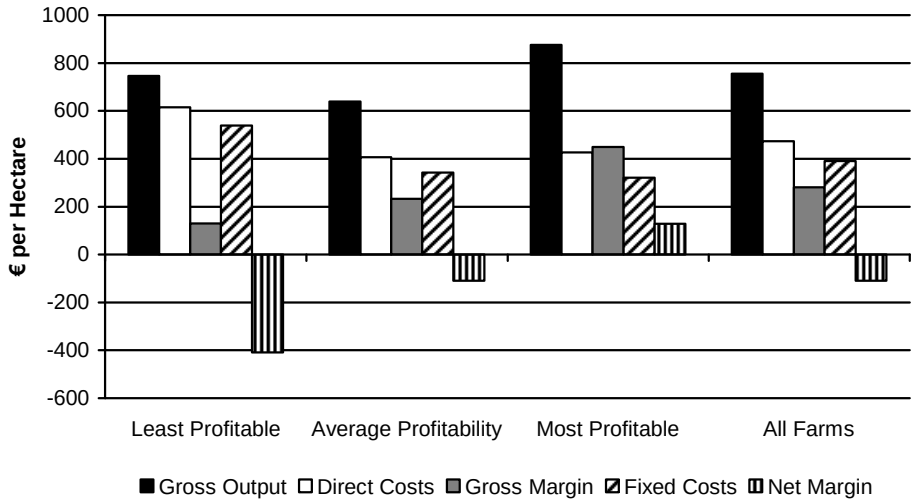


Source: 2008 National Farm Survey Data (2009)

While the costs of production on the average and most profitable cattle farms are similar, the difference in their profitability is explained by differences in the value of gross output. The average gross output on the most profitable one third of cattle farms in 2008 was €876 per hectare, which is 37 percent higher than the €639 of output per hectare on the farm of average profitability.

The average gross margin on the most profitable farms was €449 per hectare, while the average margin on the least profitable one third of Irish cattle farms was €130 per hectare. Only the most profitable third of farms earned a positive average net margin from cattle production, with a net margin of €128 per hectare. The least profitable one third of Irish cattle farms in 2008 earned a negative net margin of €408 on average.

Figure 7: Variation in Net Market Margin per Hectare for all Cattle farms in 2008



Source: 2008 National Farm Survey Data (2009)

3. Estimated Performance of Irish Cattle Farms in 2009

This section of the paper presents a review of the economic performance of Irish cattle farms in 2009. A discussion of the changes in input usage and input costs is first presented and this is followed by a discussion of estimated changes in output value in 2009. The estimates of margins earned by the different cattle enterprises in 2009 are then presented.

3.1 Estimated Input Usage and Price 2009

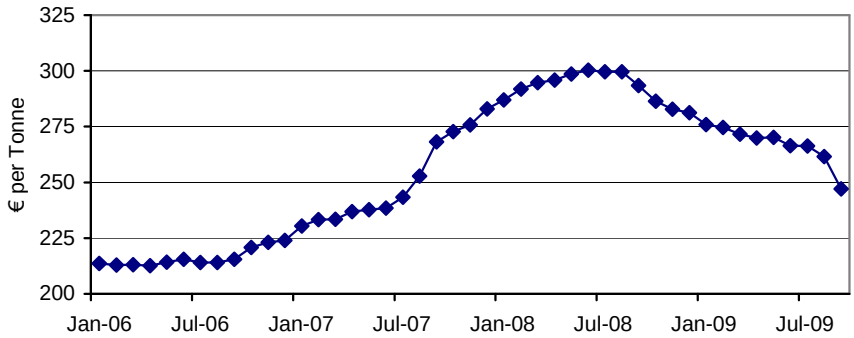
3.1.1 Feedstuffs

At the time of writing (December 2009), only two quarters of official Department of Agriculture, Fisheries and Food (DAFF) data on the quantity of meals fed to the beef herd were available for 2009. For the first six months total beef feed use was approximately 7 percent higher than for the equivalent period in 2008. The official data on feed sales for the first six months in 2008 were 8 percent below the level observed in the equivalent period in 2007. However, the second period of 2008 saw a dramatic increase in the quantities of meals sold as a result of adverse weather conditions. The official figures for the second half of 2008 were 16 percent higher than for the same period in 2007. Given the poor weather in the second half of 2009, it is likely that the volume of concentrates fed in the second half of 2009 will be even higher than the volume fed in the second

half of 2008. The volume of feed purchased in 2009 therefore is estimated to have increased by 10 percent on the 2008 level.

Figure 8 illustrates the evolution of monthly beef feed prices over the period January 2006 to September 2009. It shows the relatively stable feed prices of 2006 and the large increases in feed prices that took place over the course of 2007 and the first half of 2008. Beef feed prices have since declined from their peak level of June 2008. For the first six months of 2009 beef feed prices are 7 percent below the average price for the first six months of 2008. However, when we take a weighted average for the entire year, a decline of 10 percent in the price of beef concentrate feed is estimated.

Figure 8: Monthly Price Index of Cattle Fattening Nuts and Cubes (13-15% Protein) in Ireland for 2007 and 2008



Source: Central Statistics Office Data for 2006 to 2009.

With volumes fed anticipated to be up 10 percent and the average feed prices down 10 percent, this is equivalent to no change in the total expenditure on feed by beef farmers in 2009 compared with 2008.

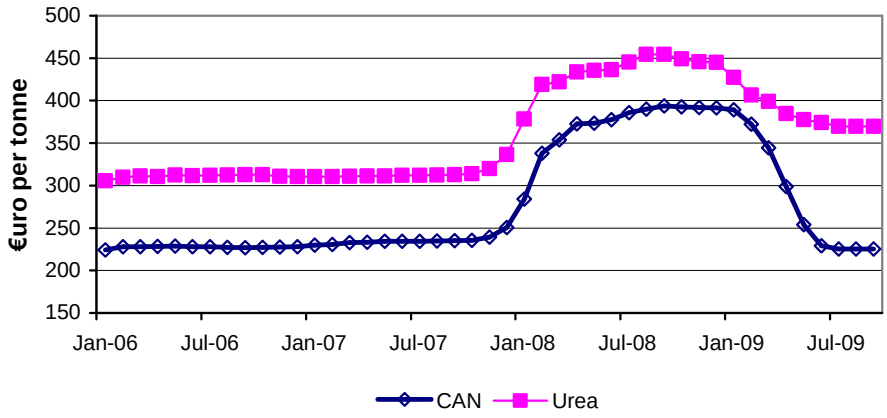
3.1.2 Fertiliser – usage and price 2009

Data from the DAFF indicate that total nitrogen sales in 2009 were largely unchanged from sales in 2008. In contrast, sales of phosphorous and potassium in 2009 have declined by approximately 23 and 26 percent respectively. The decline in sales of phosphorous and potassium is due to the reduced cereal area and a switch by farmers away from NPK mixes to nitrogen straights such as CAN and Urea. Market sources indicate that sales of urea in Ireland have increased from 70,000 tonnes in 2007 to approximately 120,000 tonnes in 2009. Based on information obtained

from fertiliser industry professionals and the DAFF data on fertiliser sales, we estimate that on average purchased volumes of fertilisers by beef farmers are unchanged from levels in 2008.

As can be seen from Figure 9, the price of CAN and urea was stable between January 2006 and autumn 2007. However, from autumn 2007 the price of these two fertilisers increased rapidly peaking in September 2008 at €394 per tonne for CAN and €454 per tonne for urea. Since then the price of both fertilisers has declined steadily, with the price of CAN returning to a level close to the 2006 price. Much of this decline has occurred since May 2009 and consequently cattle farmers may not have seen the full benefit of this decline in fertiliser prices in terms of reduced fertiliser expenditure. In 2009 most of the fertiliser purchases made by Irish cattle farms are likely to have occurred in the first quarter of the year, thus comparing spring 2008 and spring 2009 fertilizer prices gives a better idea of how Irish cattle farms fertiliser expenditure has developed in 2009. From such a comparison the price of CAN in 2009 is approximately 4 percent higher, while the price of Urea is approximately 12 percent lower. Overall, we estimate that fertiliser expenditure by Irish cattle farmers has declined by 5 percent relative to expenditure in 2009.

Figure 9: Monthly Price Index of CAN and Urea from 2006 to 2009



Source: CSO

3.1.3 Energy and Fuel – usage and price 2009

2009 has seen global oil prices decline from the very high prices of 2008, with prices of crude oil averaging $60 per barrel. Taking account of the decline in the value of the dollar versus the euro in 2009, the decline in the

euro price of oil is estimated to be 33 percent. Therefore, given the significant decrease in fuel costs in Ireland as a result of lower crude oil prices in 2009, we have estimated diesel prices to be approximately 15 percent lower than the 2008 level.

The Professional Agricultural Contractors Association advised its members in 2008 to include a fuel surcharge to reflect the increase in fuel costs that year. With the decline in diesel prices in 2009 it is anticipated that contracting charges will have also declined. We have estimated that contracting charges will be 10% lower in 2009 than in 2008. Given that most of the contractor work on cattle farms involves making silage and applying farmyard manure and artificial fertiliser, there is very little scope to change the "volume" of contractor services consumed. Consequently, no further decline in expenditure as a result of a volume change is assumed and therefore the estimated 10 percent decrease in price is fully reflected in a decline in expenditure on contract work.

Data from the CSO indicates that electricity prices increased by 3 percent in early 2009, but were subsequently reduced by 11 percent in May 2009. Given the changes that have taken place in electricity prices and the fact that electricity prices increased substantially in the summer of 2008, it is estimated that average annual electricity prices will be 5 percent higher in 2009 than in 2008. Given that no change in volume consumed is assumed to have occurred in 2009, expenditure on electricity on cattle farms is estimated to have increased by 5 percent in 2009.

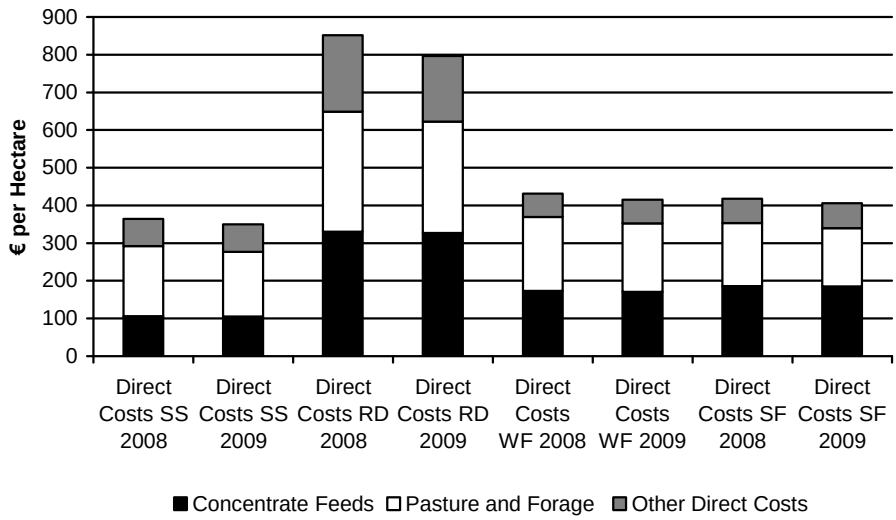
3.1.4 All Other Direct and Fixed Costs– usage and price 2009

Given the weakness of the Irish labour market in 2009, agricultural wage inflation was unlikely. The dramatic reduction in the availability of off-farm employment was also likely to have resulted in a reduction in the demand for non-family labour. We estimate that expenditure on labour on Irish cattle farms in 2009 was 5 percent lower than in 2008. Other direct costs include the value of milk and milk substitutes fed to calves and this cost is estimated to have declined by 30 percent in 2009 in line with the dramatic decline in milk prices. All other direct costs are estimated to have increased by 2 percent in 2009 compared with 2008. The cost of other overhead (fixed) costs is estimated to have increased by 2 percent also in 2009 compared with 2008. Given the largely fixed nature of these overhead costs, there is little capacity for changes in volume used, and no change in volume or usage is assumed in 2009 compared to 2008.

3.1.5 Estimate of Direct Cost Expenditure for 2009

Figure 10 compares the average direct costs of production for the four featured production systems in 2008 with the estimated direct costs for 2009. Average direct costs on all four production systems are estimated to have declined relative to their level in 2008. The decrease in direct costs of production in 2009 is estimated to have been driven primarily by lower contracting costs and a reduction in the cost of fertilisers. A slightly larger reduction in costs per Ha is estimated to have occurred on the RD farms. This reflects the fact that the decline in the value of milk fed to calves on these dairy farms exceeded the declines in the price of the feed used on the other cattle production systems. Overall, the reduction in direct costs from 2009 to 2008 on the single suckling, weanling to store/finish and store to finish production systems is in the region of €10 to €15 per Ha.

Figure 10: Comparison of Actual 2008 Direct Costs and Estimated 2009 Direct Costs for main Cattle Systems



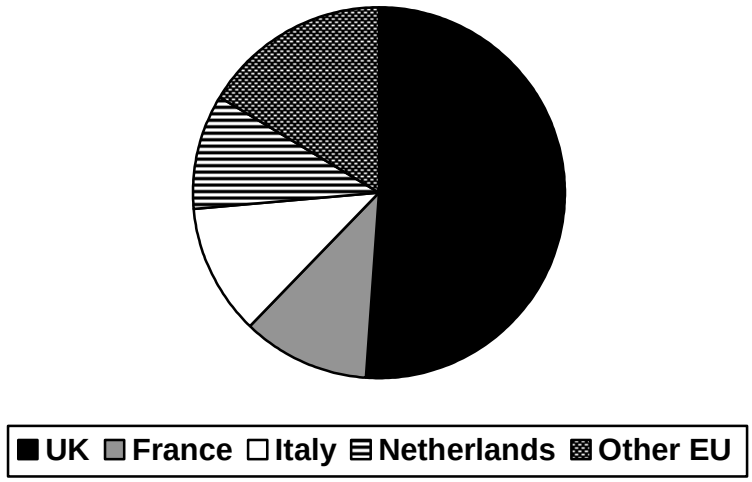
Source: National Farm Survey 2008 and Authors' Own Estimates 2009

3.2 Estimated Output Values 2009

Ireland exports over 80 percent of its beef production. The export dependence of the Irish beef industry means that external market developments largely determine Irish cattle prices. Conditions in the particular overseas markets to which Irish beef and cattle are exported play an important role in determining Irish cattle prices.

The largest market for Irish beef is the UK (see Figure 11). The UK has remained outside of the euro-zone. Since Irish beef exporters are price takers, this means that the depreciation of the pound sterling versus the euro during the course of 2009 led to lower Irish cattle prices. Demand for beef, and particularly for higher value cuts of the beef carcass, has also declined. Consumers have switched to cheaper beef cuts in the presence of the global economic recession which continued in 2009. Furthermore, the Irish and UK economies have contracted by more than most other EU economies. The resulting contraction in consumers demand for beef in the UK and elsewhere has, when combined with the development of foreign exchange rates, largely explained the decline in Irish cattle prices in 2009.

Figure 11: Irish Beef Export Markets (Volume) 2009



Source: Eurostat

In 2009 live exports of cattle from Ireland increased by almost 90 percent over the level observed in 2008. A buoyant live export trade will continue to be an important source of demand for Irish cattle output. Over the last 10 years the composition of live exports has switched with fewer store and finished animals exported. The recent growth in live exports of cattle has been based almost entirely on calves and weanlings.

In 2009 Irish cattle prices declined relative to 2008. Finished cattle prices (R3 steer) declined by approximately 10 percent to €288/100kg. The price of weanlings and store animals has declined by a greater percentage. The Irish price of weanlings in 2009 was 15% lower than in 2008 and the price of store bullocks has been approximately 11% lower in 2009. The fall in the price of calves and weanlings from the dairy herd is likely to have been

greater than the fall in the price of calves and weanlings from the beef herd.

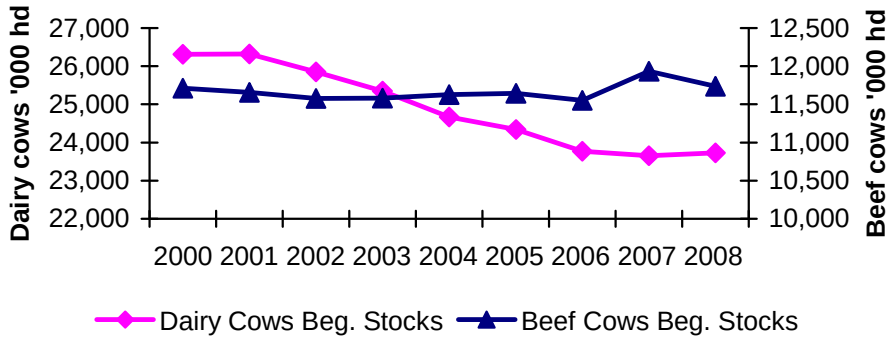
Figure 12: Irish Cattle Prices

Source: DG Agri, CSO, CSO

3.2.1 Irish and EU Cattle Supply

In the short term a continued weakness in demand for beef is likely. However, indigenous EU supplies of beef are contracting due to the ongoing reductions in both the dairy and beef cow herds. This contraction in supply is expected to be large enough to lift EU beef prices in 2010 above the levels observed in 2009. In Figure 13, the recent trends in dairy and other cow stocks in the EU are presented. Over two-thirds of EU beef production is based on the off-spring of dairy cows. To date the contraction in the dairy cow herds has exceeded that in the other (beef) cow herd. The low returns from cattle production have led to some contraction in suckler cow numbers in the UK and Ireland and this contraction is expected to continue and become more prevalent across the continent where the retention of a coupled suckler cow premium has supported beef cow numbers.

Figure 13: EU Cow Numbers 2000 - 2006

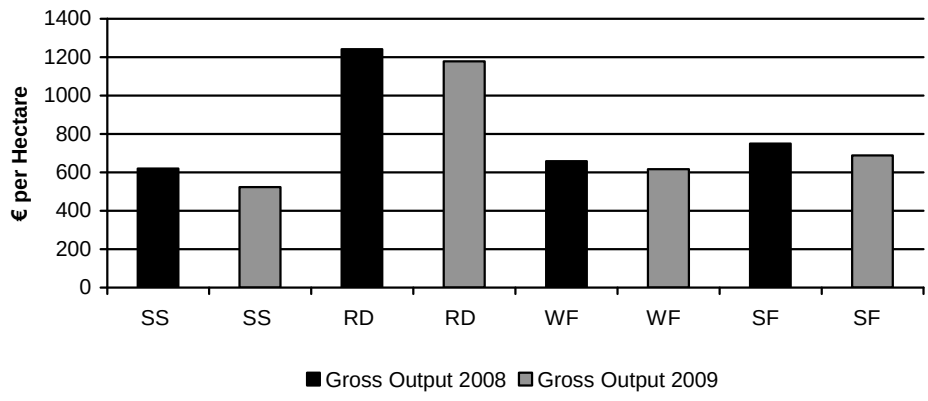


Source: Eurostat

3.2 Beef System Net Margins Estimates for 2009

Average gross output on all four of the selected beef production systems is estimated to have declined in 2009 compared with 2008. This decline in average gross output is due to the lower prices for cattle. The largest decline in output occurred on single suckling farms (SS) where estimated output fell by almost €100 per Ha in 2009. The fall in calf and weanling prices in 2009, as shown in Figure 12 was greater than the fall in other cattle prices and these farms were also more adversely affected by the reduction in the value of the suckler cow welfare payment. The average gross output on SF farms is estimated to have fallen by over €60 per Ha in 2009.

Figure 14: Comparison of Actual 2008 Gross Output and Estimated 2009 Gross Output for main Cattle Systems



Source: National Farm Survey 2008 and Authors' Own Estimates 2009

The declines in the average gross output on the RD farms were largely offset by the reduced direct costs of production. This resulted in the average net margin per Ha on these farms being only slightly lower in 2009 when compared with 2008. The average net margin on the SF farms is estimated to be €47 per Ha lower than in 2008. The net margin on SS farms deteriorated significantly also with the average negative net margin increasing by over €80 per Ha, this was as a result of lower calf and weanling prices and a reduction in the value of the suckler cow welfare payment from €80 per animal in 2008 to €40 per animal.

Table 2: Estimated Gross and Net Margins in 2009 estimated for the main Beef Systems

	Single Suckling	Dairy Beef	Weanling to Finish	Store to Finish
Gross Output (€/Ha) 2008	620	1,242	659	750
Gross Output (€/Ha) 2009	524	1179	617	688
Gross Margin(€/Ha) 2008	256	390	229	332
Gross Margin(€/Ha) 2009	174	382	202	283
Net Margin(€/Ha) 2008	-109	-53	-165	-16
Net Margin(€/Ha) 2009	-189	-59	-191	-63

Source: National Farm Survey Data 2008 and Authors' Own Estimates 2009

Table 3 below presents the estimated financial performance for all cattle farms in 2009 on a per hectare basis and breaks the cattle farm population into 3 equal parts on the basis of profitability. For the least profitable third of cattle farms the average negative net margin is estimated to have declined from -€408 per hectare to -€454 per hectare. The decline in the average net margin on the most profitable third of cattle farms is estimated to be slightly higher. In 2008 the average net margin on the most profitable one third of Irish cattle farms was €128 per hectare; in 2009 this is estimated to have declined to €68 per hectare.

Table 3: Estimated Financial Performance per Ha for All Cattle Farms 2009 and Actual for 2008

	Least Profitable	Average Profitability	Most Profitable	All
Gross Output €/Ha	672	571	792	680
Direct Costs €/ Ha	589	388	405	452
Gross Margin €/ Ha	83	183	387	228
Overhead Costs €/ Ha	537	341	319	389
Net Margin per Ha 2009	-454	-158	68	-161
Net Margin per Ha 2008	-408	-110	128	-109

Source: National Farm Survey Data 2008 and Authors' Own Estimates 2009

4. Outlook for 2010

In this section we forecast the expenditure for various input items, the beef price that will prevail in 2010 and the likely income of beef farmers in 2010.

4.1. The Outlook for Input Expenditure

4.1.1 Feedstuffs

The 2009 harvest prices for feed wheat and barley were down approximately 30 percent on the 2008 harvest prices. This decline in the 2009 cereal prices is likely to lead to a reduction in the cost of concentrate feed in 2010. However, the price of feed is dependent on a number of other factors including the price of imported ingredients, as well as labour and energy costs in the feed mills. The price of imported feed ingredients is projected to increase by between 15 and 20 percent in 2010 compared with 2009, while the cost of energy is also likely to increase. However, taking account of the low prices for the 2009 cereal harvest, we estimate that feed prices in 2010 will be 15 percent lower than in 2009. The volume of concentrate feed fed next year will, as always, depend on the weather. Our analysis assumes no change in the volume of feed fed in 2010 compared with 2009.

4.1.2 Fertiliser

As we move through 2010, some increase in fertilizer prices is expected due to forecast increases in energy prices and some return to economic growth internationally which should push up international demand for fertiliser. However, given that Irish cattle farmers make most of their fertiliser purchases in the first quarter of the year, they are likely to see a reduction in the region of 15 percent in their expenditure on fertilizer in

2010 relative to 2009 as the current relatively low prices are forecast to persist until the end of the first quarter of 2010.

4.1.3 Energy and Fuel

In November 2009 the average crude oil futures price for 2010 was $80 per barrel. This futures price, if fully reflected in spot prices in 2010, would represent a 25 percent increase on the 2009 level. Based on this 2010 futures price for crude oil and the imposition of a carbon tax from the summer of 2010, we forecast that the cost of diesel will increase by 10 percent and that there will be a 5 percent increase in the cost of agricultural contracting. We forecast no change in the volume of diesel or contracting services consumed on Irish cattle farms.

The cost of electricity is also expected to increase on the back of the forecast higher oil and natural gas prices in 2010. Electricity prices are forecast to increase by 10 percent in 2010.

4.1.4 Other Direct and Fixed Costs

Increases in the cost of labour or general inflation are likely to be low given the ongoing weakness in the Irish economy. However increases in the cost of some of the other direct and fixed cost categories can still be expected. We forecast that other direct and other overhead (fixed) costs increase by 2 percent during 2010. The one exception to the moderate increase in other direct costs, is the cost of milk and milk substitutes fed to calves which is forecast to increase by 10 percent. The price of this input is forecast to increase in line with milk prices.

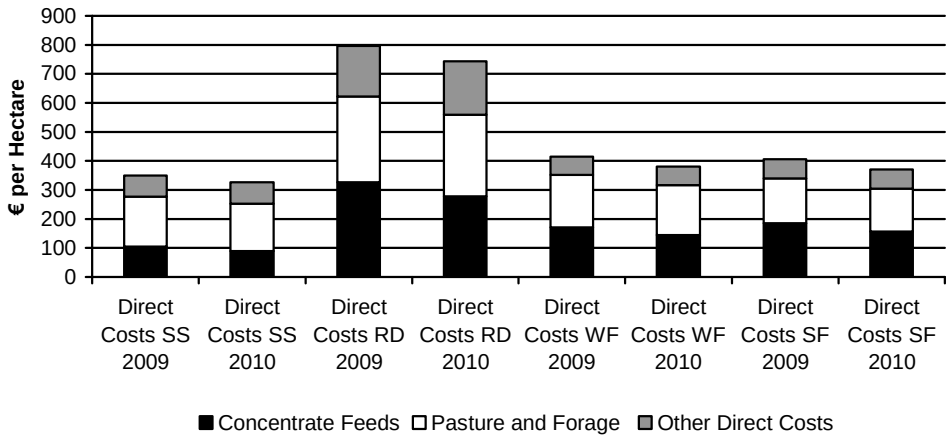
4.2. The Outlook for Cattle and Beef Markets 2010

The price of Irish cattle and beef declined significantly in 2009, however it should be noted that this was from a particularly high base in 2008. The expectation is that the growth in the live export trade seen in 2009, along with a diminishing EU herd size, a continuation of the effective ban on Brazilian beef imports to the EU, and a gradual recovery in the global economy, will all have a positive impact on Irish cattle and beef prices. We estimate that Irish cattle prices in 2010 will be 4 percent higher than in 2009. The introduction of the new cattle pricing grid in 2010 may also see those farmers who are finishing their cattle to a higher standard receiving a higher price in 2010 under the new grid system than they would have received under the old system. However, those farmers with poorer quality animals are likely to receive a lower price as a result of the new system.

4.3.1 The Outlook for Beef System Net Margin in 2010

Figure 15 compares the estimated and forecast average direct costs per Ha in 2009 and 2010 for the four featured beef production systems. Given the estimated volume changes in input usage as well as the changes in input prices, it is expected that total direct input cost expenditure will be down in 2010 relative to 2009. The greatest reduction is expected to occur on the RD farms, where total direct costs are expected to decline by €53 per Ha. The reduction in direct costs is expected to be lowest on SS farms, €23 approximately, while a reduction of €35 per Ha is expected on WF and SF farms respectively.

Figure 15: Comparison of Estimated Direct Costs for 2009 and Forecasted Direct Costs for 2010



Source: Authors' Own Estimates 2009 and Forecasts 2010

The average gross margin for the four cattle systems is forecasted to increase as a result of higher cattle prices for 2010 along with lower prices for fertilizer and concentrate feed. Average gross margins are forecasted to increase by between €40 and €60 per Ha, however increases in fuel expenditure and other overhead costs will erode some of this gain. The RD farms typically have higher direct costs per Ha and so are likely to gain more from a reduction in the cost of concentrate feed and fertilizer.

Table 4: Gross and Net Margins in 2009 estimated for the main Beef Systems

	Single Suckling	Dairy Beef	Weanling to Finish	Store to Finish
Gross Output (€/Ha) 2009	524	1179	617	688
Gross Output (€/Ha) 2010	544	1206	641	715
Gross Margin(€/Ha) 2009	174	382	202	283
Gross Margin(€/Ha) 2010	217	464	260	344
Net Margin(€/Ha) 2009	-189	-59	-191	-63
Net Margin(€/Ha) 2010	-157	10	-144	-11

Source: Authors' Own Estimates 2009 and Forecasts 2010

It is forecast that the combination of an increase in cattle prices along with a further reduction in the cost of inputs, such as concentrate feed and fertilizer, will lead to an improvement in cattle net margins in 2010 compared with 2009. However, the contracting costs and energy and fuel related expenses are expected to increase as a result of higher energy prices. As shown in table 4 the net margin on the most profitable farms is forecasted to increase from an estimated €68 per hectare in 2009 to €111 per hectare in 2010.

Table 5: Forecasted Financial Performance per Ha for All Cattle Farms 2010 and Estimated for 2009

	Least Profitable	Average Profitability	Most Profitable	All
Gross Output €/Ha	695	589	817	702
Direct Costs €/ Ha	545	361	379	420
Gross Margin €/ Ha	150	228	439	282
Overhead Costs €/ Ha	551	351	328	400
Net Margin per Ha 2010	-402	-123	111	-118
Net Margin per Ha 2009	-454	-158	68	-161

Source: Authors' Own Estimates 2009 and Forecasts 2010

5. Concluding Comments

Despite declining levels of beef production in the EU, Irish cattle prices declined in 2009. This decline in cattle prices was largely driven by changes in the exchange rate between the euro and sterling and reduced demand for beef due to the ongoing international recession. The

dependence of the Irish beef sector on the UK export market meant that the negative impact of the recession on beef prices was exacerbated by the decline in the value of sterling relative to the euro. Farmers specialising in buying in weanlings to rear would appear to have been less affected as they also benefited from a decline in the cost of animals being purchased in to the farm (weanling and store animals). Dairy farmers rearing cattle also appear to have been less affected as they have benefited from lower costs of production.

The cost of some of the key inputs in cattle production also declined in 2009. The decline in the cost of production helped to offset some of the reduced value of cattle output. The expectation is that concentrate feed and fertilizer prices will not increase in the early months of 2010. However, contracting charges and fuel and energy costs are expected to increase as a result of higher oil prices.

Over two thirds of cattle farmers are estimated to have earned a negative net margin in 2009. Despite the forecast higher output prices and lower costs of production, negative net margins are again expected to prevail on the majority of Irish cattle farms in 2010. Those cattle farms which currently earn positive net margins can expect to see those margins increase in 2010, while the losses on other cattle farms should decline.

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number of anonymous industry representatives were also very useful in the preparation of this paper. Any errors or omissions remain the sole responsibility of the authors.

Table A1: Family Farm Income on Cattle Rearing and Cattle Other Farm Systems: 2001 to 2008 (€/farm)

	2001	2002	2003	2004	2005	2006	2007	2008
Cattle Rearing	7,340	7,752	7,337	7,261	12,729	8,293	7,703	7,740
Cattle Other	7,869	9,521	8,106	8,586	18,283	11,290	10,709	11,208

Source: National Farm Survey (various years)

See also Figure 1 in the main text

Table A2: Variation in Total Production Costs and Gross Output on Single Suckling Beef farms in 2008 (€/ha)

	Least Profitable	Average Profitability	Most Profitable
Concentrate Feeds	145	101	83
Pasture and Forage	243	167	165
Other Direct Costs	95	65	62
Energy & Fuel	101	62	65
Labour	16	7	7
Other Fixed Costs	422	271	196
Gross Output	628	559	678

Source: National Farm Survey Data (2008)

See also Figure 2in the main text

Table A3: Variation in Total Production Costs and Gross Output on Cattle Reared on Dairy farms in 2008 (€/ha)

	Least Profitable	Average Profitability	Most Profitable
Concentrate Feeds	459	269	274
Pasture and Forage	368	284	311
Other Direct Costs	239	164	211
Energy & Fuel	96	74	88
Labour	31	21	18
Other Fixed Costs	359	320	325
Gross Output	1,173	1,072	1,495

Source: National Farm Survey Data (2008)

See also Figure 3 in the main text

Table A4: Variation in Total Production Costs and Gross Output on Weanling to Store/Finish Beef farms in 2008 (€/ha)

	Least Profitable	Average Profitability	Most Profitable
Concentrate Feeds	257	137	116
Pasture and Forage	247	169	167
Other Direct Costs	71	58	55
Energy & Fuel	107	48	75
Labour	14	7	4
Other Fixed Costs	418	268	229
Gross Output	700	557	736

Source: National Farm Survey Data (2008)

See also Figure 4 in the main text

Table A5: Variation in Total Production Costs and Gross Output on Store to Finish Beef farms in 2008 (€/ha)

	Least Profitable	Average Profitability	Most Profitable
Concentrate Feeds	243	83	217
Pasture and Forage	181	136	180
Other Direct Costs	72	43	75
Energy & Fuel	98	33	53
Labour	17	30	3
Other Fixed Costs	382	211	225
Gross Output	696	532	955

Source: National Farm Survey Data (2008)

See also Figure 5 in the main text

Table A6: Variation in Total Production Costs for all Cattle farms in 2008 (€/ha)

	Least Profitable	Average Profitability	Most Profitable	All Farms
Concentrate Feeds	241	137	138	167
Pasture and Forage	260	189	197	212
Other Direct Costs	115	80	92	95
Energy & Fuel	102	60	69	80
Labour	21	9	13	14
Other Fixed Costs	415	273	239	297

Source: National Farm Survey Data (2008)

See also Figure 6 in the main text

Table A7: Variation in Net Market Margin per Hectare for all Cattle farms in 2008 (€/ha)

	Least Profitable	Average Profitability	Most Profitable	All Farms
Gross Output	746	639	876	755
Direct Costs	616	407	427	474
Gross Margin	130	232	449	281
Fixed Costs	538	342	321	391
Net Margin	-408	-110	128	-109

Source: National Farm Survey Data (2008)
See also Figure 7 in the main text

Table A8: Comparison of Actual 2008 Direct Costs and Estimated 2009 Direct Costs for main Cattle Systems (€/ha)

	SS	RD	WF	SF
Concentrate Feeds 2008	106	330	173	186
Pasture and Forage 2008	186	319	196	167
Other Direct Costs 2008	72	203	62	65
Concentrate Feeds 2009	105	327	171	185
Pasture and Forage 2009	172	295	181	155
Other Direct Costs 2009	73	174	63	66

Source: National Farm Survey 2008 and Authors Own Estimates 2009
See also Figure 10 in the main text

Table A9: Comparison of Actual 2008 Gross Output and Estimated 2009 Gross Output for main Cattle Systems (€/ha)

	SS	RD	WF	SF
Gross Output 2008	620	1242	659	750
Gross Output 2009	524	1179	617	688

Source: National Farm Survey 2007 and Authors Own Estimates
See also Figure 14 in the main text

Table A10: Comparison of Estimated Direct Costs for 2009 and Forecasted Direct Costs for 2010 (€/ha)

	SS	RD	WF	SF
Concentrate Feeds 2009	105	327	171	185
Pasture and Forage 2009	172	295	181	155
Other Direct Costs 2009	73	174	63	66
Concentrate Feeds 2010	89	278	145	157
Pasture and Forage 2010	164	281	172	147
Other Direct Costs 2010	74	184	64	67

Source: Authors Own Estimates 2009 and Forecasts 2010
See also Figure 15 in the main text

SITUATION AND OUTLOOK FOR SHEEP 2009/10

Kevin Hanrahan and Anne Kinsella
Rural Economy Research Centre,
Athenry, Co. Galway.

1. Introduction

For this paper data from farms in the National Farm Survey (NFS) which have a sheep enterprise are used, together with data from Bord Bia, the CSO and Eurostat, as the bases for an analysis of the financial and technical performance of Irish sheep farms. Our estimates of enterprise margins for 2009 are based on 2008 NFS data, preliminary CSO price indices for 2009, and input from Teagasc colleagues and other industry professionals. Forecasts of sheep enterprise margins for 2010 are based on our estimates of margins for 2009, and forecasts of input and output price changes in 2010.

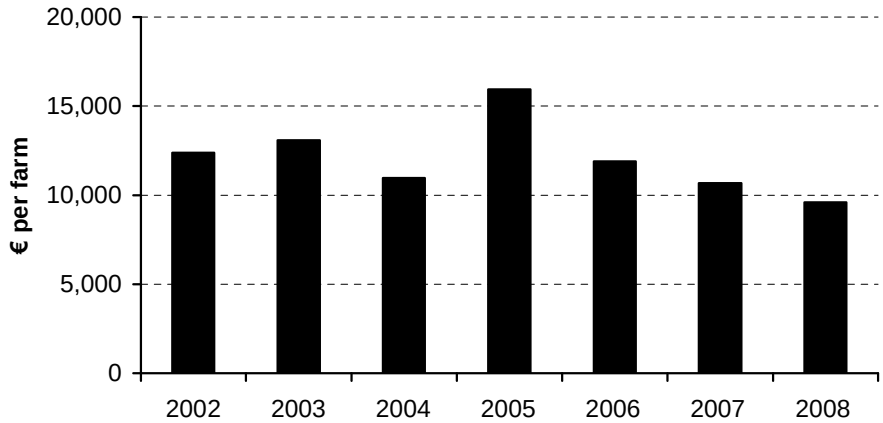
We begin with a brief review of the farm income performance of all sheep farms in 2008. This is followed by an overview of the current short term outlook for European sheep markets and for Irish lamb prices in particular. A brief overview of medium term trends in European and Irish sheep markets is then presented. A detailed assessment of the 2008 sheep margins is then presented and this is followed by estimates and forecasts of margins for the main sheep enterprises in 2009 and 2010.

National policy in relation to the sheep sector has changed in 2009 with the introduction of the *Upland Sheep Scheme* and the commitment by the Minister for Agriculture, Fisheries and Food to allocate €54m over the next three years to the sheep sector, with the explicit objective of supporting incomes in sheep farming. At the time of writing (December 2009) the details of this scheme, specifically the rate of payment per eligible hectare, are not clear. As a consequence the impact of the *Upland Sheep Scheme* on gross margins has not been incorporated in our estimates of sheep enterprise gross margins for 2009. In the event that any future support to incomes in the sheep sector is linked to sheep production then enterprise gross margins will increase.

3. Review of the Economic Performance of Sheep Farms in 2007

Family farm income[2] on those farms classified by the NFS as *mainly sheep* farms has been quite variable over the past number of years. [3] The 2008 average income on sheep farms declined by 10 percent to €9,593. The average family farm income (FFI) earned on these farms for the period 2002 to 2008 are shown in Figure 1. The observed decline in FFI in 2008 relative to 2007 was principally the result of increases in direct and overhead costs on these farms. Increased spending on purchased feeds and on fertilisers led to direct costs in 2008 that were, on average, 7 percent higher than in 2007. Overhead costs also increased, with the average overhead cost in 2008 over 4 percent higher than in 2007. The value of gross output on the average *mainly sheep* farm was largely unchanged compared with 2007.

Figure 1: Income on Mainly Sheep Farms in Ireland: 2002 to 2008



Source: Teagasc National Farm Survey (various years)

Over 29 percent of sheep farms in 2008 had a family farm income of greater than €13,000. A large number of farms generated very low incomes. Almost 30 percent of *mainly sheep* farm businesses generated less than €3,500 per annum. Most of the farmers on these very low income farms supplement their farm-based income with other income sources such

[2] Family farm income represents the total return to the family labour, management and capital investment in the farm business. It is calculated as gross output less total net costs and includes direct payments/SFP (Connolly, Kinsella, Quinlan and Moran, 2009).

[3] The *Mainly Sheep* farm category within the NFS comprises farms where the sheep enterprise was the dominant enterprise in the farm's gross margin. These farms are dominated by farms operating hill sheep enterprises.

as off-farm employment, pensions or benefit transfers. On over 50 percent of all sheep farms, either the farmer or spouse had off-farm employment; on 45 percent of *mainly sheep* farms the farm holder was a source of off-farm income earnings.

In 2008 those *mainly sheep* farms that participated in the Rural Environmental Protection Scheme (REPS) had higher FFI, on average, than those who choose not to participate in REPS. The future of REPS is currently unclear. Participation in future agri-environmental schemes is unlikely to provide a means through which incomes on sheep farms can be significantly increased.

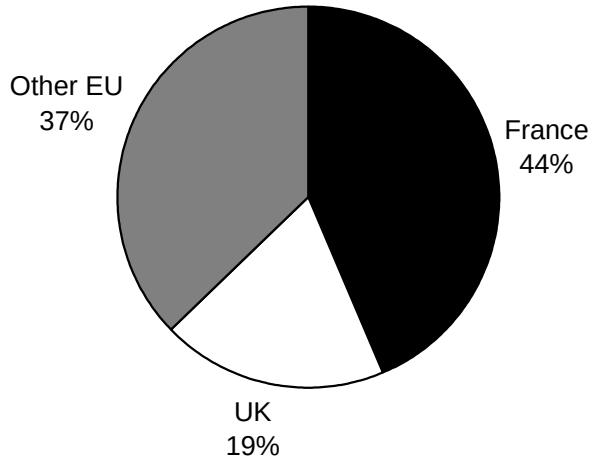
Given that direct payments receipts are either fixed or in some cases in decline, the prices farmers receive for their output, the costs that they incur in producing lamb and their levels of technical efficiency will be the key determinants of the profitability of Irish sheep enterprises. In the next section we review the short run outlook for Irish lamb prices. This is then followed by a brief synopsis of the longer term outlook for the Irish sheep sector.

2.1 *Sheep Meat Markets and Price: Short run outlook*

The bulk of Irish lamb output is exported and 2008 was a typical year with 71 percent of Irish lamb production sold on foreign markets (Bord Bia, 2009). This fact means 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 has an impact on lamb demand and hence the market price for lamb.

The continental EU market for Irish lamb has a strong impact on the prices received by Irish producers. While the UK remains an important market, the majority of Irish lamb exports are destined for markets in the euro zone (see Figure 2). The relatively low level of dependence on the UK market means that the depreciation of sterling versus the euro in 2009 has not affected Irish lamb prices to the same extent as its impact on Irish cattle prices. So far in 2009 the UK has taken 19 percent of Irish sheep meat exports (Eurostat, 2009b). In contrast, the UK has accounted for over 50 percent of Irish beef exports.

Figure 2: Irish Sheep Meat Exports by Destination in 2009



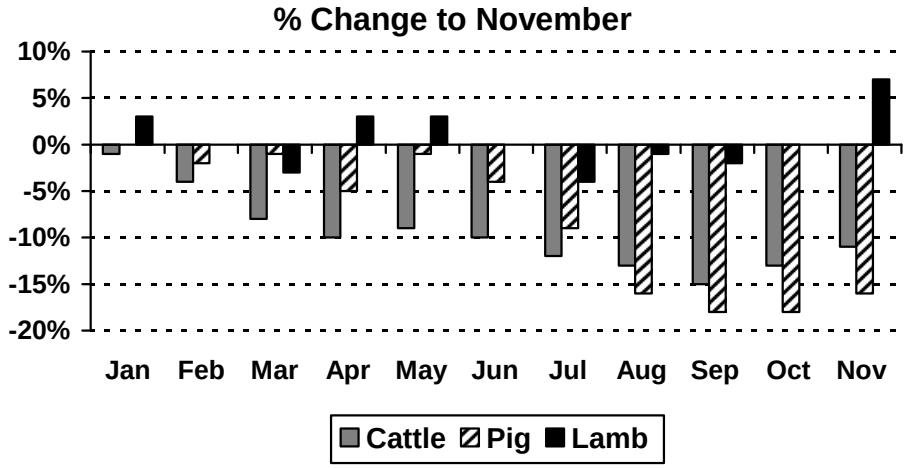
Source: Eurostat COMTRADE database

On the EU market, Irish lamb competes with lamb produced in other EU Member States as well as lamb produced in New Zealand and Australia. Aggregate EU demand for lamb has been largely stable in recent years with minor declines in EU per capita consumption being offset by increases in population. Demand for lamb in the EU is expected to contract over the short run due to the ongoing recession. The magnitude of the contraction in demand for Irish exports will however be limited by the fact that France, the principal export market for Irish lamb, has been one of the economies within the EU least affected by the global recession. Given the relatively stable demand outlook on the key European lamb markets, the short-run outlook for lamb price will continue to be driven by developments in supply both within the EU and the world market.

The short run supply story within the EU continues to be characterised by contracting breeding flocks and falling levels of lamb slaughter and production. The volume of lambs slaughtered in France in the first 9 months of 2009 declined by 26 percent when compared to the same period in 2008. The number of light lambs slaughtered in Spain in the first 8 months of 2009 is 18 percent lower than in 2008. In Ireland and the UK the slaughter totals for the first 9 months of 2009 are 6 percent and 7 percent lower than for the corresponding period in 2008 (Eurostat, 2009a).

The overall contraction in EU lamb supplies that has occurred in 2009 is an important factor in explaining the resilience of Irish and EU lamb prices in a context of generally declining meat prices and contracting demand. As Figure 3 shows, compared to cattle and pig prices, Irish lamb prices in 2009 are largely unchanged compared to 2008.

Figure 3: Change in Irish Lamb, Cattle and Pig Prices (2009 vs. 2008)



Source: DG Agri. Cattle (R3 Steer), Pig (E Grade Carcass), Lamb (Fat Lamb).

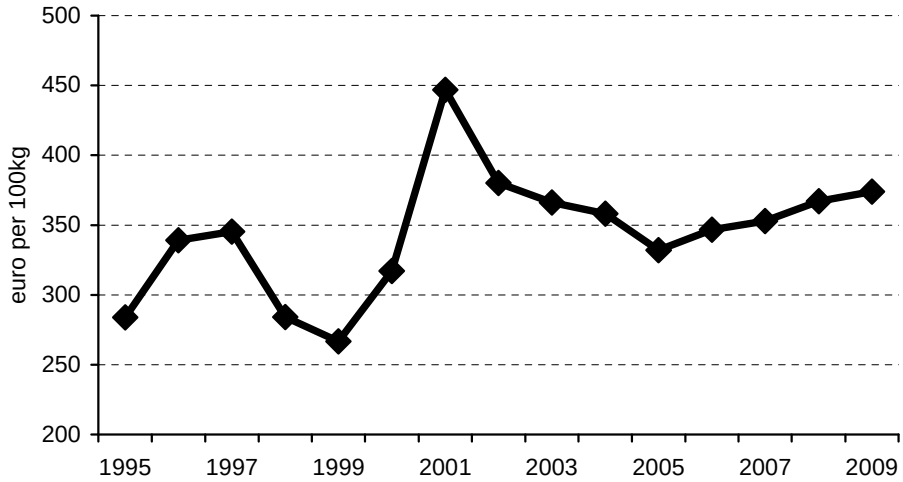
The indigenous production of lamb in the EU in 2010 will largely be a function of the 2009 ending inventory of breeding ewes. Overall breeding inventories in 2009 are again lower than in 2008. Provisional June 2009 estimates from the CSO show a decline in the Irish sheep breeding stock of 6 percent compared to 2008 (CSO, 2009). The UK sheep breeding flock in June 2009 declined by over 5 percent compared with June 2008 (DEFRA, 2009). While the French ewe flock in December 2008 was over 5 percent lower than in 2007, it is unclear as of yet whether the large reduction in lamb and ewe slaughter in 2009 is indicative of some rebuilding of the French breeding flock.

Lower volumes of indigenous EU lamb production in the past would have led to increased lamb imports from outside the EU. However, *Meat and Wool New Zealand* (M&WNZ) suggests that, in the short to medium term, this may not be the case. Increased hogget retentions have occurred as New Zealand sheep farmers begin to rebuild their breeding flocks. This will,

in the short run, limit the potential for growth in the volume of New Zealand lamb output and exports. The M&WNZ (2009) forecast is that New Zealand production of lamb for export will decline by 3 percent in the 2009/10 production year. Thus, imports of NZ lamb into the EU are unlikely to increase to replace the declining indigenous European lamb production.

Lamb prices paid at export licensed abattoirs in Ireland have increased year on year since 2005. The trend in Irish lamb prices since 1995 is shown in Figure 4. The average weekly price in 2009 (when weighted by weekly throughput at export licensed abattoirs) is 2 percent higher than for the same period in 2008.

Figure 4: Irish Lamb Price, 1995 – 2009



Source: Bord Bia.

The combination of accelerating contraction in indigenous EU supplies of lamb, contraction of southern hemisphere lamb exports, with a moderately declining EU per capita demand for lamb, suggests that the prices of lamb on European (and wider international) markets in 2010 should remain at or above the level observed in 2009. Supply and demand developments on lamb markets would provide some of the conditions for increased lamb prices, but significant upward movement in prices will be dampened by reduced prices for competing meats (particularly pig and poultry meat).

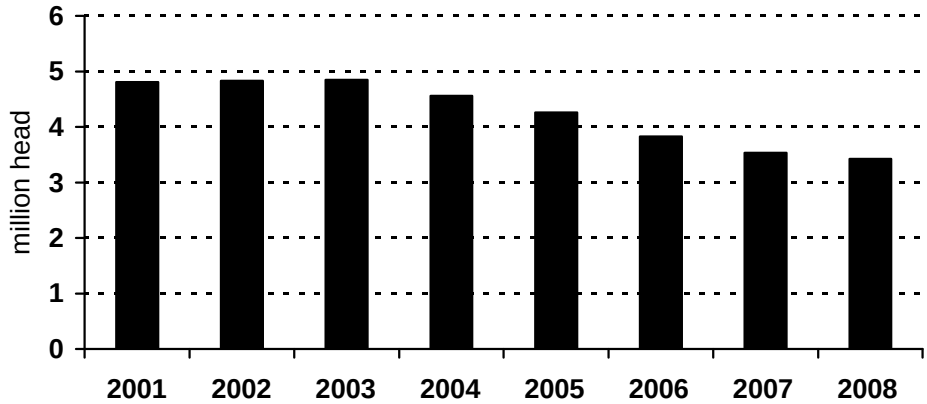
Sheep and Flock Numbers

The decline in the number of sheep flocks in Ireland continued in 2008, with the number of registered flocks close to 6 percent lower than in 2007. The number of sheep flocks recorded by the Department of Agriculture, Fisheries and Food in the 2008 Sheep and Goat Census was 31,756 (DAFF, 2009).

The national average flock size has decreased steadily since the early 1990s. The average breeding flock size was 108 ewes in December 2005 and by December 2008 this had declined to 97 ewes per flock. Of the 31,756 sheep flocks in Ireland, approximately 45 percent have less than 50 ewes. The number of large flocks, i.e. those with greater than 200 sheep was 11.7 percent of the total. Despite the decline in the number of sheep flocks in Ireland there does not appear to have been any significant consolidation in the structure of the sheep sector, with the number of large flocks remaining largely unchanged.

The Irish sheep population peaked in 1992 and has since declined by an average of 3.6 percent per annum. The rate of decline in 2008 has slowed to 3 percent. This reduction in the rate of contraction followed an acceleration in the rate of contraction following the decision to decouple the ewe premium in 2005.

Figure 5: Total Sheep Numbers 2001-2008 (December)



Source: CSO December Livestock Survey

2.4 *Medium Term prospects for the Irish sheep sector*

Over the next 10 years the prospects for the Irish and EU lamb sectors, in the absence of any significant changes in agricultural policy and agricultural trade policy are, if not buoyant, at least stable (Binfield, Donnellan, Hanrahan and Westhoff, 2008).

Over the next 10 years there is likely to be a WTO agreement that liberalizes EU agricultural trade policy by lowering the tariff barriers that currently protect EU agricultural markets. The lowering of such tariff barriers will negatively affect the Irish lamb market by allowing imports of lamb into the EU at lower prices. The magnitude of any price reduction that might arise from a WTO agreement will depend on the level of world prices. Most agencies producing medium projections of international lamb and sheep markets expect world market prices to grow over the medium term (FAPRI 2009; OECD 2009).

Internal EU reforms of the CAP are unlikely to have a major impact on the sheep sector given that most direct payments paid to farmers in the EU are decoupled. However, coupled ewe premiums remain in place in some Member States such as France. The decoupling of coupled premiums in a future agreement could further accelerate the contraction in indigenous EU lamb production and would, other things equal, lead to higher lamb prices.

2.5 *Sheep Margins – 2008*

Average gross margin data for the main sheep systems from the 2008 National Farm Survey (NFS) are shown in Table 1. The gross margin per hectare for the early and mid-season systems are based on data from flocks farmed on all soil groups. The gross margin data for hill systems are based on farms with soils that have a limited use range and are expressed per ewe let to ram.

Table 1: Sheep Enterprise Gross Margins, 2007 – 2008

Enterprise	2007	2008
	€/ha	
Early Lamb	484	401
Mid-Season Lamb	444	374
	€/ewe	
Hill-Blackface	6.4	5.2

Source: National Farm Survey (Various Years)

In 2008, the average gross margin per hectare from the early-lamb system declined by 17 percent. This decline was due to a decrease in the value of output per hectare of over 10 percent that was caused by a 14 percent decline in the weaning rate as well as a small decline in stocking rate per hectare. Direct costs for early lamb production were more or less constant between 2007 and 2008 at approximately €370 per hectare.[4]

Mid-season lamb is the predominant lowland sheep system in Ireland. Changes in the value of output, costs and gross margin per hectare for this system are shown in Table 2. The value of gross output on mid-season lamb enterprises declined in 2008 by 6 percent. In 2008 the impact of lower stocking rates per hectare on the output value was offset partially by increased weaning rate and a slightly higher lamb price. Total direct costs per hectare on the average mid-season lamb enterprise increased by 7 percent in 2008. This increase in costs was largely due to increased expenditure on concentrates and increased expenditure on fertiliser (pasture costs). With lower gross output per hectare and higher direct costs, the gross margin on the mid-season lowland lamb enterprise in 2008 was 16 percent lower than in 2007.

Table 2: Mid-Season Lamb Output, Direct Costs, Gross Margin and Technical Performance

	2007	2008
	€/ha	
Gross output	**795**	**748**
Direct Costs	**351**	**374**
Concentrates	143	164
Winter forage	39	36
Pasture costs	68	73
Other direct costs	101	101
Gross Margin	**444**	**374**
Ewes/ha	8.8	7.9
Weaning rate per ewe	1.34	1.38
Lambs/ha	11.8	10.9

Source: National Farm Survey (Various Years)

[4] Margins on the early lamb system are generally more variable than those earned on other systems due to the nature of the production system. The small size of the sample of early lamb enterprises within the NFS also means that changes in the composition of the sample from year to year can have a large impact on the sample's average margin.

In general, Irish farms have more than one enterprise. Each year within the NFS overhead costs are allocated between enterprises on mixed farms on the basis of each farm enterprise's share of total farm gross output (excluding direct payments). This means that the share of overhead costs allocated to a given farm enterprise can change due to changes in the value of output from other enterprises on the farm. This method of allocating overhead costs can lead to changes in net margins that can be seemingly perverse. Between 2007 and 2008, the overhead costs that were allocated within the NFS to the mid-season enterprise, decreased by almost 22 percent to €398 per hectare due largely to developments in non-sheep farm enterprises. This decline in overhead costs allocated to the mid-season lamb enterprise results in an average net margin per hectare of €76. This level is almost 19 percent higher than that in 2007. This pattern of decreasing gross and simultaneously increasing net margins illustrates the difficulties in drawing inferences concerning enterprise performance from the results for net margins.

Table 3: Mid-Season Lamb Output, Costs, Margins and Technical Performance – 2008

	Bottom 1/3	Middle 1/3	Top 1/3
		€/ha	
Gross Output	**527**	**773**	**1106**
Direct Costs	**407**	**354**	**350**
Concentrates	180	161	138
Winter Forage	47	32	25
Pasture	75	62	89
Other Direct Costs	105	99	98
Gross Margin	**120**	**419**	**756**
Ewe / ha	6.7	8.1	9.7
Weaning rate /ewe	1.22	1.44	1.49
Lamb carcass kg/ha	163	233	289
Dir. costs €/kg carcass	2.49	1.52	1.21

2008 National Farm Survey (2009); ranked on a gross margin per hectare basis.
Note: In calculating the volume of lamb carcass output per ha an average carcass weight of 20 kg has been used (Hanrahan, 2006).

The large differences in the profitability of sheep farms operating the mid-season lamb system persist. For comparison purposes, in Table 3 mid-season lowland lamb enterprises are ranked on the basis of gross margin

per hectare, and grouped into three equally sized categories, namely a top, middle and bottom group of farms. The average levels of output, direct costs and gross margin per hectare across these three groups, as well as some simple measures of technical performance, can be compared. The top group earned an average gross margin of €756 per hectare in 2008; farms in the bottom group earned an average gross margin of only €120 per hectare. This means that the top producers earned, on average, over 6.2 times more per hectare than their counterparts in the bottom group.

Direct costs per hectare differ across the three groups. Total direct costs per hectare are more or less equal between the top and middle third of lowland mid-season enterprises. The level of direct costs per hectare on the bottom third of farms is more than 12 percent higher than on either the middle or top performing enterprises. While total direct costs per hectare are similar across the top and middle cost groups, farms in the top group rely more on pasture than on purchased feed (and hence rely more on fertilisers as an input). The level of total feeding costs (concentrates, winter forage and fertiliser) per hectare on the bottom third of farms is over 18 percent higher per hectare than on the middle third of farms.

As is clear from Table 3, a high weaning and stocking rate and controlling costs per hectare, are essential in achieving higher returns Improved technical performance, reflected in the average carcass output per hectare of 289 kilos on the top third of farms versus 163 kilos on the bottom third of farms, together with control of direct costs is central to increasing enterprise profitability.

The large differences between the values of output per hectare between the three groups of farms (bottom, middle and top in terms of gross margin per hectare) are in part due to differences in weaning and stocking rates across the groupings. The early marketing of lambs is also likely to be an important determinant of the high gross output value and gross margin per hectare in 2008 on the top group of mid-season lamb enterprises. In 2008 over 26 percent of lambs from the top one third of lowland mid-season enterprises were marketed before June 1st. Each year the top performing third of mid-season lamb enterprises market a larger proportion of lambs before June 1st than enterprises in the middle and bottom groups. Given the seasonal pattern of lamb prices early marketing of lambs contributes to the higher levels of gross output achieved per hectare. However, the proportion marketed before June 1st in 2008 at 40 percent above the level recorded in 2007 was unusually high.

3. Gross Margin Estimates for 2009

To obtain an estimate of farm profitability for 2009, 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. We have assumed that the stocking rates per hectare and weaning rates in 2009 are unchanged on the 2008 level. Improvement in these factors will lead to improved margins per hectare. Possible future short to medium term developments in the sheep markets and prices were discussed earlier in the paper and will affect the value of output farmers sell off of the farm.

As noted earlier, the sheep and lamb market in 2009 was characterised by reduced supplies on the EU market, which, in the context of more or less stable demand for lamb in the EU, has led to slightly increased Irish and EU lamb prices. Irish lamb prices in 2009 were almost 2 percent higher than in 2008. The value of output per hectare for the mid-season lamb system in 2009 is estimated to increase as a result of these stronger market prices.

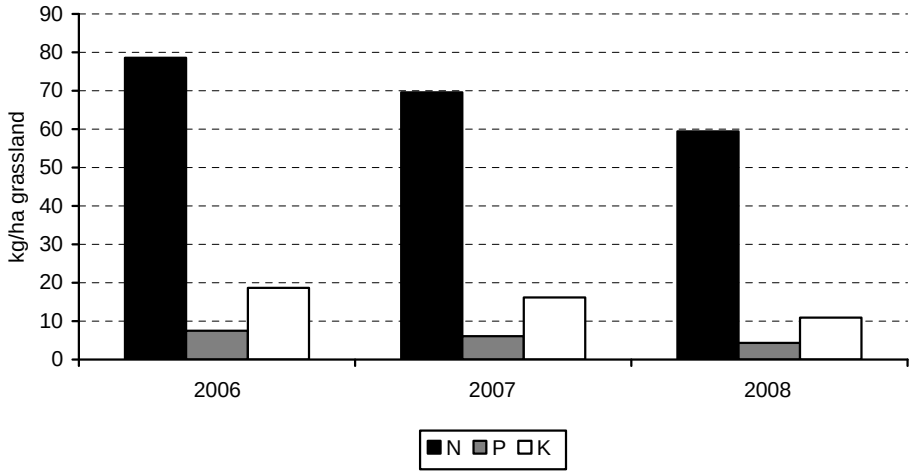
Given our assumptions of unchanged stocking and weaning rates, the evolution of direct costs per hectare will determine whether increased gross output translates into higher gross margins. The main costs for sheep farms are purchased feed, winter forage and pasture (fertiliser) costs.

Purchased feeds typically account for approximately 40 percent of total direct input expenditure on the average mid-season lowland lamb system. Over the course of 2009 purchased feeds have declined in price and there is evidence from Department of Agriculture data that total sales of sheep feed have increased in 2009 relative to 2008. Given the strong decline in the price of feed, and some evidence for a small increase in volumes fed, expenditure on concentrates is estimated to have declined by 3 percent in 2009. 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 2009 estimates we assumed that stocking rates are unchanged from 2008. A continuation of the decline in stocking rates recently observed may offset the positive impact of lower feed prices on concentrate use.

Pasture and forage costs typically account for approximately 30 percent of total direct costs on the mid-season lowland lamb system. Over the last three years fertiliser applications on farms with sheep enterprises have declined (see Figure 6). Some of this decline in fertiliser use may be due to declining stocking rates. However, prices of fertilisers have also increased

significantly in the last thee years and this undoubtedly accounts for much of the decline in use. While fertiliser prices have fallen over the course of 2009, much of the decline occurred late in the year after the bulk of fertiliser had been bought and used on sheep farms. This will limit the degree to which the drop in fertiliser prices in 2009 will be reflected in reduced expenditure on fertiliser on sheep farms in 2009. Given our assumption that stocking rates on sheep farms will remain at their 2008 level, the volume of fertiliser applied per hectare in 2009 is not forecast to change from 2008. As a result expenditure on fertilisers is estimated to decline by approximately 2 percent on sheep enterprises.

Figure 6: Fertiliser use per hectare: Farms with a Mid-Season Lamb Enterprise



Source: National Farm Survey (Various Years)

Lower direct costs, particularly concentrate feed costs, combined with small increases in the value of gross output are estimated in 2009 to have led to an increase in the gross margin earned from the lowland mid-season lamb enterprise (see Table 4). In 2009 the estimated gross margin per hectare on the mid-season lamb enterprise is €404 per hectare. This amounts to an increase of 8 percent on the 2008 level.

Table 4: Sheep Enterprise Gross Margins, 2007 – 2009

	2007	2008	2009[1]
		€/ha	
Early Lamb	483	401	431
Mid-Season Lamb	444	374	404
		€/ewe	
Hill-Blackface	6.4	5.2	6.8

Source: National Farm Survey (Various Years) [1]Estimate

Gross margin per hectare on the early-lamb system is estimated to have increased in 2009 to €431 from €401 in 2008. The gross margin per ewe for the Hill-Blackface system is also estimated to have increased in 2009 to close to €7.

4. The Outlook for Sheep Enterprise Gross Margin in 2010

The forecast contraction of New Zealand lamb exports and the ongoing contraction in production of lamb in the EU will mean that despite an expected contraction in demand for lamb (caused by the current recession), the price of lamb on European markets in 2010 is likely to remain close to or slightly above that for 2009.

The outlook for input prices in 2010 is also largely positive from the perspective of sheep farmers. The prices of most of the important inputs to sheep enterprises are forecast to decline, though a forecast increase in the price of diesel is an important exception.

Concentrate costs are the largest direct cost item on all sheep systems and prices are forecast to decline by 15 percent in 2010 relative to 2009. The price of fertiliser is forecast to increase over the course of 2010, but the late 2009 prices are forecast to prevail in the early part of next year, when fertilisers will be purchased. This period of relatively low price is forecast to lead to a decline in overall expenditure on fertilisers in 2010 relative to 2009. Fuel costs are forecast to increase by 10 percent given that the price of oil is forecast to increase in 2010, as the world economy emerges from recession.

Table 5: Sheep Enterprise Gross Margins, 2007 – 2010

	2007	2008	2009[1]	2010[2]
		€/ha		
Early Lamb	483	401	431	475
Mid-Season Lamb	444	374	404	436
		€/ewe		
Hill-Blackface	6.4	5.2	6.8	9.1

Source: National Farm Survey (Various Years) [1]Estimate, [2]Forecast

Despite lower fertiliser costs, application rates are not forecast to increase given our assumption that stocking rates are maintained at their 2008 level. This leads to a forecast decline of pasture costs of 20 percent. With prices of feed forecast to decline in 2010 overall feed use per hectare is expected to increase. However, the forecast increase in use is outweighed by the impact of the reduction in prices, and total expenditure in 2010 will fall by 11 percent.

Given a stable outlook for lamb prices and a likely contraction in input costs in 2010, gross margins on all sheep systems analysed are set to increase in 2010. The gross margin per ewe for mid-season lamb system in 2010 is forecast to increase by 9 percent to €436. The average gross margin per hectare for the early lamb system is also forecast to increase to €475 in 2009. This represents an increase of 11 percent on the estimated 2008 margin (see Table 5). The gross margin per ewe for Hill-Blackface system is also forecast to increase in 2010 to €9.1 per ewe.

5. Concluding Comments

The bottom line for sheep farmers is determined by the price of lamb relative to the costs of production and by the technical performance and intensity of production of their enterprises. Due to large increases in input costs during 2008, the average gross margins per hectare earned on Irish sheep systems declined relative to 2007. The analysis of margins earned on farms operating a mid-season lamb system in this paper highlights the importance of high weaning and high stocking rates in achieving improved returns per hectare. In 2008 gross margins per hectare were higher on farms that were able to increase weaning rates and control costs. Despite improvements in the average weaning rate, lower stocking rates resulted in lower output of lamb per hectare.

The average gross margin earned by lamb producers in 2009 is estimated to have increased relative to that earned in 2008. Continued contraction in indigenous EU production of lamb and sheep meat is pushing up lamb

prices within the EU. Higher output prices, when combined with reduced direct costs per hectare, are estimated to have led to increased margins on all sheep enterprises. The pattern of higher lamb prices and lower input costs is forecast to be repeated in 2010, with average gross margins earned by lowland lamb producers increasing by between 9 percent and 11 percent depending on the system involved. Underlying the estimates for 2009, and our forecast for 2010, are conservative assumptions concerning the development of stocking rates per hectare and weaning rates per ewe. Continued improvement in weaning rates will increase margins. Any further decline in stocking rates per hectare will obviously reduce gross margins per hectare.

Over the medium term considerable policy uncertainty remains. CAP reform, the still ongoing WTO Doha Round of trade negotiations and the impact of climate change policy will affect the profitability of Irish farming. The soon-to-begin CAP reform process could reduce the single farm payment cheques received by farmers but is unlikely to negatively affect the market based gross margins earned on sheep enterprises. A WTO reform remains a possibility and will, other things remaining equal, reduce the market price of lamb in EU.

Under the current CAP, member states have some freedom to use funds raised through the modulation of single farm payments to support production. The Minister for Agriculture, Fisheries and Food has committed some of Ireland's modulation funds to the support the sheep industry. The first strand of this support is the *Upland Sheep Scheme* which will have €8m funding, €5m of which will be paid in December 2009 to farms which meet the qualifying criteria. The Minister has further committed €54m in other modulated funds to the sheep sector over the next three years, though it is as yet unclear how these funds will be spent and whether the current fiscal crisis will lead to a revision of this spending commitment. The *Upland Sheep Scheme,* which will have a maximum pay out of circa €500 per farm, will increase farm income on hill sheep farms. If the funds committed to the sheep sector materialise and are linked (coupled) to sheep production (both lowland and upland), then gross margins in the sheep sector should further improve. Such a development would partially reverse the decoupling decision of 2003. However, given the exposure of such schemes to the vagaries of the political and policy landscape, production decisions on Irish sheep enterprises should continue to focus on the "market based" elements of the returns from sheep farming.

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SITUATION AND OUTLOOK FOR PIGS 2009/10

Michael A Martin
Specialist Pig Development Officer
Pig Production Development Unit, Athenry, Co. Galway.

The Margin over Feed Costs in Ireland recovered from March 2009 but deteriorated significantly in the autumn despite significant reductions in feed prices. Pig price prospects appear reasonable if a little uncertain. Reduced feed costs may not be sustained and other costs are set to increase

Pig Prices

The average price per kg dead weight of pigs delivered to pig slaughtering plants in 2009 (January to November) was 145c. This compares favourably with the average price over the last 5 years of 141.6c.

Table 1: Average pig price per kg dead weight 2005-2009

Year	Average Price per kg Dead c
2005	135
2006	147
2008	139
2008	142
2009	145
Average	141.6

Source: *Teagasc Pig and Feed Price Monitor*

During the course of 2009 pig prices fluctuated with a peak of 157c achieved in June while the lowest monthly price of 134c occurred in November. Pig prices in other EU member states declined dramatically from September of 2009. Irish prices for Grade E pigs to date in 2009 were 92.8% of the EU average – the lowest percentage in the last 5 years.

Table 2: Grade E pig prices 2005-2009

Year	Ireland	EU	Ireland as% EU
2005	130.91	139.3	94.0
2006	140.09	145.3	96.4
2007	132.62	135.24	98.1
2008	144.38	153.32	94.2
2009	133.33	143.66	92.8

Source: *Bord Bia*

Feed Prices

Feed typically represents about 65-70% of the costs of production. Pig feed prices have declined from the very high levels of 2007/8 when pig

producers incurred very substantial financial losses. About 70% of the pigs produced are fed on purchased compound feed with the remainder fed on home compounded feed. While home compounding eliminates some of the costs associated with purchased compound feed there are significant costs involved over and above the cost of ingredients including investment and running costs. The figures in table 3 refer to purchased compound feed.

Table 3: Feed Prices, Feed Cost and Margin over Feed Cost per kg Dead 2005-2009

Year	Average Composite Feed Price per tonne	Feed Cost per kg Dead Weight c	Margin over Feed per kg Dead c
2005	208	80	54
2006	214	84	63
2007	254	97	42
2008	293	113	39
2009 (11 mths)	251	94	51

Source: *Teagasc Pig and Feed Price Monitor*

Non Feed Costs

When allowance is made for the cost of transport to the slaughter plant the non feed cost per kg dead weight is currently estimated at 48.2c (Teagasc PigSys Report 2008). This may well be an underestimate as there are strong indications that the herds participating in PigSys recording and benchmarking perform significantly better than other herds (Martin 2009). If the Margin over Feed costs is not more than 50c per kg deadweight, the return on investment for the average producer is likely to be negligible.

The low interest payments and building depreciation charges (9.3c per kg) suggest low capital investment in units in recent years. Where units have invested significant owner funds in development this is not reflected in the interest costs but are a hidden cost of production.

The very poor margins in 2007 and 2008 have lead to a significant increase in feed credit. This has been estimated to be at least one month extra feed credit and amounts to an additional €13m owed by producers to feed compounders (Teagasc Pig Development Unit).

Pig Disposals

There has been a significant reduction in the number of pigs slaughtered at licensed export plants in 2009.

Table 4: Average weekly disposals of slaughter pigs 2005-2009

Year	Total*	Slaughtered at Licensed Export Plants	Exported for Slaughter in N Ireland
2005	60340	50,353	9987
2006	59540	50,356	9184
2008	59251	49,414	9837
2008	57070	48,280	8790
2009 (46 wks)	54,400	45,242	9158

Source: *DAFF and DARDNI*

*It is estimated that a further 1,000 pigs per week are slaughtered in local authority approved plants while further 2,000 weaners and breeding stock are exported per week on average.

While live exports for slaughter to Northern Ireland have increased slightly compared to 2008 the absence of any production from the herds slaughtered out due to the feed contamination problem in late 2008 is responsible for a drop of at least 4000 pigs per week in disposals throughout 2009.

Sow Numbers

The Teagasc Pig Production Unit biennial survey of commercial pig production units in 2009 shows the national breeding herd at 148,700 sows

Table 5: Number of sows in commercial pig herds (2005-2009)

Year	No. Production Sites	No. Sows / Served Gilts
2003	505	157,409
2005	464	154,282
2007	441	153,070
2009	429	148,700

Source: *Teagasc Pig Production Development Unit*

The sow herd has declined by 5.5% over the last 6 years. Currently there are 300 commercial sow herds - an average herd size of 496 sows.
The average number of pigs produced per sow per year has been 21.1, on average, over the 5 years 2004-8 (Martin 2009).

With the return to full production of the herds de-stocked due to feed contamination problem from early 2010 and no reduction in sow numbers pig disposals in 2010 are likely to exceed 61,500 per week.

EU Pig Numbers

Pig numbers in the EU have been in decline since 2006 (Table 5).

Table 6: Pig and breeding sow numbers in EU-27 (2005-2008) December

Year	Total Pigs m	Breeding Sows* m
2005	159.11	15.45
2006	161.9	15.57
2007	160.0	14.88
2008	153.1	13.95

Source: *Eurostat / DEFRA*
**Includes gilts intended for breeding over 50kg*

Sow numbers have declined by 1.6 million from December 2006 to December 2008. There has been a 10.4% reduction in sow numbers and a 5.4% reduction in total pig numbers. The decline in sow numbers has been particularly dramatic in Poland (-28%) but is also substantial in Germany (-6.9%), Spain (-5.5%) and Denmark (-8.8%).

Total pigs slaughtered in EU in the first half of 2009 at 118.8 m head is a decline of 7% compared with the same period in 2008 and 6.1% compared with 2007.

EU Exports
It has been forecast that EU-27 pig meat exports in 2009 will be 17.4% lower in 2009 compared to 2008 (Table 7)

Table 7: EU-27 Pig Meat Supply Balance 2008 - 2009

Year	2008 (Provisional)	2009 (Forecast)
Production	22,542	22,046
Imports	39	53
Exports	1,420	1,173
Stocks	0	0
Consumption	21,390	21,095
Self-sufficiency %	105.4	104.5

Source: *Danish Meat Association Statistik 2008*

The export of pig meat from Denmark is a major factor in the EU pig meat supply balance. Danish pig meat exports (including live pigs) amounted to 1.943 m tonnes in 2008 of which 71.8% was to other EU countries and 28.2% to Third countries. Excluding live pigs, these exports totalled 1.710 m tonnes. In 2009 Danish pig slaughterings are running 9.1% lower compared to 2008 when total slaughterings were 21.1 m head. This reflects a dramatic increase in the export of weaners for finishing, mainly to Germany.

In the first 9 months of 2009 EU exports of selected pig products were reduced by 16.3% compared with the same period in 2008

Table 8: EU exports of selected pig products 2005-2009

Year	Exports Product Weight m tonnes	Change on Previous Year
2005	1.938	-
2006	2.089	+7.8
2007	1.911	-8.5
2008	2.569	+34.4
January -September		
2007	1.363	-
2008	1.977	+45
2009	1.683	-14.9

Source: *EU DG AGRI C4*

Pig Price Outlook

Pig meat prices in 2010 will be influenced by

1. Opening of markets in Russia and China closed to Irish pig meat following the feed contamination problem in 2008
2. Increased pig numbers for slaughter from early in 2010 as de-stocked herds re-commence pig sales (at least 4,000 pigs per week extra)
3. Competition from pig meat imports from EU countries including Northern Ireland
4. Effect of the recession on demand and consumer behaviour
5. Continued decline in EU production as a result of reduced sow numbers
6. Restoration of world trade in pig meat including increased EU exports outside the community
7. Effectiveness of the promotion of Quality Assured Irish pig meat at retail level in Ireland

Pig price prospects are reasonably good but these are uncertain times.

Feed Price Outlook

Cereal prices in 2009 have been low and this raises concerns about future supplies of home-grown grain for pig feeding. Quality concerns and supply issues may lead to greater reliance on imported cereals.

Cereal price prospects are of less concern than those for soya bean meal. The issue of Genetically Modified (GM) crops and feed is set to become an increasingly important issue for pig producers. The delays in the authorisation process by the EU of GM feeds results in a premium being

paid by the pig industry for authorized GM alternatives or non GM alternatives. If Ireland were to adopt a GM free position it could prove disastrous for the pig meat sector (Lawlor 2008).

Regulatory Challenges

There are a number of issues facing the pig sector over the next 3 years

1. At the end of 2010 the transitional arrangements permitted under the Good Agricultural Practice (Protection of Waters) Regulations are due to terminate. Under these arrangements farmers applying pig manure as a fertiliser to land did not have to take account of the Phosphorus content of the manure provided certain conditions were met. The end of these arrangements will significantly increase the amount of land a pig producer will be required to have access to for manure spreading and this will significantly travel distances and handling costs.

2. From January 1st 2013 the Welfare of Farmed Animals Regulations (SI 14 of 2008) require that all sows be loose housed from 28 days after service until 7 days before expected date of farrowing. The Teagasc Pig Development Unit has estimated that compliance with this regulation will require a capital investment of about €35 million. The Minister for Agriculture Fisheries and Food is currently seeking approval to provide grant aid to pig producers to assist in complying with these sow regulations.

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3. National Pig Herd Performance Report 2008: Teagasc Pig Development Unit

SITUATION AND OUTLOOK FOR TILLAGE FARMS 2009/10

Daragh Clancy[1] and Fiona Thorne[2]
Rural Economy Research Centre,
[1]Athenry, Co. Galway
[2]Kinsealy, Malahide Road, Dublin 17

1. Introduction

The 2009 harvest year has been an extremely difficult one for the tillage farming sector in Ireland. Cereal prices declined from what was an already low price level at harvest 2008, while input costs in 2009 have increased. These price and cost developments have further reduced the low cereal crop margins experienced in 2008.

The decrease in cereal prices observed at the 2008 harvest resulted from supply and demand developments on international commodity markets. The very high grain prices that prevailed in 2007 led to a large increase in the area of grains planted during 2008 in Ireland and internationally. The resulting large increase in global grain production outstripped global demand for grains and led to downward pressure on cereal prices.

Unfortunately, from the perspective of Irish cereal farmers, the 2009 harvest price in Ireland has been on average 30 percent lower than the 2008 level. This large decline in price occurred despite the fact that there was a significant drop in total cereal production in Ireland and further illustrates that the grain price in Ireland is a function of developments on EU and world markets rather than a function of domestic supply and demand developments. The drop in prices in 2009 can be attributed to a bumper world harvest, lower than expected demand on world grain markets and the general uncertainty experienced in international financial markets due to the global downturn in the economy.

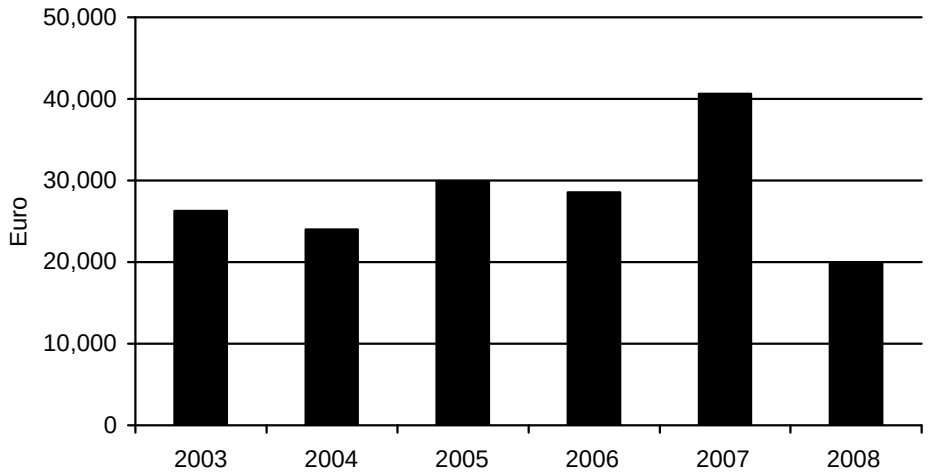
This paper reviews the performance of Irish cereal farms in 2008 using Irish National Farm Survey (NFS) data (Connolly *et al.* 2009). Following this, prices and costs are estimated for 2009 to produce an estimate of profit for 2009. A forecast is then produced for 2010. The cost of production on tillage farms in Ireland is considered to arrive at an estimate of tillage enterprise profit for 2009 and a forecast for 2010.

2. Review of the Economic Performance of Tillage Farms in 2008

Income on specialist tillage farms decreased significantly in 2008 compared to the previous five years (see Figure 1). Significantly lower farm gate cereal prices, coupled with difficult harvesting conditions and higher input costs, resulted in an average family farm income (FFI) in 2008 of just under

€20,000. This is equivalent to a 33 percent decrease on the average of the previous five years.

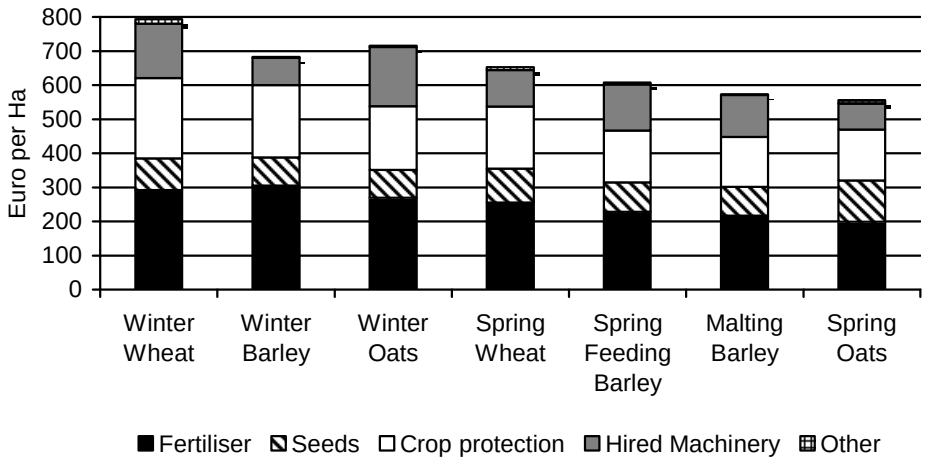
Figure 1: FFI on Specialist Tillage Farms in Ireland: 2003 to 2008



Source: National Farm Survey (various years)

In order to understand the economic performance of tillage farms in 2008, we begin with a review of the cost and return structure of the main cereal crops using NFS data. Figure 2 disaggregates the direct costs of production for cereal crops in 2008.

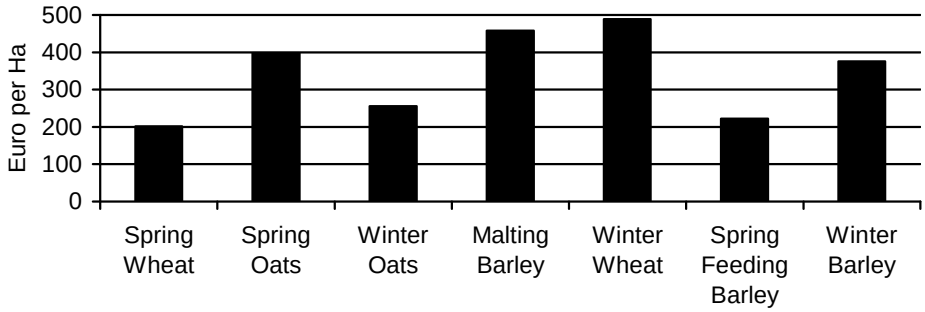
Figure 2: Composition of Direct Costs for Cereal Crops, 2008



Source: 2008 National Farm Survey (2009)

Figure 2 shows that, in general, direct costs are higher for winter sown crops compared to spring sown crops. This differential in costs is due to the higher fertiliser and crop protection costs associated with winter crops. However, given that yields are generally higher in winter sown crops, the more appropriate comparative economic indicator is gross margin. The gross margins of cereal crops in 2008 are shown in Figure 3.

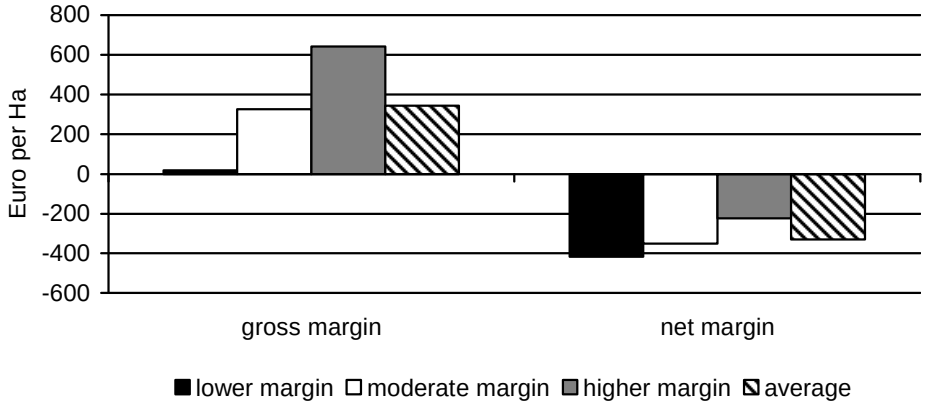
Figure 3: Gross Margin for Cereal Crops, 2008



Source: 2008 National Farm Survey (2009)

Although average gross margins for winter crops are generally higher than the gross margins for spring sown crops, Figure 3 shows that in 2008 this difference in winter and spring crop margins was less pronounced. The gross margin for all cereal crops was significantly lower in 2008 compared to the average of the previous 5 years. The 2008 gross margins for winter wheat and spring barley, the two most common cereal crops in Ireland, were 40 percent and 51 percent lower respectively, relative to the five year average from 2003 to 2007. While gross margin estimates are useful for comparative purposes, it is also worthwhile to examine the shift in net margin over time. However, for cereal crops it is difficult to allocate overhead costs to individual crops using NFS data. For this reason, the net margin of the entire cereal enterprise of the specialist tillage farming population within the NFS is examined. The results are presented in Figure 4.

Figure 4: Cereal Enterprise Margins on Specialist Tillage Farms, 2008



Source: 2008 National Farm Survey (2009)

The average gross margin from the cereal enterprise on specialist tillage farms in 2008 was approximately €345 and the net margin was €-331. To examine the variation in margins that exist between tillage farms, the sample of specialist tillage farms in the NFS was split into three groups. Farms were classified on the basis of gross margins per hectare; the best performing one third of farms are labelled higher margin, the middle one third are described as moderate margin and the poorest performing one third of tillage farms are classified as lower margin. Although there is a large degree of variation in margins across farms in the NFS sample, Figure 4 suggests that net margins in 2008 were low across all groups. The average net margin for the cereal enterprise within the high margin farm group in 2008 was - €222 per hectare compared to - €352 on moderate margin farms and - €418 per hectare on low margin farms.

3. Estimate of 2009 Performance

This section of the paper presents a review of the cereal sector in 2009. To provide an estimate of enterprise profitability for 2009, 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 output produced. This section of the paper first discusses the movements in input prices and usage in the current year and then reviews cereal market conditions, harvest yields, and estimates cereal production, costs and margins for 2009.

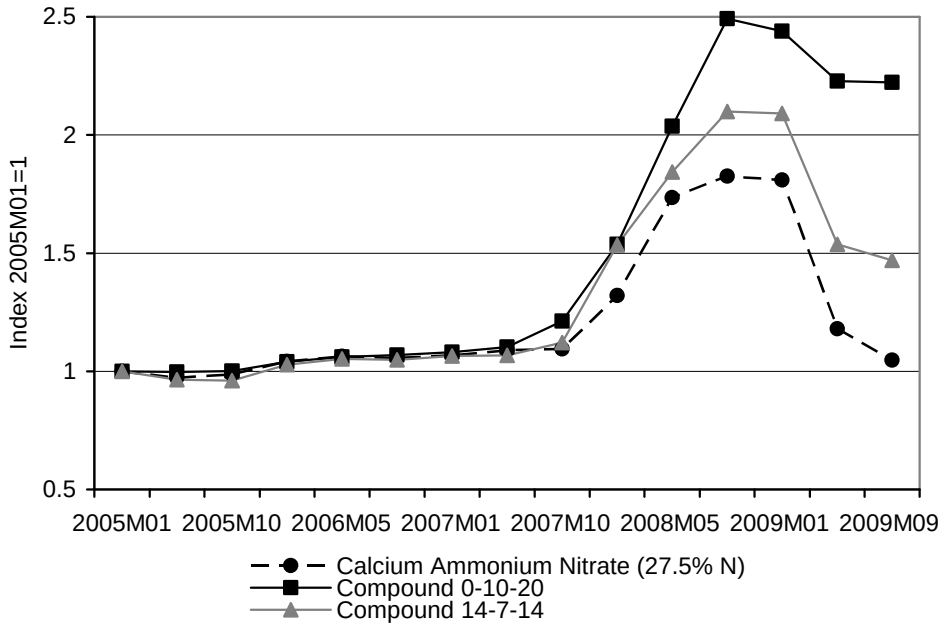
3.1 Estimated Input Usage and Price 2009

3.1.1 Fertiliser

In 2008 expenditure on fertiliser accounted for 3 percent of direct costs and 19 percent of total costs on Irish tillage farms. While all fertiliser prices have

fallen during the second half of 2009, the price of CAN fell to lower levels than P and K based compound fertilisers. Given the seasonality of fertiliser purchases on crop farms, decreases in fertiliser prices in the third and fourth quarters of the year are less relevant to cereal enterprise margin calculations. Hence, it is estimated that fertiliser expenditure in 2009 will, depending on the crop, be between 3 percent and 8 percent higher than in 2008. The increase in fertiliser expenses on cereal enterprises contrasts with the situation on livestock farms where a decrease in fertiliser expenditure in 2009 is anticipated.

Figure 5: Price Index of Straight Fertilisers 2005 to 2009



Source: CSO (2000 to 2008). Authors' own estimates (2009).

DAFF data indicate that fertiliser purchases in the 2009 fertiliser year (October 2008/September 2009) have declined in aggregate by about 6 percent relative to the corresponding 2008 level. Reports from a number of industry and farm advisory sources also indicate that fertiliser usage per hectare is down approximately 5 percent on 2008 levels, with the high cost of fertiliser in spring 2009 and adverse weather conditions leading to lower applications per hectare. Therefore, in this analysis it is assumed that for 2009 usage is down approximately 6 percent relative to 2008. This estimated reduction in fertiliser purchases is largely as a result of the fertiliser price increases and expected cereal price decreases in 2009. The relatively minor reduction in fertiliser usage per hectare on crop farms does

not compensate for the significant increase in fertiliser prices in 2009, leaving overall expenditure per hectare on fertiliser up 7 percent on average on 2008 levels.

3.1.2 Crop Protection

The expenditure on crop protection by specialist tillage farms in recent years accounted for approximately 20 percent of direct costs and 10 percent of total costs. The share of crop protection in production costs varies significantly depending on the crop, with the average spend on winter crops higher than that on spring crops. In 2008 crop protection costs for winter wheat accounted for 30 percent of direct costs, compared to 26 percent for the average of all spring crops.

Increases in costs of crop protection have been limited in the recent past, due in part to the effect that generic products have had on reducing the price of branded products, and this trend of very moderate price increases has continued in 2009. The increase in costs of crop protection products from 2000 to 2009 was just under 5 percent, and the increase in costs between 2008 and 2009 was just under 2 percent. Volume changes between 2008 and 2009 are estimated to have been negligible.

3.1.3 Seed

Expenditure on purchased seed comprised between 11 and 22 percent of direct costs per hectare on cereal enterprises and just over 14 percent of direct costs on the average of all Irish cereal farms in 2008. In 2008 Irish cereal farmers experienced a significant increase in seed costs relative to previous years, due to the significant upward movement in the cereal markets in 2007. Despite the significant reduction in cereal prices in 2008, blue label seed costs for the 2009 harvest year remained at similar prices to 2008, That the seed market for 2009 did not reflect the downward pressure on cereal prices in 2008 is explained by the failure of a large proportion of the seed to meet the minimum quality standards. As a result, much of the seed planted in 2009 was imported from the UK and the extra cost of these seeds was reflected in seed prices remaining at 2008 levels.

3.1.4 Energy and Fuel

A number of the direct costs and overhead costs of tillage production are directly influenced by energy and fuel prices. This means that developments in energy prices are of significant importance to the average tillage farmer. In this analysis it is assumed that the direct costs of machinery hire and transport, and the machinery operating expenses overhead cost, are directly influenced by energy inflation. Together these cost items account for approximately 25 percent of total costs on tillage farms.

The 2009 average crude oil price of €44 per barrel is significantly lower than the average 2008 level of €70 per barrel. This 37 percent decrease in crude oil prices (relative to 2008) should deliver a 23 percent reduction in the fuel bill on crop farms in 2009 compared with 2008. Contracting costs are also estimated to have fallen in 2009, reflecting lower fuel and related input costs, and are estimated to be down 10 percent on the 2008 level. Demand for these input items on Irish tillage farms is inelastic with respect to price, and therefore it is assumed that usage in 2009 will be on a par with the 2008 level.

3.1.5 All other direct and overhead costs

Given the rising unemployment rate, labour costs in 2009 are likely to be unchanged on the 2008 level. CSO estimates indicate that 'other costs' will be up 2 percent in 2009 relative to the 2008 level.

The average cost of land rental on specialist tillage farms was around 5 to 10 percent of total costs. The very large increase in farm gate cereal prices during 2007 led to an increase in land rental prices in 2008. It is estimated that land rental prices in 2009 have returned to 2007 levels due to the fall in cereal and other agricultural output prices in 2008 and 2009.

3.1.6 Estimate of Total Input expenditure for 2009

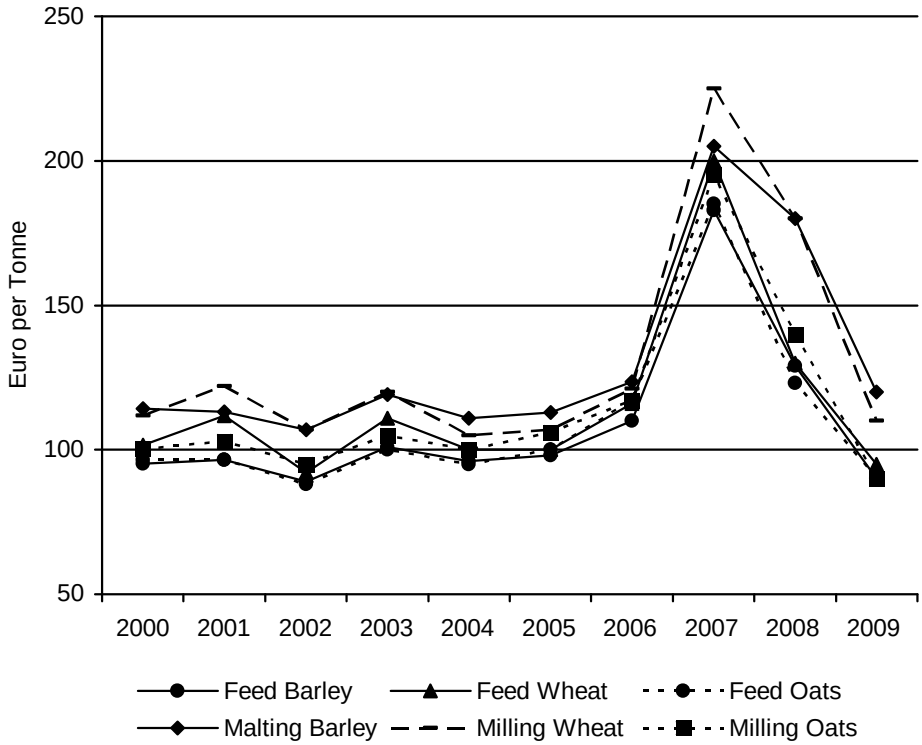
Total expenditure on inputs is estimated to have increased slightly in 2009 relative to 2008. The main increase in costs is associated with fertiliser costs, which are estimated to have increased by approximately 7 percent between 2008 and 2009. The largest decrease in input expenditure in 2009 relative to 2008 was on hired machinery, which is estimated to have decreased by 10 percent. Overall, the increase in direct costs on cereal farms was approximately 2 percent.

3.2 Estimated Output Values 2009

3.2.1 Price, yield and moisture levels in 2009

Due to a large global harvest in 2008 and a carry over of stocks into the 2009 harvest year, there was considerable downward pressure on International and Irish cereal prices in 2009. On account prices were in the region of €90 per tonne for barley and €95 per tonne for wheat. Low stock levels internationally have been reflected in increasing levels of volatility in world grain prices over the last few years. The on-account prices price decrease in 2009 compared with 2008 is 25 percent for wheat and 30 percent for barley. Figure 6 shows the movement of cereal prices over the course of the decade.

Figure 6: Farm Gate Cereal Prices, 20 percent Moisture, ex VAT, 2000-2009



Source: CSO (2000 to 2008). Authors' own estimates (2009).

Given that the final farm gate cereal price is based on moisture differences above and below 20 percent, it is also important to consider the weather at harvest in 2009, which was poor due to rain in August and early September. Table 1 below shows that the average moisture for spring crops in particular was well below that recorded in 2008, although it must be borne in mind that 2008 was historically poor weather wise.

The third variable which must be considered when estimating output value is the yield per hectare. Table 1 also shows the average green yields obtained in 2008 and 2009. In terms of Irish yields for 2009, given current knowledge of grain fill and comparisons with average moisture and yield levels in 2008, it is estimated that the winter wheat and spring barley yields will be down in 2009 relative to 2008. All things considered, there was a difficult harvest in 2009 compared to the norm.

Table 1: Average Yields and Moisture Levels, 2008 – 2009 Harvest

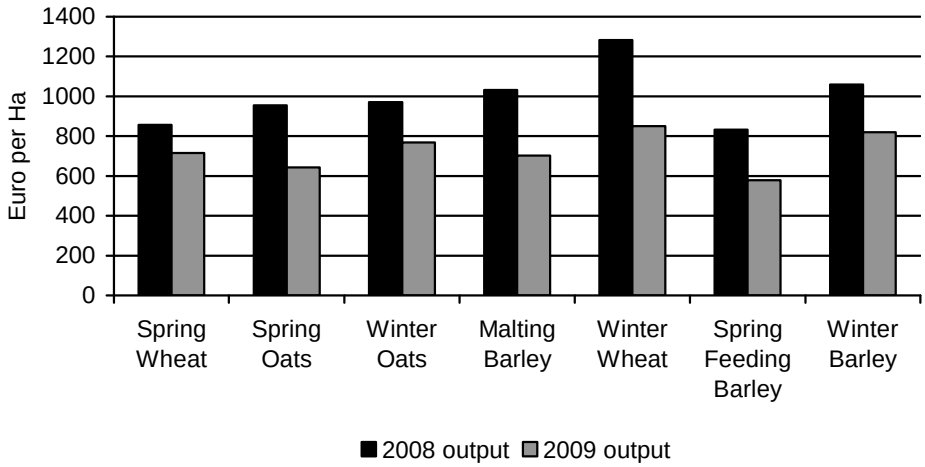
	Yield (tonne per ha.)		Moisture (percent)	
	2008	2009	2008	2009
Winter Wheat	9.8	8.6	22.0	20.0
Winter Barley	8.5	8.5	19.0	18.8
Winter Oats	7.9	8.0	20.0	18.8
Spring Wheat	6.6	6.9	22.0	19.3
Spring Barley	6.7	6.1	22.0	18.5
Spring Oats	6.3	6.6	21.0	19.0

Source: CSO (2008). Teagasc Harvest Report (2009).

3.2.2 Estimate of Total Output Value for 2009

Total output value per hectare for all cereal crops is estimated to have decreased in 2009 relative to 2008. The largest decrease in output value per hectare was for winter wheat, which fell by 34 percent due to declining price and yield. The average decline in output value per hectare across all of the cereal enterprises in 2009 relative to 2008 was 27 percent.

Figure 7: Gross Output 2008 & 2009



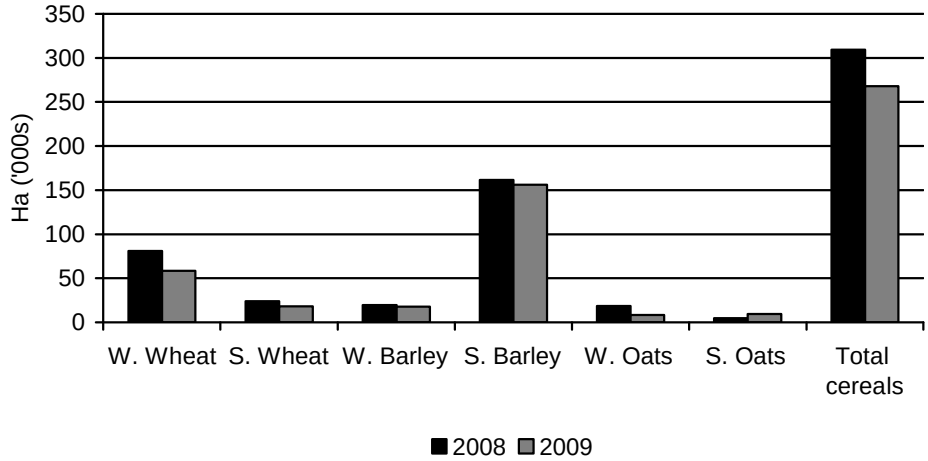
Source: 2008 National Farm Survey (2009). Authors' own estimates (2009).

3.2.3 Estimate of Total Production 2009

The figures presented in section 3.2.2 illustrate the output value per hectare across the six main cereal enterprises. However, these estimates do not take into consideration the decrease in area devoted to cereal crops in 2009, due to the reaction to low farm gate cereal prices and high input

costs. Figure 8 shows the area estimates for 2009 based on Single Farm Payment (SFP) returns compared to CSO estimates of area for 2008.

Figure 8: Change in Irish Crop Area from 2007/08 to 2008/09 crop year in Ireland



Source: CSO (2008). Teagasc Harvest Report (2009).

Figure 8 shows that the total area devoted to cereal production decreased by 13 percent in the 2008/09 crop year compared to the 2007/08 crop year. The largest decrease was in wheat, where total area decreased by 28 percent. Total barley area decreased by 7 percent and oats area decreased by 15 percent. No cereal crop recorded an increase in area in 2009.

Table 2 combines actual total cereal production for 2008, as reported by the CSO, with estimated total cereal production for 2009. The estimated 2009 production of wheat, barley and oats is based on 2009 yield estimates from the Teagasc Harvest Report and SFP return statistics for the 2009 area planted. The estimated production levels of all crops for 2009 are down on their 2008 levels. The estimated wheat production is down 34 percent on the 2008 level. Although winter wheat yield was down in 2009 relative to 2008, the decrease in wheat production was due largely due to the significant decrease in wheat area estimated for 2009. As already discussed, estimated yields for barley and oats were lower than the 2008 levels. This yield change, coupled with a decrease in area for barley and oats, results in an estimated 12 percent decrease in barley production and 28 percent decrease in oats production for 2009 relative to 2008. Overall cereal production is estimated to be down 519,000 tonnes, or 22 percent, on the 2008 levels.

Table 2: Actual and Estimated Cereal Production 2008 and 2009 ('000 Tonnes)

	2008	2009	% Change
Wheat	950.9	627.3	-34
Barley	1,250.2	1,103.8	-12
Oats	176.5	127	-28
Total	2,377.6	1,858.4	-22

Source: CSO (2008). Teagasc Harvest Report (2009).

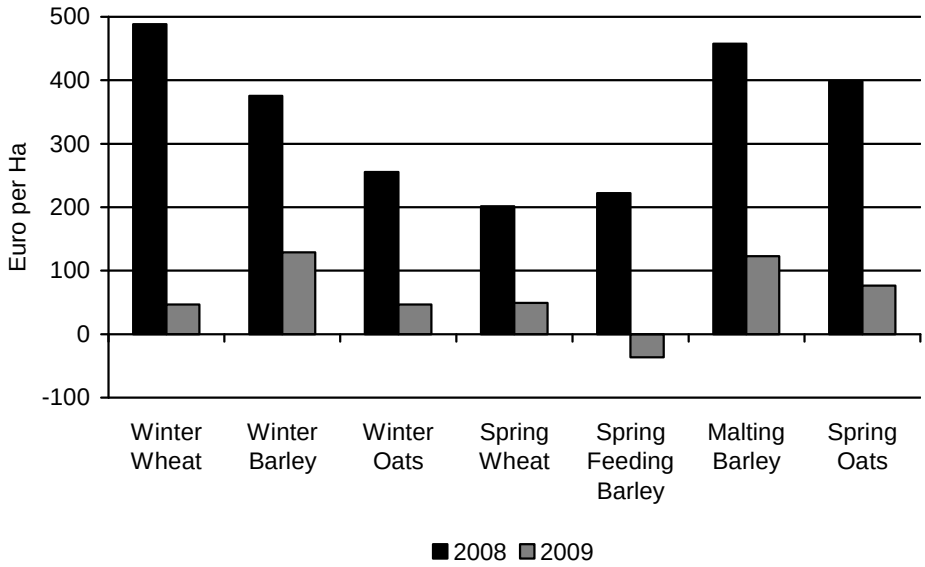
3.2.4 International Production Estimates for 2009

While production estimates for Irish cereals are important from a national supply, demand and balance sheet perspective, it is primarily developments in the international supply and demand for cereals that affects price developments. The latest edition of Strategie Grains (November 2009) estimates that the total production of cereals within the EU for the marketing year 2009/10 is 290.2 million tonnes, which compares to 310.4 million tonnes for the 2008/09 marketing year. This volume represents a 7 percent decrease in total EU production, which is of a much smaller magnitude than the decrease in Irish cereal production. The IGC (International Grains Council) estimates a similar situation for world cereal production in the 2009/10 marketing year (Strategie Grains, November 2009). The estimates for world production of wheat and barley for 2009/10 relative to 2008/09 are for a 2 percent and 4 percent decrease in production respectively.

3.3 Review of Tillage Enterprise Margins in 2009

The average farm gate price received by farmers across all cereal crops was approximately 30 percent lower in 2009 than in 2008. Our review of input costs concluded that total direct costs on tillage farms are approximately 2 percent higher in 2009 than 2008. Figure 9 shows how these factors have affect the estimated gross margin for each of the main cereal crops.

Figure 9: Gross Margin for each of the Main Cereal Crops, 2008 & 2009



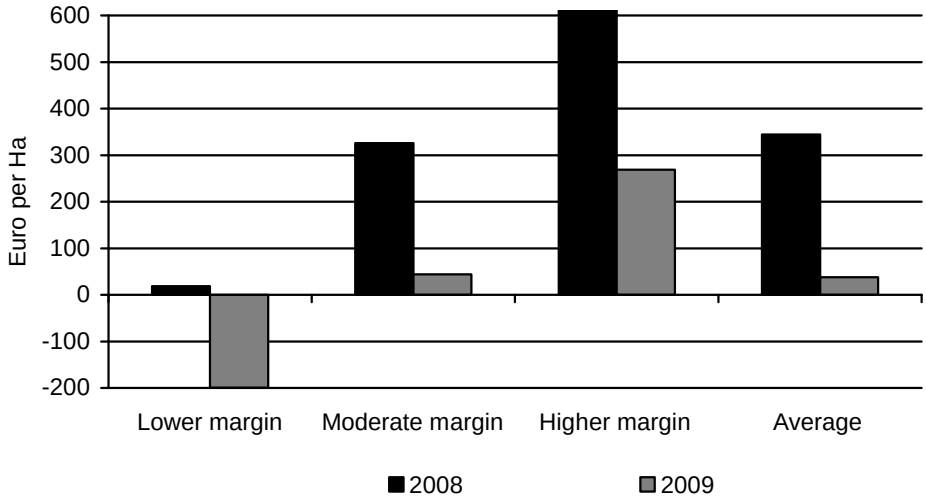
Source: 2008 National Farm Survey (2009). Authors own estimates (2009).

As is clear from Figure 9, gross margins for all cereal crops declined sharply in 2009 relative to 2008. The general decline in cereal margins is due to lower yields, increased direct costs and reduced output per hectare. The gross margin for winter wheat is estimated to be down by approximately €442 per hectare, while the gross margin for spring barley is estimated to decrease by approximately €259 per hectare. It should be recalled that the average gross margin figures presented are "market based gross margins" and as such exclude all decoupled payments.

In line with the approach used for the presentation of margins from 2008 earlier in the paper, the estimated gross and net margins for 2009 are presented for the cereal enterprise on specialist tillage farms, as well as the population disaggregated into one-third groupings based on margins obtained.

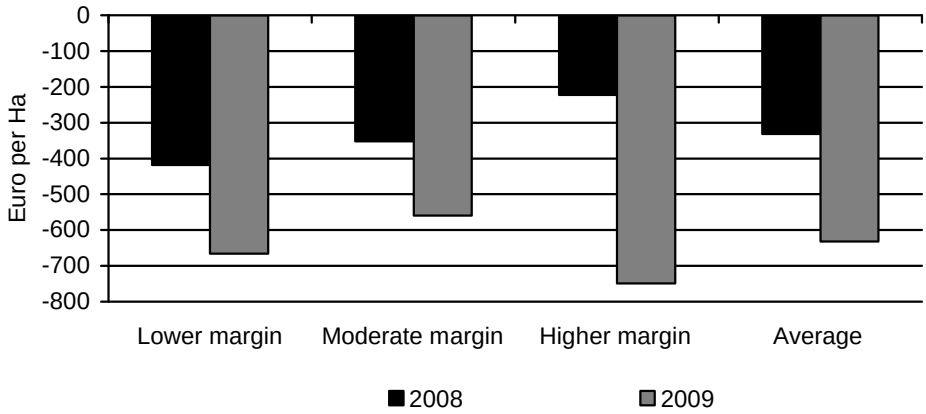
Figures 10 and 11 show the estimated cereal enterprise gross and net margins for 2009 relative to 2008 for the average of the specialist tillage farming population, as well as for three groups formed when specialist tillage farms were ranked on the basis of gross margin per hectare. On average, gross margin per hectare on tillage farms is estimated to decrease from €345 per hectare in 2008 to €38 per hectare in 2009. The average margin on farms in the higher margin category is estimated to have decreased from €642 per hectare in 2008 to €269 per hectare in 2009.

Figure 10: Actual Gross Margin 2008 and Estimated Gross Margin for 2009 for the Cereal Enterprise on Specialist Tillage Farms



Source: 2008 National Farm Survey (2009). Authors' own estimates (2009).

Figure 11: Actual Net Margin 2008 and Estimated Net Margin for 2009 for the Cereal Enterprise on Specialist Tillage Farms



Source: 2008 National Farm Survey (2009). Authors' own estimates (2009).

Moving on to net margins, the estimates for 2009 show a negative net margin even for the group of farmers earning the highest gross margin. For the best performing one-third of tillage farmers, the estimated net margin for 2009 is -€749 per hectare, and for the average farmer it is -€632 per hectare. This seemingly counter-intuitive result comes about due to the

manner in which overhead costs are allocated. Higher margin farms tend to have a greater proportion of their output from cereals, and so more of the overhead costs are assigned to that enterprise. Given that the average SFP payment per hectare in 2009 for cereal farmers will be of a similar level to the 2008 figure of €352 per hectare, the net margin estimates presented in Figure 11 above show that the average farmer will still face a loss of €280 per hectare after all costs are accounted for.

4. Outlook for 2010

In this section forecasts are provided for the expenditure on various input items in 2010, the farm gate cereal price that will prevail at harvest 2010, and the likely gross and net margin for the cereal enterprise of specialist tillage farmers in 2010.

4.1 The Outlook for Input Expenditure

4.1.1 Fertiliser – usage and price

A number of factors need to be considered when forecasting price and volume changes for fertiliser in 2010. While the price of N based products such as CAN and Urea has decreased rapidly during the second half of 2009, P and K compounds have not experienced the same level of decline. The prices for CAN and Urea are expected to be 21 percent lower during 2010 than the corresponding period in 2009, with P and K compounds down between 25 and 30 percent. Once the proportion of each element in cereal fertilisers is accounted for, a price in expenditure of 23 percent for fertiliser is assumed for 2010. There is some scope for limited substitution between fertilisers, and so it would seem realistic to assume that downward adjustment in the CAN and Urea prices can also be expected as a pull factor associated with P and K compound price drops.

Additionally, fertiliser usage in 2010 may increase marginally as a result of the lower prices and the limited ability of farmers to apply fertiliser due to adverse weather conditions in 2009. Overall, it can be expected that fertiliser expenditure will decrease substantially in 2010. This expenditure drop will be somewhat greater than the expenditure drop experienced on livestock farms, due to differences in the seasonality of purchases. The majority of cereal farmers are expected to be buying fertiliser near the bottom of the market well in advance of forecast price increases over the course of 2010.

4.1.2 Crop protection – usage and price

The crop protection costs in 2010 are forecast to be of a similar magnitude to those experienced in 2009. Volume changes between 2009 and 2010 are forecast to be negligible.

4.1.3 Seed – usage and price

In 2009 the failure of a large proportion of seed crops to meet minimum quality standards resulted in a large proportion of seed used being imported from the UK. The resultant extra cost was reflected in a stabilisation in seed prices at 2008 levels. However, the significant reduction in cereal prices experienced at harvest in 2009, coupled with the improved harvesting conditions in 2009 relative to 2008, is forecast to reduce the requirement to import seed in 2010. There is also an increasing amount of home saved seed being used on Irish cereal farms. The combination of all these factors is forecast to lead to a decrease in the price of seed of approximately 18 percent for the 2010 harvest year relative to 2009.

4.1.4 Energy and Fuel – usage and price

Fuel costs in 2010 will depend on the evolution of crude oil prices. Current crude oil futures prices suggest that prices will be higher on average in 2010. For the purposes of this analysis, it is assumed that fuel costs will increase by approximately 10 percent in 2010 relative to the 2009 average, which would still leave fuel costs in 2010 lower than those recorded at farm level in 2008. In 2009, the decrease in contractor charges was assumed to reflect the decrease in fuel costs, but as fuel charges are forecast to increase in 2010, the associated contractor charges are forecast to increase, although not to the same extent. Only half of the forecast increase in fuel costs is assumed to be translated to contractor charges in 2010, resulting in a 5 percent increase in contractor costs. Assuming that usage is unchanged, expenditure on fuel and contractor charges is estimated to increase by 10 and 5 percent respectively.

4.1.2 All other direct costs and overhead costs

Given that forecasts for inflation are significantly lower for 2010 than those experienced in the recent past, 'other' agricultural costs are forecast to increase by approximately 2 percent in 2010. The effect of the increase in the minimum wage for agricultural workers during 2009 is likely to be counter-balanced by rising unemployment, and so it is forecast that labour costs in 2010 will remain at the same level as in 2009.

Given that cereal prices decreased significantly in 2009, land rental prices are expected to decrease in 2010. The degree to which Irish cereal farmers decide to stack their entitlements in 2010 adds a large degree of uncertainty to the level of land rental prices. In this analysis, it is assumed that land rental prices in 2010 will decrease to those levels paid in 2007.

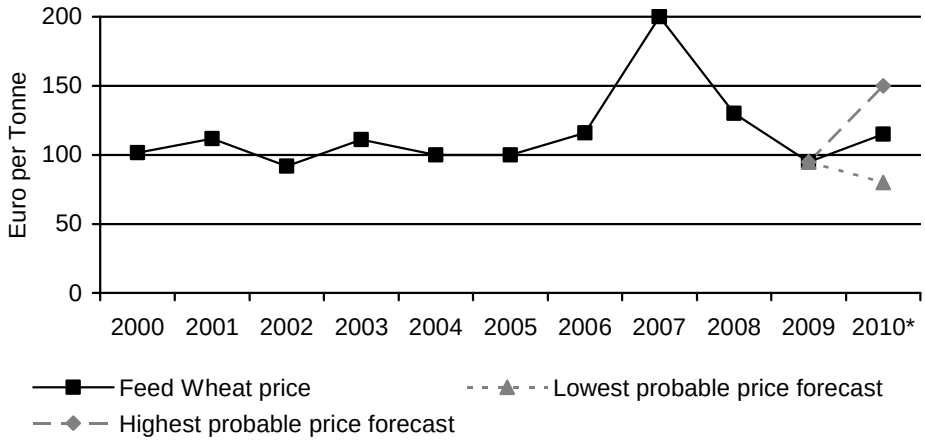
4.2 The Outlook for Markets

The cereals market has encountered significant volatility in recent years. The expected farm gate cereal price in 2010 will impact on planting

decisions. Based on LIFFE futures wheat prices for harvest 2010, the dried price for feed wheat in Euro terms at present is approximately €129 per tonne. This, however, is based on dried wheat prices delivered in the UK. A number of factors need to be accounted for to translate this UK futures price to a green wheat price for Ireland. The estimated price in Ireland takes account of the following: (i) conservative drying costs of €16 per tonne for Irish wheat; (ii) weight loss associated with drying green wheat from 20 percent to dried moisture levels of 15 percent; and (iii) transport costs associated with shipping UK wheat to Ireland. Based on these assumptions, the current LIFFE futures price would provide a base price for green wheat next harvest of approximately €115 per tonne, at the current exchange rate of 90p sterling per euro.

There is of course a great deal of uncertainty around this price projection above and beyond the assumptions listed. First and foremost, the reliability of futures prices for predicting Irish wheat prices is historically problematic, but without additional information on predicted prices for the Irish market in 2010, the LIFFE price provides at least an indicative price. To account for possible deviations from the predicted price, the historic variation in futures prices and actual market outcomes was examined. To formally evaluate the risk associated with predicting the 2010 harvest price, an econometric analysis was conducted to predict the probability that the 2010 farm gate price will be higher or lower than the 2009 price. This analysis was based on the November 2009 LIFFE futures price for September 2010. The regression analysis examined the historic relationship between (i) predicted futures price for the following harvest, made from the previous November when planting decisions were being made, and (ii) the actual farm gate price paid at harvest one year hence. This analysis enabled a forecast to be made of the 2010 Irish farm gate cereal price for wheat, taking into consideration the differences between the historic predicted values and the actual outcome. Based on this regression analysis the actual harvest price in 2010 will, with 90 percent confidence, vary between €80 per tonne and €150 per tonne.

Figure 12: Historic, Estimated and Forecasted Farm Gate Feed Wheat Price (2000 – 2010)



Source: CSO (2000-2008). Authors' own estimates (2009-2010).

While there is much speculation at present in relation to the forecasted price for 2010, the latest estimates for planted area in the EU would seem to indicate that there will be modest upward price pressure on cereal markets in 2009. The latest edition of Strategie Grains (November 2009) has forecast a 1.8 percent reduction in planted area in the EU for the 2009 harvest, down 1.07 million hectares to 56.97 million hectares. This decrease in plantings is one rationale for the slight increase in farm gate cereal prices that are forecast for 2010. However, there still exists much debate as to the forecasted closing stocks internationally emanating from the decrease in production in 2009 relative to 2008.

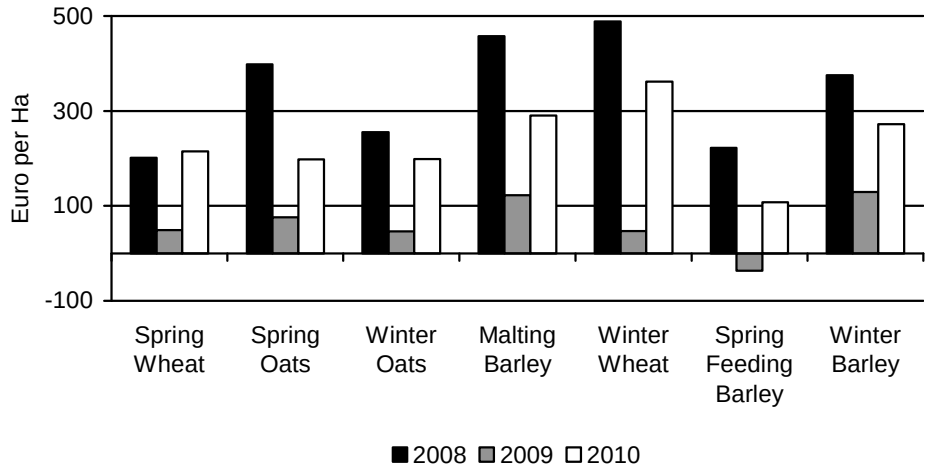
With the caveat that much volatility surrounds the forecasted 2010 harvest price, based on the futures market forecast and the adjustments made in the regression analysis for predicted versus actual outcomes, it is assumed for this analysis that farm gate cereal prices will increase in 2010, by about 14 percent. In addition to farm gate cereal prices at 20 percent moisture, account is also taken in the 2010 forecasted net margin for a return to average moisture levels.

4.3 The Outlook for Tillage Enterprise Margin in 2010

Forecasted decreases in expenditure on fertiliser, seeds and land rents, when coupled with low general inflation, means that production costs on Irish cereal farms are forecast to be slightly lower in 2010 than in 2009. In addition, output value is expected to increase marginally over 2009 levels due to the forecast increase in prices.

Figure 13 presents the actual gross margin for each of the main cereal crops in 2008, and the estimates and forecasts for 2009 and 2010 respectively. The net effect of input price, output price and volume movements, is a slightly higher enterprise margin forecast for 2010 for each of the main cereal crops. The gross margin in 2010 for winter wheat is forecast to increase by approximately €315 per hectare, while gross margins for spring barley are forecast to increase by approximately €144 per hectare over 2009 margins. The slightly higher increase in forecasted margin for winter wheat relative to spring barley is due to the greater forecast increase in wheat price.

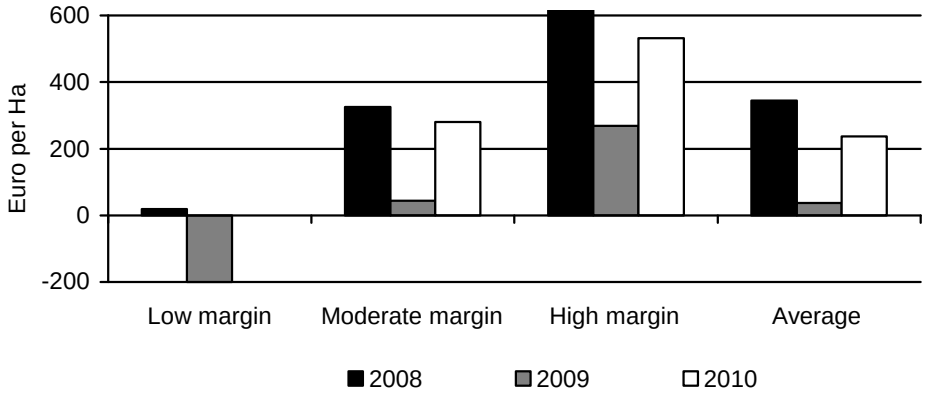
Figure 13: Cereal Crop Gross Margins, 2008, 2009 and 2010



Source: 2008 National farm Survey (2009). Authors' own estimates (2009).

Similar to the format used to present margins earlier in the paper, the forecasted gross and net margins for 2010 are presented for the cereal enterprise on specialist tillage farms, as well as for the sample disaggregated into one-third groupings based on the gross margin per hectare.

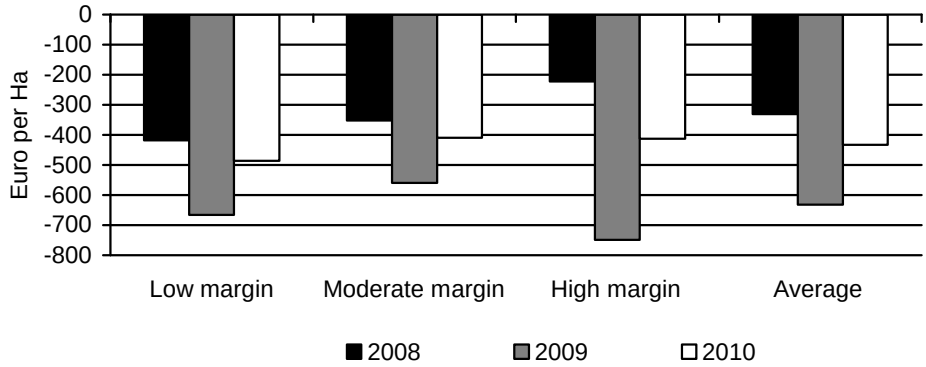
Figure 14: Gross Margin for the Cereal Enterprise on Specialist Tillage Farms 2008, 2009 and 2010



Source: 2008 National Farm Survey Data (2009). Authors' own estimates (2009-2010).

The cereal enterprise gross margin on specialist tillage farms in 2010 is forecast to increase by approximately €200 per hectare relative to 2009. Figure 15 shows that forecast net margin will also improve by approximately €200 per hectare in 2010 relative to 2009. However, despite increased output prices and lower input prices, the forecast net margin for the cereal enterprise in 2010 remains negative.

Figure 15: Net Margin for the Cereal Enterprise on Specialist Tillage Farms 2008, 2009 and 2010

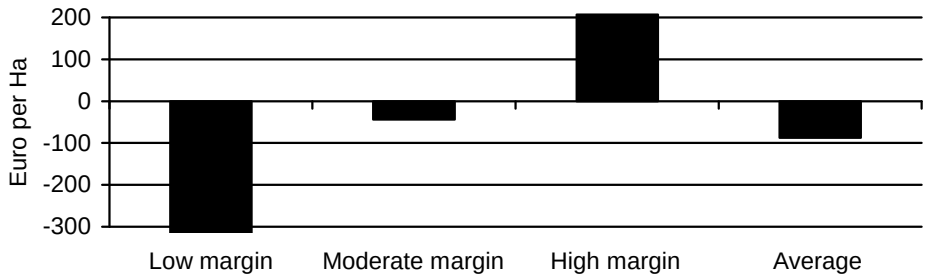


Source: 2008 National Farm Survey Data (2009). Authors' own estimates (2009-2010).

While the data presented in Figure 15 shows that the forecasted net margin from the cereal enterprise is negative for even the most efficient group of farmers in 2010, it must be remembered that a large proportion of fixed costs will be borne by the farmer even in a situation where the crop is not

planted in 2010. Hence, to determine whether the return from growing the crop in 2010 will provide a positive or negative margin, it is necessary to subtract the quasi-fixed cost items from enterprise gross margin. If the gross margin for the cereal enterprise remains positive after the quasi fixed costs are considered, it makes economic sense to grow the crop in 2010. The fixed cost items assumed to be quasi fixed costs are labour and machinery operating expenses. These cost items would not be accrued if the land was not cropped in 2010. All remaining fixed cost items would be fixed regardless of the level of production, such as car, electricity, phone, machinery depreciation, building depreciation, and other miscellaneous fixed cost items. The forecasted margin results for the average and the disaggregation of the cereal enterprise when quasi fixed costs are accounted for are presented in Figure 16.

Figure 16: Forecasted Gross Margin (minus quasi fixed costs) for the Cereal Enterprise on Specialist Tillage Farms in 2010



Source: Authors' own estimates

Figure 16 shows that the forecasted gross margin minus quasi fixed costs is only positive for the group of farmers that earn the highest gross margin in 2010. Farmers with average, moderate and low levels of gross margin are forecast to have a negative gross margin when quasi fixed costs are subtracted.

5. Concluding Comments

During the 2007/2008 production year a large decline in returns from the record highs of 2006/2007 was recorded. A large drop in cereal prices, lower than average cereal production and increased input costs, all contributed to the negative net margins recorded across the board. These poor returns led to a 22 percent decrease in production in 2009 relative to 2008. Although there was only a modest increase in input costs, the decline in cereal prices at harvest 2009 relative to the already depressed prices paid at harvest 2008, re-inforced the negative net margin position, even for

the group of farmers earning the highest gross margin. The estimated gross and net margins for cereals crops in 2009 are considerably lower than the 2008 returns.

However, it is anticipated that the price of key input variables such as fertiliser, land rent and seeds will decline in 2010. There is considerable uncertainty regarding cereal prices for 2010 harvest, but based on current futures trading prices, it is assumed that 2010 harvest prices will be slightly up on 2009 levels. The movements in input and output prices are forecast to have a positive effect on gross and net margins for the cereal enterprise on tillage farmers in Ireland in 2010 relative to 2009. However, despite the forecasted upward movement in cereal prices and the reduction in input costs, the forecasted net margin for the average producer in 2010 is likely to be negative.

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Strategie Grains (2009) November edition

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Appendix

Table A1: Average Direct Costs (€ per ha) for Cereal Crops in 2008, 2009 and 2010

Crop	2008	2009	2010
Spring Wheat	655	665	589
Spring Oats	556	566	498
Winter Oats	716	721	647
Malting Barley	574	581	517
Winter Wheat	794	804	722
Spring Barley	610	616	549
Winter Barley	683	701	614

Source: 2008 National Farm Survey Data (2009). Authors' own estimates (2009-2010).

See also Figure 2 in the main text

Table A2: Average Gross Output (€ per ha) for Cereal Crops in 2008, 2009 and 2010

Crop	2008	2009	2010
Spring Wheat	856	715	804
Spring Oats	954	643	696
Winter Oats	971	768	846
Malting Barley	1032	703	808
Winter Wheat	1283	851	1084
Spring Barley	832	579	657
Winter Barley	1059	830	886

Source: 2008 National Farm Survey Data (2009). Authors' own estimates (2009-2010).

See also Figure 7 in the main text

Table A3: Average Gross Margin (€ per ha) for Cereal Crops in 2008, 2009 and 2010

Crop	2008	2009	2010
Spring Wheat	202	49	215
Spring Oats	398	76	198
Winter Oats	255	47	199
Malting Barley	458	123	291
Winter Wheat	488	47	362
Spring Barley	222	-37	108
Winter Barley	376	129	272

Source: 2008 National Farm Survey Data (2009). Authors' own estimates (2009-2010).

See also Figures 9 & 13 in the main text

Table A4: Average Gross Margin (€ per ha) for the Cereal Enterprise on Specialist Tillage Farms in 2008, 2009 and 2010

Crop	2008	2009	2010
Lower Margin	19	-200	-1
Moderate Margin	326	44	281
Higher Margin	642	269	532
Average	345	38	237

Source: 2008 National Farm Survey Data (2009). Authors' own estimates (2009-2010).

See also Figures 10 & 14 in the main text

Table A5: Average Overhead Costs (€ per ha) for the Cereal Enterprise on Specialist Tillage Farms 2008, 2009 and 2010

Crop	2008	2009	2010
Lower Margin	437	466	485
Moderate Margin	677	604	690
Higher Margin	864	1018	945
Average	676	670	670

Source: 2008 National Farm Survey Data (2009). Authors' own estimates (2009-2010).

Table A6: Average Net Margin (€ per ha) for the Cereal Enterprise on Specialist Tillage Farms 2008, 2009 and 2010

Crop	2008	2009	2010
Lower Margin	-418	-665	-486
Moderate Margin	-352	-560	-409
Higher Margin	-222	-749	-413
Average	-331	-632	-433

Source: 2008 National Farm Survey Data (2009). Authors' own estimates (2009-2010).

See also Figures 11 & 15 in the main text

SITUATION AND OUTLOOK FOR FORESTRY 2009/10

Mary Ryan,
Forestry Development Unit,
Athenry, Co. Galway.

1. Introduction

The total forest area in Ireland to the end of October 2009 is over 733,400 hectares (ha). This represents over 10.5 percent of the total area of the country. Of this, privately owned forests now account for 45.5 percent.

Over the period of the National Development Plan 2007-2013, the short-term objective is for annual planting to grow to 10,000 ha per annum. This objective was restated in the Renewed Programme for Government published in October 2009 which aims to enhance the current range of programmes and supports to facilitate the attainment of the target of 17 percent forest cover by 2030 and contribute to meeting our Climate Change commitments. It also aims to review State forestry policy to take account of its critical role in relation to Climate Change and its importance to construction, bio-energy, bio-diversity and its potential to deliver long-term employment in other downstream industries, including eco-tourism, furniture and crafts etc.

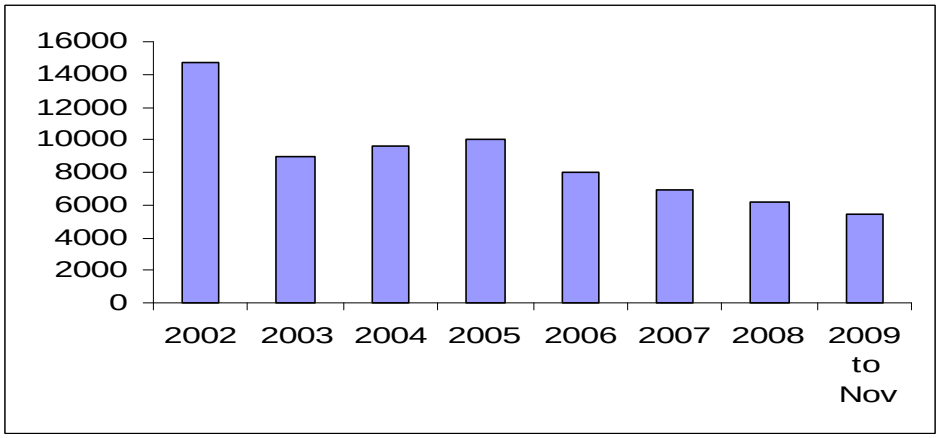
This paper will review developments in the forest sector in 2009 and will look at how these developments may impact on the short-term outlook for the forest sector in 2010.

2. Review of 2009

2.1 Planting in 2009

The total area of forests planted in 2009 to the end of October was 5,400 ha compared with 4,800 ha and 5,468 ha for the same period in 2008 and 2007 respectively (Forest Service, 2009). The Forest Service estimates that approx. 6,500 ha will be planted in total in 2009 (pers.comm.). Figure 1 shows the annual decline in the area of land planted since 2002. Of the 5,400 planted to Nov 2009, 2,610 hectares were planted under the Afforestation Scheme which is open to both farmers and non-farmers and has a minimum area of 0.25 ha for conifers and 0.1 ha for broadleaves.

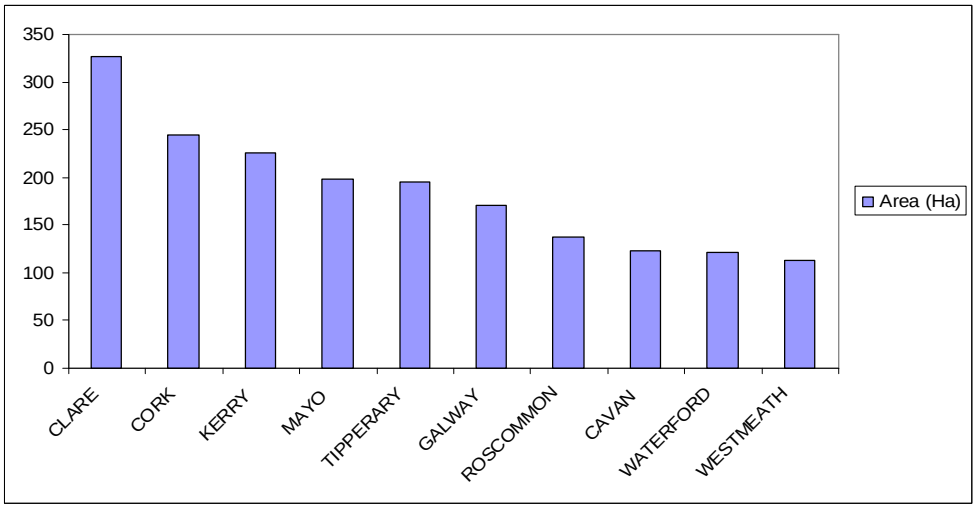
Figure 1: Annual planted area (ha) 2002- 2009 (to Nov)



Source: Forest Service, 2009

The ten counties where most of these new forests are located are presented in Figure 2. As has been the trend in recent years, a considerable proportion of the area planted is in Munster.

Figure 2: Top ten Afforestation counties

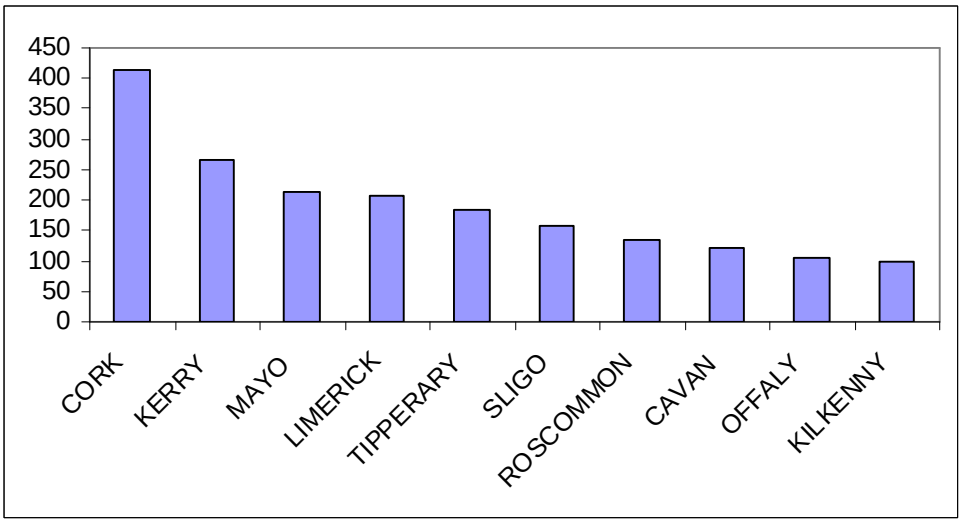


Source: Forest Service, 2009

The other 2,693 ha or 50% of the planted area was planted under the Forest Environment Protection Scheme (FEPS) which is open to farmers who are currently in the Rural Environment Protection Scheme (REPS). In FEPS, the minimum planting area is 5 ha for farmers who have less than 30 ha in REPS and 8 ha for farmers with greater than 30 ha or less in REPS. The area planted under FEPS has been increasing steadily since its

introduction in March 2007. Until this year, FEPS planting had been concentrated in the Munster counties however Figure 3 shows that a considerable area was also planted in Western counties in 2009.

Figure 3: Top Ten 2009 FEPS counties



Source: Forest Service, 2009

The DAFF decision to close REPS 4 to new applicants in July of this year will limit the number of farmers who are eligible to join FEPS in future years. Currently, there are approximately 62,000 farmers in REPS but this will drop to just under 30,000 farmers by 2012 (REPS Division DAFF, 2009).

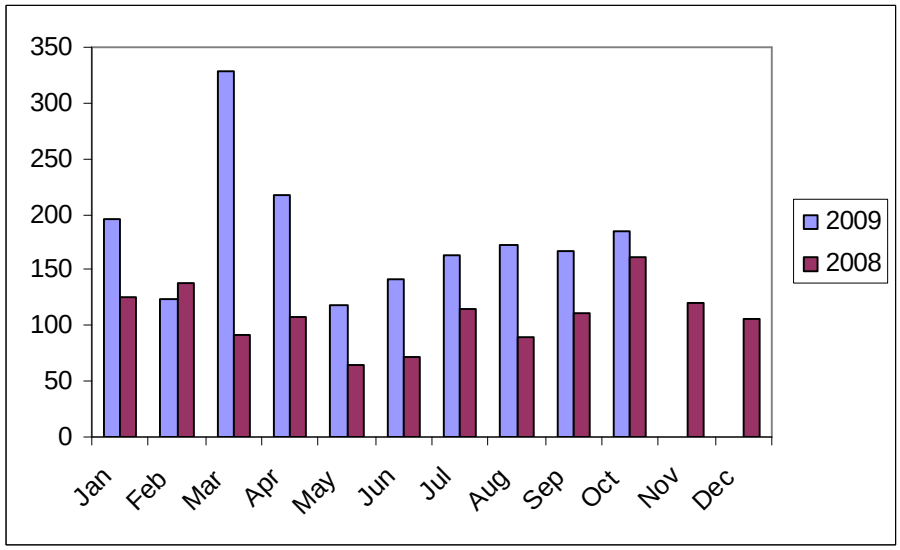
The Supplementary Budget in April 2009 brought further adverse news for forestry as the forest premium payment was reduced by 8 percent and the issuing of approvals for grant aid in respect of support schemes such as road grants, shaping, pruning and reconstitution was suspended. As a result of budget constraints, the Forest Service has been issuing two types of planting approval for the Afforestation Scheme, FEPS and the Native Woodland Scheme this year. Technical approval is issued once a prospective site has been assessed as suitable for planting, but a further "financial approval" must now be granted by the Forest Service before planting can commence This allows the Forest Service to have tighter controls on expenditure. Financial approvals are currently being issued by the Forest Service for land that will be planted by the end of December 2009.

However, 2009 also brought some good news for farmers considering planting as forestry was included as "eligible land" for the purpose of

drawing down Single Farm Payment (SFP). Any planted land from 1st January 2009 onwards would now be eligible for full Single Payment as long as the planted land (and the landowner) had been eligible for and received Single Payment in 2008. This means that farmers can avail of both the forest premium payment and the SFP without having to comply with restrictions imposed by consolidating entitlements as was the position heretofore.

This may be one of the factors that have led to the large increase in the number of applications for planting approval. Up to the end of October 2009, applications had been received by the Forest Service to plant a total of 14,161 hectares of forest. Figure 4 illustrates the monthly increase in the number of applications in 2009 over 2008.

Figure 4: 2009 versus 2008 applications for planting approval



Source: Forest Service, 2009

2.2 Climate change

As a signatory to the Kyoto Protocol, Ireland is committed to limiting its greenhouse gas (GHG) emissions to 13% above the 1990 level in the period 2008–2012. The Irish forestry sector has a key role to play in addressing climate change, through carbon sequestration and through the development of renewable energy resources. Forest areas established as a result of grant-aid under the State/European Union (EU) funded afforestation schemes since 1990 are expected to contribute an annual average emission reduction of 2.074 million tonnes of carbon dioxide (CO2) over the Kyoto period (O'Driscoll, 2009). This is set to almost double in the

period to 2020, ensuring that forests will play a significant role in meeting climate change targets in the future.

2.3 Biomass for renewable energy

The national Bioenergy Action Plan aims to increase the use of renewable energy. A target of 40 percent of electricity consumption from renewable sources is set for 2020. Biomass power generation projects will be supported through the Renewable Energy Feed-in Tariff (REFIT) scheme. For biomass combined heat and power (CHP) the REFIT tariff has been set at 12 cent per kilo Watt hour (kWh) (compared to 5.7 cent per kWh for wind energy.

There is significant potential for wood fuel to displace fossil fuel, particularly in the generation of heat in industrial, commercial, domestic and institutional markets. In doing so, it can help reduce Ireland's GHG emissions and our dependence on imported fossil fuels. Since 2006, the use of wood biomass in Ireland has resulted in a total emissions saving of 1.14 million tonnes of carbon dioxide (CO_2) and the 2008 use of firewood for domestic heating and wood chips for commercial heating has grown by 23 percent and 80 percent respectively, over 2007 levels (O'Driscoll, 2009).

2.4 Decline in timber markets

2008 and early 2009 have been difficult for Irish sawmillers and Wood Based Panel (WBP) manufacturers. The demand for construction timber declined due to a sharp reduction in Irish construction activity. Housing is an important driver of timber sales – an average new house uses 7 cubic metres (m^3) of forest products (O, Driscoll, 2009). Many large sawmills therefore re-configured their mills to supply pallet and fencing products into the UK marketplace. The four WBP mills operating in the Republic of Ireland have reduced production to match the reduced demand.

In 2008, the volume of roundwood available for processing was 2,272,000 m^3, a reduction of 24 percent on the 2007 level. In addition, the prices paid for roundwood declined sharply to reflect market conditions. Coillte supplied 90 percent of this roundwood, with the balance coming from privately owned forests and from imports. The private harvest output declined sharply on 2007 levels, by some 70 percent to 118,000 m^3 (O'Driscoll, 2009).

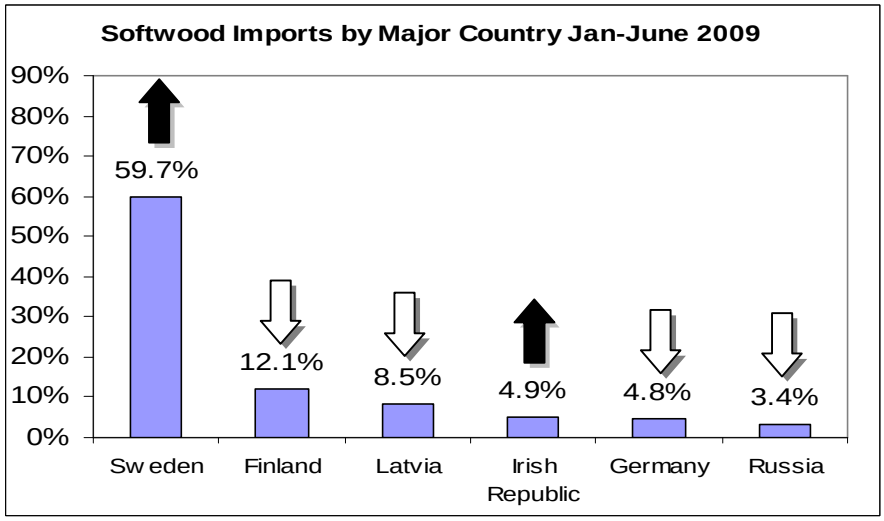
2.5 Current timber market situation

Irish timber sales into the UK construction market increased in the second part of 2009 due to a combination of factors:

(1) The value of sterling against the Euro dropped to a low of 83 pence during June/July 2009;

(2) Figure 5 shows the relative importance of Swedish imports into the UK timber market. Swedish exporters who are price makers in the UK market, decided to increase their prices by £10 – 12 sterling per cubic metre (m^3) in 2009.

Figure 5: Timber imports into UK construction market



Source: UK Timber Trades Federation (2009)

The combination of these factors allowed Irish sawmillers to avail of the opportunity to develop a new market exporting construction timber into the UK. (www.exchange-rates.org/history**).** Despite the fact that the prices achieved are lower than those achieved during 2006 and 2007, the opening up of the UK market has allowed Irish sawmillers to return to almost full production, increasing overhead recovery and maintaining activity in the mills during this difficult economic period (pers. comm. Coillte, Nov. 2009). However, this new reliance on imports into the UK brings with it a vulnerability to currency fluctuations which is currently a cause for concern for timber exporters although the prospects for construction activity around the London Olympics and for economic recovery in the southern part of the UK appear to be brighter for 2010.

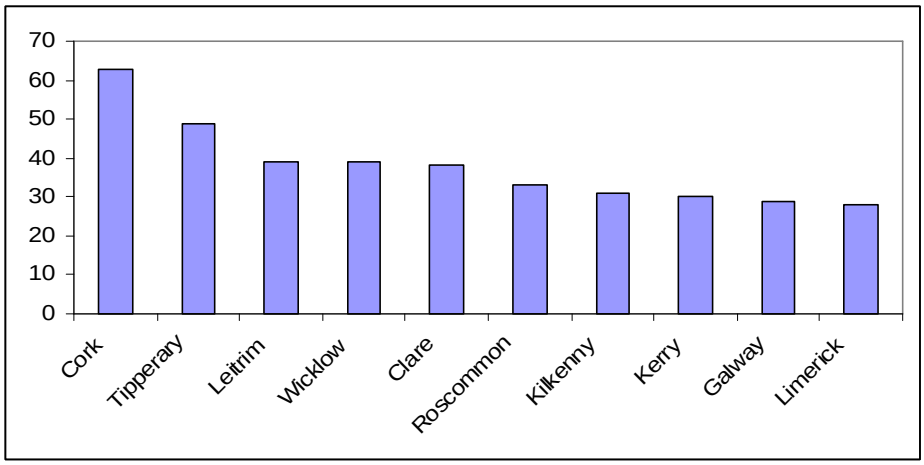
2.6 Thinning activity

Harvesting contractors suggest that there is a strong demand for small diameter roundwood (logs) from thinnings – to the extent that one contractor claims "there was never a better time to thin" (pers. comm., Woodfab Ltd.). Average volumes from thinnings are in the region of 40

m^3/ha and average prices quoted are in the region of €4 - €8/m^3 with highs of €8 and €9/m^3 also being quoted by contractors. This is largely due to an increase in local demand for wood chips for heating, animal bedding and out-wintering pads for cattle. This may also be due to a reduction in the level of thinning currently being undertaken.

The location and number of General Felling Licences (GFL's) applied for annually can be used as an indicator of thinning activity as this is usually the type of licence granted for thinning operations. The counties where most GFL's were granted in 2009 are presented in Figure 6. It is interesting that the highest level of afforestation and the highest level of GFL's are both in Co. Cork this year.

Figure 6: Top ten GFL's by county



Source: Forest Service, 2009

Anecdotally, there has been an increase in thinning activity in recent years and this had been borne out by an increase in the number of GFL's granted up to 2009. However, Table 1 shows a fall-off in GFL's granted in 2009.

Table 1: General Felling Licences granted (2005 to end Oct 2009)

Year	General Felling Licence
2005	119
2006	303
2007	692
2008	824
To end Oct 2009	146

Source: Forest Service, 2009

This is a worrying trend which is also borne out by a drop in Forest Road Grant applications as presented in Table 2.

Table 2: Forest Road Grant applications 2007 to 2009

Year	Number of applications
2007	850
2008	583
To Nov 2009	242

Source: Forest Service, 2009

While approvals for road applications have not been granted since April 2009, the advice to forest owners was to continue to apply as applications would be dealt with on a first come fist served basis once funding was reinstated for road grants. The scope of the Forest Service road scheme was also reduced in 2009 and funding is now based on providing just enough road to harvest plantations which are ready within the next 2 years. The thinning process cannot commence until a felling licence is in place and in many forests, until a forest road or timber loading bay has been put in place to facilitate extraction and loading of timber. The information presented in Tables 1 and 2 indicates a serious drop-off in the number of forest owners who are planning to thin their forests. This is a worrying trend that has implications for maximising profits from farm forests, for future timber supply, for renewable energy targets and for the future of the entire timber processing sector.

3. Review of farm and off-farm incomes

A recent study conducted using Central Statistics Office (CSO) Quarterly National Household Survey (QNHS) data, shows that whilst off-farm employment is down 30.5 percent in the 12 months to the second quarter of 2009, construction related employment for part-time farmers is down by over 50 percent. Part-time farmers are much more likely to have lost a job than other sectors of the workforce (Meredith, 2009).

Meredith also points out that whilst the declines in off-farm employment recorded in the QNHS are unsurprising given the rapid deterioration of the Irish economy, they are of significant concern given the extent to which off-farm income supports the viability of many farms.

National Farm Survey (NFS) results for 2008 show a decline in Family Farm Income (FFI) of 13.7 percent in 2008 following an increase of 18 percent in 2007 and a decline of 26 percent in 2006, illustrating the volatility in farm incomes following decoupling of farm payments in 2005 (Connolly *et al*., 2009). The 2008 NFS results indicate that 56 percent of farm holders

and/or spouses held an off-farm job and that amongst part-time farmers, off-farm income accounted for 80.7 percent of their income (Connolly *et al.,* 2009).

The combination of falling farm incomes and the loss of jobs for part-time farmers in the construction sector are contributing to the recent increased interest in forestry. Many farmers are now considering forestry as a means of combating the volatility in farm prices and supplementing household income.

4. Review of which farmers are likely to plant in the future

Analysis carried out by Ryan *et al.* (2008) looked at whether farmers who had intended to plant over a three year period actually carried out their intentions. The analysis was carried out using a matched sample of 2005 and 2008 respondents from the 2005 and 2008 National Farm Survey (NFS) supplementary surveys and is presented in Table 3.

Table 3: Forest area 2008 – planned (2005) versus actual (2008)

	Planned to plant (ha)	Actual Planted (ha)	% planted vs. planned
No forestry and plans to plant	5,607	3,724	66
Has forestry and plans to plant	6,953	5,546	80
No forestry and no plans to plant	0	8,554	
Has forestry but no plans to plant	0	316	

Source: NFS Supplementary Surveys (2005 and 2008)

Those farmers who intended to plant didn't plant as much land over the three year period as they had intended. This applies whether they already had land in forestry or not and reflects the overall downward planting trend during those years.

Interestingly, the results show that the greatest area of land was planted by a group of farmers who didn't have forestry in 2005 and who did not plan to have planted by 2008. The area planted by this group amounted to 40% of the total area planted nationally by farmers over the period 2006/2008. Further analysis showed these farmers to be largely "cattle rearing" and "dairy other" farmers with farm sizes greater than 50 ha.

From these results it is possible to build a profile of the group of farmers who planted 40% of the total national forest area planted between 2006 and 2008. This is valuable information in enabling policy makers to recognize categories of farmers who are likely to plant in the future.

5. Outlook for Forestry in 2010

5.1 Medium term outlook for returns from forestry versus agriculture

The discontinuation of the Rural Environment Protection Scheme (REPS), the possibility of a switch from the current Single Farm Payment (SFP) to a flat area based payment and the recent volatility in the price of agricultural outputs and inputs, all indicate that Irish farmers may be heading into a period of lower farm incomes and greater uncertainty. Over the past 15 years the incomes of many farmers were buoyed by off-farm employment and the one-off sale of land for construction. However with the decline in the construction sector, those land sales that do take place in the future are likely to be at substantially reduced prices. In their Spring 2009 Land Market Review, Irish Auctioneers Knight Frank estimate that the Irish property market is now tracking 2004 levels and they "see no reason why agricultural land prices will not follow this trend" (Ganly, 2009). The likelihood is therefore that given the increased uncertainty regarding the returns to traditional agriculture, changes in land use will receive greater consideration amongst Irish farmers.

Breen *et al.* (2008) argued that the increase in land value brought about by the construction boom of the last 15 years could be a principal driver of the decline in afforestation rates, rather than the relative rate of returns between forestry and agricultural enterprises. However, with the downturn in the Irish construction industry and its subsequent impact on land values, it is expected that the relative rate of returns between forestry and agricultural enterprises will once again become a key factor in the decision to afforest.

Analysis undertaken by Breen, Clancy and Ryan earlier this year used a Discounted Cash Flow (DCF) model to examine the Net Present Value (NPV) of the estimated investment returns over a 40 year period, from a decision to switch a hectare of land from an agricultural enterprise to forestry. The baseline analysis assumes that the superseded activity is land rental, and the opportunity cost of the market rental value of the land is included. The analysis also included four other superseded enterprises, namely land rental, lowland sheep, store to finished beef, spring barley and winter wheat. The three forestry options analysed included a conifer forest, a mixed forest and a broadleaf forest.

The results showed that the conifer option with a superseded enterprise of store to finished beef has the highest NPV of €5,343 per hectare, while the broadleaf forest with a superseded enterprise of winter wheat has an NPV of - €317 per hectare. Despite receiving the lowest level of forest premium payments per hectare, the conifer forest returns the highest NPV (€5,343).

In comparison, the broadleaf forest, which received the highest level of forestry premium, had the lowest NPV as a result of the significantly lower volume of timber produced.

These results will be unsurprising to many but serve to clarify that regardless of other factors, when looked at over a 40 year period, the financial returns from productive forests exceed cattle and sheep and some tillage enterprises. In 2009, the number of farmers applying for approval has increased greatly on recent years however the number of additional farmers who can plant in the future will ultimately be contingent on the level of funding made available for 2010 and subsequent years.

5.2 Profitability of thinning

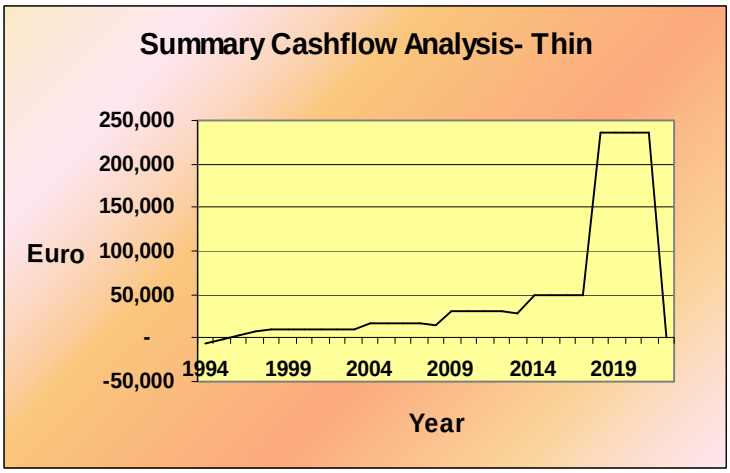
There are essentially two strands to the income from forests. Within the first 15 to 20 years, the income from forestry is essentially the premium payment. For many forest owners, it is only when these payments are running out that the question of thinning the forest arises. The greatest opportunity to increase profit arises when the forest is ready for thinning provided that there is no undue risk of wind damage. Depending on the productivity of the site, trees may be ready for thinning any time from year 14 to year 20. Forests are thinned on average every four to five years and as the timber removed gets larger with each thinning, the revenue derived from thinning also increases.

The financial return to forestry as calculated by Breen et al., 2009, is dependent on the forest being thinned at the appropriate age and in the appropriate manner. Unlike in farming, the “do nothing” option can work in forestry as unthinned forests will still realise a profit at clearfell but will not generate any income in the interim. Teagasc is in the process of developing financial appraisal software to assist forest owners in making decisions such as whether to thin or not. The FIVE (Forest Investment and Valuation Estimator) uses Forestry Commission timber volume Yield Models and Coillte10 year average standing sale prices to estimate the NPV (overall revenue generated by the crop expressed in “today’s money”). For instance, we can look at a Sitka spruce (SS) and Japanese larch (JL) forest which is currently 15 years old and run the software for both “Thin” and “No Thin” scenarios. Figures 7 and 8 present the NPV (overall revenue generated by the crop expressed in “today’s money”) of two scenarios for a 15 year old 10 ha conifer forest.

The scenarios show an increase in NPV of €6,906 in today’s money in a 10 ha forest, as a result of thinning. As profits from the sale of timber are generally not liable for income tax, this increase in revenue is essentially tax free profit for the farm forest owner.

In reality, the old adage applies that “every forest is different” and other factors such as timber quality, current timber prices, ground conditions, extraction distances and road access will also impact on the financial returns from thinning. Many farm forests are very productive and as such would have much greater financial returns as has been shown by Farrelly, (2007), who forecasted increases in NPV of over €2,500 /ha in very productive sites after thinning.

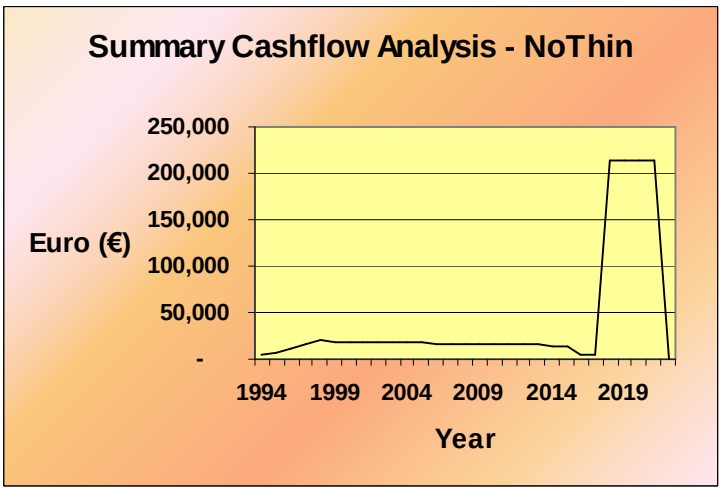
Figure 7: Cumulative Cashflow and NPV for “Thin” scenario



Estimated Net Present Value = **€79,808**

Total cumulative cash flow = **€240,000**

Figure 8: Cumulative Cashflow and NPV for “No thin” scenario



Estimated Net Present Value = **€72,902**

Total cumulative cash flow = **€210,000**

Source: FIVE (Teagasc, 2009)

The cashflows presented are cumulative so they are increasing over time as thinnings are carried out, but decrease over time for the "No Thin" scenario until the final clearfell. Obviously in the "Thin" scenario, there is ongoing income generation from the thinnings whereas in the "No Thin" scenario, the plantation incurs a small loss until clearfell as there is no income to offset against the cost of maintenance and insurance.

5.3 Timber production forecasts

In 2008, COFORD funded an updated forecast of the roundwood (log) volumes available from the Irish private forest estate. The results from this UCD project show that the overall net roundwood production from privately owned forests will increase from an estimated 0.38 million m^3 in 2009 to 2.95 million m^3 by 2028. The total thinning area peaks at circa 30,000 ha in 2022 (Phillips et al., 2009). Table 4 presents a forecast for timber production from private forests and also includes the portion of the forecast harvest which would have potential for renewable energy.

Table 4: Timber Forecast from the Irish private forest estate

Production Year	Net volume ('000 m^3)				Potential energy volume ('000 m^3)
	Pulp	Pallet	Sawlog	Total	
2010	257	11	15	381	302
2015	330	209	56	595	388
2020	515	362	209	1,086	388
2025	576	627	539	1,793	675
2030	530	951	1,472	2,953	626

Source: Phillips et al.,(2009)

This forecast shows a sizeable timber volume being available for harvest in 2010 and increasing significantly up to 2025 in particular. However, the forecast only tells us how much timber is growing in the forests. The timber forecast for 2010 can only be realized if farm forest owners actually thin their forests. The window for thinning forests only lasts for a couple of years as thinning becomes risky as tree height increases and trees become more vulnerable to damage from windblow.

6. Conclusion

While the implementation of the Water Framework Directive and changes to CAP post 2013 will both pose challenges for forestry in the medium term, the outlook for the shorter term could be reliant on the ability of our forests to sequester carbon. The 2010 budget provides funding for the planting of 7,000 ha of new forests while also providing funds for forest roads and

broadleaf tending and thinning (Budget, 2010) but this may not be sufficient to allow for the increased number of farmers contemplating the forestry option. The Renewed Programme for Government (2009) states that "The Government will work with the Irish forestry sector, including Coillte, to develop a scheme through which some of the monies currently set aside to purchase carbon credits abroad will be diverted for forestry investment in Ireland." We need to continue to strive to develop innovative thinking to optimise scarce funds to provide the best possible return for farmers, the environment and society as a whole.

Declining numbers of applications for general felling licences and road grants raise concerns about the level of thinning that farm forest owners are planning in the short term. If forests are not thinned, we will fall well short of achieving our renewable energy and timber industry targets. This would be unfortunate as it appears that timber markets may have "rounded the corner" in late 2009 with improving prospects for 2010.

We need to come up with new and innovative ways to incentivise thinning so that we don't end up with large tracts of forests that remain unthinned; not generating income, employment or timber raw materials and not realising the full potential of these forests to contribute to rural sustainability.

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